World Cancer Research Fund International

Global Cancer Update Programme (CUP Global)

Systematic Literature Review **and Meta-analysis**

Sugar sweetened and artificially sweetened beverages, fruit and vegetable juices and cancer risk

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Supplementary Table 1. PRISMA checklist.

Section and Topic	Item #	Checklist item	Location where item is reported (page #)
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	NA
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	6
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	6
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	7
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	7
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	7
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	7 / 9
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	7 / 9
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	7 / Supplementary Table 2

Section and Topic	Item #	Checklist item	Location where item is reported (page #)
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	7 / Supplementary tables 11-14
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	7-8
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	8-9
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	8-9
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	8-9
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	9
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	8-9
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	8-9
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	8-9
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	9
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	9
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	9
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	9
Study characteristics	17	Cite each included study and present its characteristics.	10 / 16-17

Section and Topic	Item #	Checklist item	Location where item is reported (page #)
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	16
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimates and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	10-17
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	10-17
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	10-17
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	10-17
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	10-17
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	16
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	To add
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	17-20
	23b	Discuss any limitations of the evidence included in the review.	18-19
	23c	Discuss any limitations of the review processes used.	18-19
	23d	Discuss implications of the results for practice, policy, and future research.	19-20
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	7
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	7
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	

Section and Topic	Item #	Checklist item	Location where item is reported (page #)
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	
Competing interests	26	Declare any competing interests of review authors.	
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	

Supplementary Text 1. Search strategy to find potential eligible studies.

A. PubMed

a. Searching for studies on cancer

1	"Neoplasms"[MeSH Terms]
2	Neoplasm*[Title/Abstract] OR cancer*[Title/Abstract] OR carcinoma*[Title/Abstract] OR tumour*[Title/Abstract] OR tumor*[Title/Abstract] OR malignancy[Title/Abstract] OR malignant[Title/Abstract] OR adenocarcinoma[Title/Abstract]
3	leukemia[Title/Abstract] OR lymphoma[Title/Abstract] OR myeloma[Title/Abstract]
4	melanoma[Title/Abstract]
5	glioma[Title/Abstract]
6	#1 OR #2 OR #3 OR #4 OR #5

b. Searching for studies on soft drinks*

7	"Carbonated Beverages"[MeSH Terms] OR "Artificially Sweetened Beverages"[MeSH Terms] OR "Sugar-Sweetened Beverages"[MeSH Terms] OR "Fruit and Vegetable Juices"[MeSH Terms] OR "beverage*"[Text Word] OR "sugar* drink*"[Text Word] OR "sugar containing drink*"[Text Word] OR "carbonated drink*"[Text Word] OR "soft drink*"[Text Word] OR "energy drink*"[Text Word] OR "sweet* drink*"[Text Word] OR "nonalcoholic drink*"[Text Word] OR "non-alcoholic drink*"[Text Word] OR "Soda"[Text Word] OR "juice*"[Text Word] OR "sugar* food*"[Text Word] OR "Added sugar"[Text Word] OR "fruit drink*"[Text Word]
8	"Dietary Approaches To Stop Hypertension"[MeSH Terms] OR "food, processed"[MeSH Terms] OR "diabetes risk reduction diet*"[Text Word] OR "type 2 diabetes prevention diet*"[Text Word] OR "healthy eating index"[Text Word] OR "plant based diet* index"[Text Word] OR "ultra processed food*"[Text Word] OR "ultraprocessed food*"[Text Word] OR "world cancer research fund international"[Text Word] OR "WCRF"[Text Word] OR "WCRF/AICR"[Text Word] OR "recommended food score"[Text Word] OR "diet* index*"[Text Word]
9	#7 OR #8

*As a main exposure or a component within a dietary pattern.

c. Combining the searches

10	#6 AND #9

d. Limiting to human studies

11	animal [MeSH Terms] NOT human [MeSH Terms]
12	#10 NOT #11

B. Embase (Ovid)

a. Searching for studies on cancer

1	exp neoplasm/
2	(Cancer* or carcinoma* or tumour* or tumor* or malignancy or malignant or adenocarcinoma or leukemia or lymphoma or myeloma or melanoma or glioma).ab,ti.
3	1 or 2

b. Searching for studies on soft drinks*

4	exp soft drink/ or exp artificially sweetened beverage/ or exp carbonated beverage/ or exp fruit juice/ or exp sweetened beverage/ or exp energy drink/
5	sweet drink.mp. or soda.mp.
6	exp mango juice/ or exp fruit juice/ or exp orange juice/ or exp pear juice/ or juice.mp. or exp berry juice/ or exp grape juice/ or exp apple juice/ or exp lemon juice/

7	("Beverage*" or "sugar* drink*" or "carbonated drink*" or "soft drink*" or "energy drink*" or "sweet* drink*" or "nonalcoholic drink*" or "non-alcoholic drink*" or soda or "juice*" or "sugar* food*" or "added sugar" or "fruit drink*").tw.
8	exp DASH diet/ or exp ultra-processed food/
9	("Dietary Approaches to Stop Hypertension" or "DASH diet*" or "ultra-processed food*" or "ultraprocessed food*" or "diabetes risk reduction diet" or "type 2 diabetes prevention diet" or "healthy eating index" or "world cancer research fund international" or "WCRF" or "WCRF/AICR" or "plant-based diet* index" or "recommended food score" or "diet* index").tw.
10	4 or 5 or 6 or 7 or 8 or 9

*As a main exposure or a component within a dietary pattern.

c. Combining the searches

11	3 and 10

d. Limiting to human studies

12	exp animal/ not exp human/
13	11 not 12

e. Limiting to certain publication types

14	limit 13 to (article or article in press or conference paper or "conference review" or editorial or erratum or "review" or tombstone)

Supplementary Text 2. Systematic search and study selection criteria

A systematic literature search was performed in PubMed and Embase until 1st September 2024, using a pre-specified search strategy (**Supplementary Text 1**). We also checked the reference lists of all relevant original cohorts and related reviews. Selection criteria included the following: 1) randomised controlled trials (RCTs), observational cohort studies, or pooled analyses of such studies or Mendelian randomisation (MR) studies; 2) studies involving individuals not diagnosed with cancer (excluding non-melanoma skin cancer) at the time of intervention or exposure evaluation; 3) studies assessing the intake of soft drinks or juices as an exposure; 4) studies reporting on the incidence or mortality of primary cancer at any anatomical site during adulthood (a non-exhaustive list of cancer outcomes considered eligible for the present SLR is provided in **Supplementary Table 2**); and 5) studies providing multivariable adjusted estimates expressed as hazard ratios, risk ratios, relative risks (RR), or odds ratios. For publications that reported results on the same exposure-outcome associations from the same cohort, we selected those with sufficient information for inclusion in the dose-response meta-analyses, otherwise, we selected those with the highest number of cancer cases. Pooled analyses were preferred over the individual articles published by their component studies. If available, we used study-specific estimates included in the pooled analyses.

Supplementary Text 3. Definition and classification of soft drinks used in the present systematic review.

The included studies investigated a wide variety of soft drinks and juices. We systematically reviewed and meta-analysed comparable exposures based on information provided in the studies, including 1) soft drinks (unspecified sweetened drinks, likely a combination of sugar sweetened beverages (SSBs) and artificially sweetened beverages (ASBs)); 2) SSBs; 3) ASBs; 4) fruit and vegetable juices; 5) fruit juices; and 6) vegetable juices. Specific types of soft drinks, such as carbonated or non-carbonated, sugar sweetened or artificially sweetened, soda or fruit drinks, pure fruit juices, or specific fruit juices, were analysed separately. Each reported exposure was reviewed only once, however, additional analyses were conducted combining SSBs with carbonated SSBs, ASBs with carbonated ASBs, fruit juice with pure fruit juice, and citrus juices with orange juice, as these constitute the predominant components of their respective beverage categories.

Soft drinks

Non-alcoholic sweetened beverages that include various types of both SSBs and ASBs. Studies that reported on unspecified soft drinks and did not differentiate between SSBs and ASBs and so likely included both were classified into this group. In addition, studies that reported on soft or sweetened drinks and did not report additional information regarding the type of sweeteners were classified into this category. Based on information provided in the included studies, beverages in this category were classified as 1) soft drinks, 2) carbonated soft drinks (e.g., soda), 3) caffeinated carbonated soft drinks, 4) decaffeinated carbonated soft drinks, and 5) cola.

Sugar sweetened beverages

Liquids that are sweetened by adding free sugars, such as sucrose, high fructose corn syrup and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrate. This includes, among others, sodas/carbonated drinks, sports drinks, energy drinks, sweetened waters, cordials, barley water, and coffee- and tea-based beverages with sugars or syrups added. This does not include versions of these drinks which are ‘sugar-free’ or sweetened only with artificial sweeteners. Based on information provided in the included studies, beverages in this category were classified as 1) SSBs (that could be with or without fruit juices), 2) carbonated SSBs, 3) non-carbonated SSBs, 4) sugar-sweetened cola, 5) fruit drinks, and 6) carbonated fruit drinks.

Artificially sweetened beverages

Low calorie or non-caloric beverages including among others, sodas/carbonated drinks, sports drinks, energy drinks, sweetened waters, cordials, barley water, and coffee- and tea-based beverages sweetened with artificial sweeteners, such as aspartame, acesulfame K, saccharin, sucralose, or neotame. These drinks are often called ‘low sugar’, ‘sugar-free’ or ‘diet’ drinks. Based on information provided in the included studies, beverages in this category were classified as 1) ASBs, 2) carbonated ASBs, 3) non-carbonated ASBs, 4) artificially sweetened cola, and 5) artificially sweetened fruit drinks.

Fruit or vegetable juices

Fruit or vegetable juices are liquids expressed from materials of a fruit or vegetable plant by crushing, comminuting and pressing. It can be clear, cloudy or pulpy from a single or various plants. 100% pure juices do not have additives, such as sugars, sweeteners, preservatives, flavourings, or colourings. Nectars, among other ingredients such as water and sugar, contain about 25%-50% fruit juice or pulp by weight; juice drinks, beverages, or cocktails contain about 10%-20% juice; and juice punches contain about 1% juice. Based on information provided in the included studies, beverages in this category were classified as 1) fruit and vegetable juices, 2) fruit juices, 3) 100% pure fruit juices, 4)

apple juice, 5) citrus fruit juice, 6) orange juice, 7) grapefruit juice, 8) vegetable juices, 9) tomato juice, and 10) carrot juice. Studies that expressed the exposure as juice and did not report additional information regarding the type of juice, were classified as fruits and vegetables juices. For fruit juices to be classified as pure, studies must have provided a clear indication that the juices are labelled as pure, fresh, 100%, or natural. In the absence of such explicit statements, these juices were categorised as fruit juices, which includes a mixture of pure and commercially produced fruit juices.

Supplementary Text 4. Risk of bias assessment of observational cohort studies.

We used a modified version of the Risk of Bias for Nutrition Observational Studies (RoB-NObs) tool to assess the risk of bias of the studies included in the meta-analyses[21]. The U.S Department of Agriculture (USDA) Nutrition Evidence Systematic Review initially developed RoB-NObs based on a modification of the Cochrane's Risk of bias In Non-randomised Studies of Interventions (ROBINS-I)[22]. The CUP Global team at Imperial College London further adapted and tested the tool, incorporating additional prompting questions and guidance to assess risk of bias in observational studies investigating lifestyle-disease associations focusing on adiposity, physical activity, sedentary behaviour, and dietary/nutritional exposures. The RoB domains and criteria to rate studies in relation to each domain are listed in **Supplementary Tables 3-4**.

Supplementary Text 5. Detailed information for selection of statistical models for inclusion in the meta-analysis.

For inclusion in the meta-analyses, a model was considered multivariable if it adjusted for at least two variables in addition to the exposure of interest. Models adjusted for age or sex only were not considered multivariable. We aimed to include the estimated from multivariable maximally adjusted models in the meta-analyses. However, in the associations between SSBs and cancer risk, body mass index (BMI) and other adiposity measures (e.g., waist circumference, waist-to-hip ratio) were considered mediators in the causal pathway between exposures and cancer incidence. Since the handling of adiposity measures varied across studies, we adopted a structured approach to model selection and sensitivity analyses to address potential mediator adjustment bias.

Primary studies were categorised based on how they handled adiposity measures in their reported multivariable models: (1) studies could report a single multivariable-adjusted model that excluded adiposity measures. These estimates were considered the most appropriate for inclusion in the primary meta-analysis, as these models avoided adjusting for mediators and captured the total effect of the exposure; (2) studies could report only a multivariable-adjusted model that included adiposity measures. These results were also included in the meta-analysis when no alternative multivariable estimates were available. Although adjusting for mediators (e.g., BMI) may attenuate the observed associations, these studies were retained to avoid omission of relevant studies; and (3) for studies presenting both types of models, we prioritised the mediator-unadjusted estimates (i.e., models without adiposity adjustment) as the most appropriate for inclusion in the primary meta-analysis. A similar approach was applied for ASBs, but we included multivariable-adjusted models that included adiposity measures in the model as there is evidence of a reverse causality bias in the association between ASBs and health outcomes. For soft drinks that includes SSBs, ASBs, and juices, we selected the models that did not control for adiposity measures as the major components of soft drinks are SSBs+juices. However, few studies reported data on both adiposity-adjusted and unadjusted models for soft drinks.

Additionally, we compared the adiposity-unadjusted and adiposity-adjusted estimates, focusing on the magnitude of the estimates and the statistical significance of the associations. This approach aimed to evaluate the potential bias introduced by adjusting for mediator variables. In cases where large qualitative differences were observed (e.g., changes in statistical significance between the two models), sensitivity meta-analyses were performed using the adiposity-adjusted estimates.

Multivariable-adjusted model(s) reported in the studies		SSBs/Juices	ASBs
One model (without adiposity measures)		✓	✓*
One model (with adiposity measures)		✓*	✓
Two models**	Without adiposity measures	✓	×
	With adiposity measures	×	✓

*To avoid omission of studies in the analysis.

**Subgroup and sensitivity analyses are conducted to compare the results between the models.

Supplementary Text 6. Details of information extracted from Mendelian randomisation studies.

Mendelian randomisation studies using genetic variants derived from genome-wide association studies (GWAS) as instrumental variables to assess associations of genetically predicted self-reported consumption of soft drinks and juices and cancer risk were reviewed. The following information was extracted: the study design (one- or two-sample MR), exposure and outcome GWAS data sources, population ancestries and sample sizes, information on genetic instruments including number of single nucleotide polymorphisms (SNPs) associated with soft drinks or juices utilised in the analyses and variance explained (R^2) by the instrument, primary analysis (e.g., fixed or random effects inverse-variance weighted [IVW] method), sensitivity MR analyses (e.g., MR-Egger, weighted median, MR-PRESSO), and any multivariable MR analyses. When multiple analyses on overlapping exposure and outcome populations from different publications were identified, the analysis utilising the largest outcome sample size (reflecting the largest power) was considered as the primary MR analysis, while the rest were also kept and checked for consistency of results against the main analysis. Results from the main MR analyses were compared with the sensitivity analyses to assess concordance and robustness.

Supplementary Text 7. Detailed statistical methods used for dose-response meta-analysis.

Our primary analyses were linear dose-response meta-analyses when at least two primary studies with per unit exposure increment or three or more exposure categories provided sufficient information. Non-linear dose-response meta-analyses were conducted when at least five primary studies provided sufficient information. Hazard ratios, RRs, and odds ratios were considered equivalent due to the low absolute risk of cancer and were combined into a summary RR. When studies reported results by subpopulations (e.g., males and females) but not overall, a fixed effect model was used to estimate an overall association before inclusion of the study in the meta-analysis. Hamling's method was used to pool results reported by cancer subtypes (e.g., colon and rectal cancer) to account for common denominators in risk estimates[23]. When dose-response meta-analysis was not possible or when more than a third of the included studies did not have sufficient information for inclusion in a dose-response meta-analysis, a supporting categorical high versus low analysis was conducted. When a meta-analysis was not possible or for individual studies that could not be meta-analysed, the studies were descriptively reviewed. This approach allows a comprehensive summation of study results while minimising the number of categorical meta-analysis that may pool results for different exposure comparisons. Separate meta-analyses were conducted for incidence (primary) and mortality (secondary) outcomes. For cancers with high mortality rate including pancreas, liver, lung, and gallbladder cancers, we combined incidence and mortality outcomes in an additional analysis. For descriptive synthesis, the results for each exposure-outcome association reported in the individual studies were presented in supplementary tables and reviewed in the text.

Linear dose-response meta-analyses were conducted when there were at least two independent studies reporting results on the same exposure-outcome association. Both fixed effect and inverse variance DerSimonian-Laird random-effects were conducted to summarise the results from the included studies. Important differences, for instance influence from small studies on the summary risk estimates from the two models, were investigated and reported appropriately; otherwise, summary risk estimate from the random-effects model were reported only.

Linear dose-response meta-analysis were conducted to allow expressing the results of each study in the same increment unit for a given exposure. An increment unit consistent with the previous CUP SLRs were used; otherwise, an increment unit that reflects the usual unit of exposure (e.g., measures that used in most of the included studies) were used, including:

- 355 mL (12 US fluid oz)/day for soft drinks, SSBs, and ASBs[25]
- 177 ml (6 US fluid oz)/day for fruit or vegetable juices[26]

The measures of association, including hazard ratio, risk ratio, and odds ratio, derived from the individual studies were aggregated and referred to collectively as the summary relative risk. These measures were roughly equivalent in research examining the current topic, based on the assumption that cancer cases are infrequent, and the absolute risks of cancer are minimal. To be included in a linear dose-response meta-analysis, studies must have reported the following data:

- For studies investigating cancer risk associated with a continuous exposure variable: relative risk and its measure of variance (standard errors (SE), 95% confidence intervals (CIs) or P-value) per unit increment in exposure that can be readily converted or re-scaled if needed. In cases where the units of measurement differed between results the units were converted, where possible, such that all results used the same measurement.

- For studies investigating cancer risk associated with a categorical comparison of exposure variable: relative risk and its measure of variance (as above), number of cases, person-years or number of non-cases, exposure categories (cut-offs, mean or median) for at least three exposure level comparisons. For studies reporting intakes in unit/1000 kcal/day, the intake in unit/day were estimated using the average energy intake for each exposure category, or if not

provided, the average energy intake overall reported in the article. For each exposure category, we assigned the midpoint of the lower and upper boundaries. For open-ended highest categories, we assumed that the category width was the same as that of the adjacent lower category and assigned the midpoint accordingly. For open-ended lowest categories, we assigned the midpoint using the available boundary and the width of the adjacent category; where the lower bound was not reported, it was assumed to be zero. Standard approaches were used to derive missing data (e.g., number of participants or cases across categories) for meta-analysis [209,210].

The dose-response slope of the association estimated only from a categorical analysis in a study were derived using generalised least-squares for trend estimation. When the mean or median intake of the reference intake category (relative risk = 1) was not zero, all the association estimates assigned to exposure categories were rescaled so that the reference point was always zero. Studies of both sexes combined or of single sex only were first be meta-analysed together, follows by subgroup analysis by sex. When a study did not report an overall result but results of the sub-populations (e.g. males and females, smokers and non-smokers) only, a fixed-effect model was used to estimate an overall result before pooling with the other studies in the meta-analysis. Similarly, studies reporting results only by cancer subtype (e.g., colon and rectal) were first pooled before meta-analysing with the other studies. In this case, the Hamling's method that accounts for the common denominators used in calculating the risk estimates for the outcomes was used[23]. When results from multiple studies are reported in the same publication, e.g. in a pooled analysis, the results of each component study were included separately if they were provided. The pooled result was not used directly, if possible, to maintain the independence of observations included and to allow exploration of heterogeneity across study results.

Pre-specified subgroup analyses included participant's characteristics (sex, race/ethnicity, BMI status, physical activity level, smoking status, alcohol drinking status, and inclusion or exclusion of people with a history of diabetes at baseline) and study characteristics (geographical location, publication year, study size, length of follow-up, frequency of dietary assessment and risk of bias domains). In case where primary studies reported both adiposity adjusted and adiposity unadjusted estimates that resulted in differences in the inference, we conducted a sensitivity analysis by replacing the adiposity-unadjusted estimate with the adiposity-adjusted one, to assess its impact on the summary estimate.

We conducted additional analyses combining SSBs with carbonated SSBs, and ASBs with carbonated ASBs, as these constitute the predominant components of their respective beverage categories and this approach would increase statistical power. We also combined orange juice with overall citrus fruit juice since orange juice is a good surrogate for citrus juice. We did not combine grapefruit juice with citrus juice due to generally low grapefruit intake. A similar approach was used for pure fruit juice and fruit juice. For studies that provided estimates for both overall SSBs and carbonated SSBs, only the overall SSBs estimate was used to avoid double counting of study participants. A similar approach was used when combining other exposure groups. Therefore, additional analyses included:

- Combining SSBs and carbonated SSBs
- Combining ASBs and carbonated ASBs
- Combining fruit juice and pure fruit juice
- Combining citrus juice and orange juice

Non-linear dose-response meta-analyses were conducted in a one-stage mixed effects models[29] using restricted cubic splines with three knots placed at fixed percentiles (10th, 50th, and 90th) of the exposure distribution[31]. The number of studies was chosen as few data points may drive the estimation of the non-linear curve with wide 95% confidence interval.

Supplementary Text 8. Descriptive review of sugar sweetened beverages and cancer incidence.

Forest plots showing study-specific results for the highest versus lowest exposure level comparisons were presented in **Supplementary Figures 18-41.** One study that could not be included in the highest versus lowest category meta-analysis of bladder cancer reported little evidence of an association between SSBs and fruit juice consumption and bladder cancer in males and females per each 2 points increase in the Alternative Healthy Eating Index-2010 component score[82]. One pooled analysis of NHS and HPFS reported that substituting 1 serving of SSBs per day with an equivalent amount of ASBs was not associated with distal colon or rectal cancers[178]. Overall, there were 11 publications that reported on SSBs, carbonated SSBs or fruit drinks and colorectal cancer (n=2), colon cancer (n=1), liver cancer (n=2), pancreatic cancer (n=2), lung cancer (n=1), breast cancer (n=1), postmenopausal breast cancer (n=2), premenopausal breast cancer (n=1), and prostate cancer (n=1) that could not be included in the meta-analyses because of insufficient data format[37,47,78,80,105,122,130,146,169,187,188]. In general, the results were null or borderline significant, except for SUN cohort study[146] that reported an increased risk of postmenopausal breast cancer incidence with higher intake of SSBs (RR $_{0.05 \text{ vs } 0 \text{ serving/day:}}$ 2.12, 95%CI: 1.01-4.41) (**Supplementary Figure 32**).

Twenty-four exposure-outcome associations were only reported by one study[34,36,47,70,72,74,75,84,90,128,135,172,186,211] (**Supplementary Table 16**). There was a positive association between SSB and early-onset colorectal cancer in the NHS II (RR $_{\geq 2 \text{ servings/day vs } <0.9 \text{ serving/week}}$: 2.18, 95%CI: 1.10-4.35)[72]. Of note, substitution of SSBs with ASBs was associated with a lower risk of early-onset colorectal cancer in the NHS II (RR $_{\text{per 1 serving/day}}$: 0.83, 95%CI: 0.69-0.99), but substitution of SSBs with fruit juice was not[72]. In addition, lower intake of SSBs, as part of the WCRF/AICR cancer prevention recommendation score, was associated with a lower risk of ER+/PR+ breast cancer in the BWHS[128], whereas the rest showed null associations between SSBs, fruit drinks or sugar sweetened cola and various cancers. One publication from the NHS II suggested that SSB intake during adolescence (13-18 years old) may be associated with a higher risk of early-onset colorectal cancer (RR $_{\geq 2 \text{ servings/day vs } <0.9 \text{ serving/week}}$: 3.41, 95%CI: 1.08-10.80)[72]. Intake of SSBs was also associated with a higher risk of symptomatic prostate cancer incidence in Malmo Diet and Cancer Study (MDCS) (RR $_{Q5 \text{ vs } Q1}$: 1.38, 95%CI: 1.04-1.84) [47], but not with low- or high-risk prostate cancer incidence. The Melbourne Collaborative Cohort Study also indicated little evidence of an association between SSBs and aggressive prostate cancer incidence[70].

Supplementary Text 9. Meta-analyses of sugar sweetened beverages and cancer mortality.

There was a positive association between SSBs and colorectal cancer (RR: 1.02, 95%CI=1.00-1.04; I^2=0) (4 studies, 3 publication, 16,855 cases)[113,126,178] **(Supplementary Figure 170),** proximal colon cancer (RR: 1.38, 95%CI=1.11-1.71; I^2=0) (2 studies, 1 publication, 409 cases)[178] (**Supplementary Figure 171**) and kidney cancer (RR: 1.06, 95%CI=1.02-1.10; I^2=0) (2 studies, 2 publications, 3394 cases)[66,113] (**Supplementary Figure 172**). Substitution of one serving/day of SSBs with ASBs was associated with a lower risk of proximal colon cancer (RR: 0.80, 95%CI=0.71-0.95) (2 studies, 1 publication, 409 cases)[178] (**Supplementary Figure 83**). Little evidence of an association was observed for lung, breast, and prostate cancer mortality (**Supplementary Figures 173-175)**.

There was no evidence of subgroup differences in the small number of associations that could be examined (**Supplementary Figure 176-186**). In the influence analyses, the main results did not change excluding in turn each individual study (**Supplementary Figures 187-189**). The exception was SSBs and breast cancer which became evident after exclusion of the Cancer Prevention Study II that accounted for ~54% of the meta-analysis weight[113] (RR: 1.10, 95%CI=1.02-1.19) (**Supplementary Figure 187**). Forest plots showing study-specific results for the highest versus lowest exposure level comparisons were presented in **Supplementary Figures 18-41,** with descriptive synthesis and single-study associations detailed in **Supplementary Text 10** and **Supplementary Table 16,** respectively**.**

Supplementary Text 10. Descriptive review of sugar sweetened beverages and cancer mortality.

Forest plots showing study-specific results for the highest versus lowest exposure level comparisons were presented in **Supplementary Figures 18-41.** There was one publication from NIH-AARP that could not be included in the meta-analysis of prostate cancer mortality and reported little evidence of an association with SSBs, as part of the AHEI-2010 score[42]. One publication from CPS II reported on SSBs and 12 cancer mortality outcomes for which only one association estimate was available (**Supplementary Table 16**). There was a positive association between and SSBs and non-Hodgkin lymphoma mortality (RR $_{\geq 2 \text{ vs } 0\text{-}0.9 \text{ drinks/day}}$: 1.16, 95%CI: 1.05-1.28) (**Supplementary Figure 41**), while the rest showed no association.

Supplementary Text 11. Descriptive review of artificially sweetened beverages and cancer incidence.

Forest plots showing study-specific results for the highest versus lowest exposure level comparison are presented in **Supplementary Figures 42-54.** There was a positive association between carbonated ASBs and multiple myeloma and non-Hodgkin lymphoma in the HPFS[150] (**Supplementary Figure 53**), however, the linear dose-response meta-analyses indicated null associations. Other results were generally null and consistent with the meta-analyses. Two studies reported on prostate cancer[44,70], which could not be combined since one study reported an implausible association estimate[44]. Neither of the studies found an association with prostate cancer. The Malborne Collaborative Cohort Study (MCCS)[70] reported no association for the highest versus the lowest category of ASBs intake and aggressive prostate cancer incidence (RR: 0.81, 95%CI: 0.49-1.33), and the NutriNet-Santé study[44] in France reported an inverse association with 95%CI crossing the null value ($RR_{\text{per 10 mL/day}}$: 0.58, 95%CI: 0.28-1.18). Overall, there were three publications on ASBs and colorectal cancer (n=2), liver (n=1) and breast (n=1) cancers that could not be included in the meta-analyses because of insufficient data format[44,78,187]. The results of these studies were all null. Twenty-three exposure-outcome associations were only reported by one study (**Supplementary Table 17**)[70,72,75,78,140,144,177,180]. There was an inverse association between diet soft drinks and lung cancer in females in PLCO[177]. There was also a positive association between ASBs and papillary thyroid cancer in the EPIC study[180], and a borderline positive association between artificially sweetened decaffeinated cola and invasive breast cancer in the Women's Health Study (WHS)[75]. The rest showed null associations between ASBs, caffeinated or decaffeinated ASBs, or artificially sweetened cola and various cancers.

Supplementary Text 12. Meta-analyses of artificially sweetened beverages and cancer mortality.

There was an inverse association between ASBs intake and lung cancer mortality (RR: 0.97, 95%CI=0.96-0.99; I^2=0) (3 studies, 2 publications, 34,381 cases)[109,113] (**Supplementary Figure 229**), with ~96% of the meta-analytical weight from one large cohort study. The rest of the results were null (**Supplementary Figures 230-233**). A few subgroup analyses were possible, with no evidence of heterogeneity between subgroups (**Supplementary Figures 234-239**). The main results did not change materially in the influence analyses (**Supplementary Figures 240-241**). Forest plots showing study-specific results for the highest versus lowest exposure level comparison are presented in **Supplementary Figures 42-54,** and information on descriptive synthesis is provided in **Supplementary Text 13**.

Supplementary Text 13. Descriptive review of artificially sweetened beverages and cancer mortality.

Forest plots showing study-specific results for the highest versus lowest exposure level comparison are presented in **Supplementary Figures 42-54.** The results were generally null, except for a positive association between ASBs and pancreas cancer mortality (**Supplementary Figure 45**) and an inverse association with lung cancer mortality (**Supplementary Figure 46**) in the CPS II[113], which the latter was consistent the linear dose-response meta-analyses of lung cancer mortality. Thirteen exposure-outcome associations were only reported by CPS II[113] (**Supplementary Table 17**). The results were mixed of positive or inverse associations with various cancers, with 95%CIs crossing the null for all outcomes.

Supplementary Text 14. Descriptive review of juices and cancer incidence.

Forest plots showing study-specific results for the highest versus lowest exposure level comparison were presented in **Supplementary Figures 55-69.** Highest versus the lowest results were consistent the positive associations observed between fruit and vegetable juice and distal colon cancer incidence and orange juice and different types of skin cancer. Two studies reported on fruit juice and liver cancer, which could not be combined. The MEC study indicated little evidence of an association between fruit juice, per each one-point increase in the component score of the total, healthful and unhealthful plant-based diet, and hepatocellular carcinoma[88], and the Women's Health Initiative Observational Study (WHI-OS) indicated an inverse association but with 95%CI crossing the null value with liver cancer per each one serving per day[183]. Two other studies reported on tomato juice and bladder cancer, which could not be combined. The PLCO study reported no association for bladder cancer incidence across categories of tomato juice and per each one SD increase per day[175], and the HPFS reported a null association without reporting an effect estimate[120]. Overall, there were five publications on fruit juice and colorectal (n=2), pancreas (n=1) and prostate (n=2) cancers that could not be included in the meta-analyses because of insufficient data format[47,78,87,161,188]. There was a positive association with pancreatic cancer in PLCO[188] and a borderline inverse association with colorectal cancer in MEC[87]. The rest showed null associations. The NHS II investigated the association between fruit juice including total fruit juice and apple, orange, and grapefruit juices during early adulthood (aged 27-44 years) and breast cancer incidence later in life which suggested a borderline positive association for total fruit juice[51]. In that study, intake of fruit juices during adolescence (aged 13-18 years) was not associated with breast cancer risk. Similarly, there was no association between incidence of breast cancer later in life and orange juice during adolescence (aged 12-18 years) in the NHS[57] and during childhood (3-5 years) in the NHS and NHS II[121]. The NIH-AARP study reported on fruit juice at 12-13 years of age and indicated a positive association with non-advanced prostate incidence and inverse associations with advanced prostate cancer incidence and prostate cancer mortality later in life[94].

A total of 88 exposure-outcome associations were only reported by one study[38,43,44,47,49,51,58-60,63,72,74,77,78,81,84,86,89,94,107,111,117,118,120,123,124,133,138,141,147,153,156,159-162,165-167,174,176,179,181,185]

(**Supplementary Table 18**). There was an inverse association between fruit and vegetable juice and rectal cancer in the MEC study[81], and between apple juice and non-Hodgkin lymphoma in the Iowa Women's Health Study (IWHS)[162].There were also positive associations between fruit juice and polycythaemia vera in the NIH-AARP study[141], pure fruit juice and endometrial cancer in a Canadian cohort[38], fruit and vegetable juice and urothelial cancer in the EPIC study[147], and citrus juice and papillary thyroid cancer in females in NIH-AARP study[174]. Of note, the EPIC study indicated positive associations between citrus juice and basal cell carcinoma and squamous cell carcinoma[107], which was consistent with the linear dose-response meta-analyses of citrus juice and melanoma incidence and orange juice and melanoma, basal cell carcinoma and squamous cell carcinoma incidence. The rest showed null or borderline associations for various juices.

Supplementary Text 15. Meta-analyses of juices and cancer mortality.

A pooled analysis of 15 cohorts with 3205 cases[139] reported results from three linear dose-response meta-analyses for citrus juice, vegetable juice and fruit and vegetable juice and prostate cancer mortality, which indicated little evidence of an association (**Supplementary Figure 308**). Detailed information on descriptive synthesis and single-study associations is provided in **Supplementary Text 16** and **Supplementary Table 18,** respectively**.**

Supplementary Text 16. Descriptive review of juices and cancer mortality.

A total of 16 exposure-outcome associations were only reported by one study[66,76,77,134,149] (**Supplementary Table 18**). Pure fruit juice was associated with a higher risk of liver cancer mortality in males and, in contrast, was associated with a lower risk of bladder cancer mortality in males in the Japan Collaborative Cohort Study for Evaluation of Cancer (JACC)[76]. Other results were mixed of positive or inverse associations between fruit juice, pure fruit juice, fruit and vegetable juice and tomato juice and various cancer mortality outcomes with 95%CIs crossing the null value in all association estimates.

Supplementary Text 17. Meta-analyses of soft drinks.

Twenty-six studies (36 publications, including six pooled analyses) reported on soft drinks and cancer across 18 anatomical sites, encompassing 58 exposure–outcome pairs (51 incidence, seven mortality) with 46,842 incident cases and 5,453 cancer deaths (**Supplementary Table 11**)[26,35,36,39,48-50,61,65-68,71,73,79,85,95,96,102,117-119,125-127,132,136,137,140,143,147,159,163,180,183,189]. Meta-analyses were possible for 13 cancer incidence (**Supplementary Figure 1**). Linear dose-response meta-analyses showed no clear associations between soft drinks and cancer incidence (**Supplementary Figures 309-318**). Subgroup analyses indicated little heterogeneity (**Supplementary Table 22, Supplementary Figures 319-322**), and results remained consistently null after sequential study exclusion (**Supplementary Figures 323-325**). Publication bias was not assessed due to the low number of studies (n<10). Forest plots for highest versus lowest exposure comparisons are shown in **Supplementary Figures 18–41**, with descriptive synthesis detailed in **Supplementary Texts 18–19**; 31 exposure-outcome associations reported by single studies are summarised in **Supplementary Table 15**.

Supplementary Text 18. Descriptive review of soft drinks and cancer incidence.

Forest plots showing the study-specific results for the highest versus the lowest exposure level comparisons are presented in **Supplementary Figures 18-41.** The European Prospective Investigation into Cancer and Nutrition (EPIC)[159] indicated a positive association between soft drinks and hepatocellular carcinoma (**Supplementary Figure 26**), and the Swedish Mammography Cohort (SMC) and Cohort of Swedish Men (COSM)[96] indicated a positive association with gallbladder and extrahepatic biliary tract cancers (**Supplementary Figure 27)**, however, linear dose-response meta-analyses including these two publications indicated null associations. Three studies reported on soft drinks and colorectal cancer which could not be meta-analysed. The EPIC study reported a positive association between soft drinks and colorectal cancer incidence[136], with further analyses by anatomical subsite suggesting a positive association with colon cancer, especially distal colon cancer, and a borderline association with rectal cancer[136]. Other results for colorectal cancer were null, suggesting an inverse association but with 95%CI crossing the null in the Netherlands Cohort Study (NLCS)[136] and EPIC-Italy[35]. Two studies reported on soft drinks and kidney cancer, of which the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial reported a positive association with renal cell cancer[102], and the EPIC study reported no association in either sex[66].

Overall, there were three publications on pancreas (n=1), endometrial (n=1), and lung (n=1) cancers which could not be included in the meta-analyses because of insufficient data format[61,85,177]. The results of these studies were generally null and consistent with the main meta-analyses, except for PLCO[177] that reported an inverse association between soft drinks and lung cancer in females which was not observed in males but with overlapping CIs between sexes (**Supplementary Figure 29**, **see footnote**). Thirty-seven exposure-outcome associations were only reported by one study (**Supplementary Table 15**)[48-50,73,118,125,137,140,143,159,163,180]. There was a positive association between carbonated soft drinks and pancreas adenocarcinoma in the Singapore Chinese Health Study (SCHS)[125], and between soft drinks and differentiated thyroid cancer, especially papillary thyroid cancer, in the EPIC study[180], whereas the rest showed a null association between total, carbonated, caffeinated, and decaffeinated soft drinks and cola and cancers of the head and neck, oral cavity, stomach, oesophagus, colon, pancreas, breast, ovary, prostate, brain, and haematological system.

Supplementary Text 19. Descriptive review of soft drinks and cancer mortality.

Two studies reported on soft drinks and colorectal cancer mortality which could not be meta-analysed. The EPIC study reported a positive association with colorectal cancer mortality[126], while the Hokkaido study in Japan indicated no association[85]. Two studies reported on soft drinks and kidney cancer mortality, of which the PLCO study reported a positive association but with 95%CI crossing the null with renal cell cancer mortality[102], and the EPIC study reported a borderline positive association in females and no association in males[66]. Six exposure-outcome associations were only reported by one study[85,126] (**Supplementary Table 15**) indicating no association between soft drinks or cola and colorectal, lung, breast, and prostate cancers mortality.

Supplementary Text 20. Risk of bias assessment.

The risk of bias assessment of 99 publications (38 studies) across seven domains are presented in **Supplementary Figure 326**. Regarding confounding, most publications (81%) had moderate, 8% serious, and 11% critical risk of bias. This was mainly because publications did not include all critically important confounding variables **(Supplementary Table 4),** including smoking intensity (n=5), alcohol drinking (n=5), reproductive factors (n=4), race (n=3), and skin cancer-related risk factors (n=1) in their multivariable analyses. Regarding selection of participants, 99% of the publications had moderate risk of bias, and the remaining 1% had serious risk. Regarding exposure classification, 28% of the publications had low, 62% moderate, and 10% serious risk of bias, with no study at critical risk. Publications rated as serious risk provided insufficient information regarding the composition of exposures (e.g., juices) and did not report detailed information on validity estimates of dietary assessment tool to measure that specific exposure. Bias due to departures from intended exposures was rated as critical in 74% of publications, serious in 5%, and moderate in 21% of publications. Changes in exposure status may have occurred after baseline exposure assessment but repeated measurements were limited to 22 publications from eight studies (22%) including NHS, NHS II and HPFS (every 2-4 years), CPS II (baseline assessment and then an update after 4 years), BWHS (baseline assessment and then an update after 6 years), UK biobank (baseline assessment and then 4 rounds during the next 2 years), SU.VI.MAX (a 24-hour dietary record every 2 months, altogether, six times per year), and NutriNet-Santé (≥2 assessments every six months), while the others used a single baseline dietary assessment. However, subgroup analyses by dietary assessment frequency (single baseline vs repeated measurement) and by bias due to departure from intended exposure (moderate vs critical bias) did not indicate any notable difference between the subgroups for colorectal cancer incidence and mortality, colon, proximal and distal colon cancer incidence, breast, pre and postmenopausal breast cancer incidence, breast cancer mortality, prostate cancer incidence and mortality, and non-Hodgkin lymphoma incidence. In bias due to missing data, 47% of publications had low, 5% moderate, and 11% serious risk, while 36% lacked sufficient information for assessment. Bias in the measurement of outcomes was not a concern, as almost all publications (99%) were rated as low risk. Bias in the selection of reported results was moderate in 95% of publications, while 5% were classified as low.

Supplementary Text 21. Mendelian randomisation studies.

Three MR studies were identified reporting results on 175 MR analyses of various soft drinks with cancer, using two-sample summary-level information from large GWAS studies or consortia of European ancestry. The studies investigated genetically predicted self-reported intake of sweet beverages (21 SNPs)[191], SSBs (23 SNPs[191], or 12 SNPs)[192], ASBs (16 SNPs)[192], and artificial sweeteners added to coffee (12 SNPs) or tea (15 SNPs)[193]. The genetic instruments included 12-23 SNPs (**Supplementary table 23**).

One MR study indicated no association between genetically predicted sweet beverages intake (including SSBs, ASBs, pure non-grapefruit juices, flavoured milk, and hot chocolate) and risk of colon or rectal malignant neoplasms[191]. The study also indicated a positive association between genetically predicted SSBs intake and risk of colonic malignant neoplasms (OR 1.013, 95%CI: 1.001-1.026), but not with rectal malignant neoplasms[191]. Another MR study investigating genetically predicted SSBs consumption and 13 obesity-related cancers reported a positive association with breast cancer (OR per 1 SD: 1.888, 95% CI: 1.115-3.196), but not with other cancers, including colorectal cancer[192]. As for genetically predicted ASBs consumption, the study reported a positive association with colorectal (OR 6.88, 95%CI: 1.55-30.51) and breast cancer (OR: 3.88, 95%CI: 2.02-9.78)[192]. Further two-step MR suggested a potential mediation by BMI in the association of ASBs with colorectal cancer. No association was found between ASBs and other cancers including oesophageal, stomach, liver, pancreatic, endometrial, ovarian, prostate, kidney and thyroid cancers[192]. The last MR study investigated genetically predicted artificial sweeteners added to coffee and tea in relation to 67 and 71 cancer outcomes of different grades and histology, and suggested that genetically predicted artificial sweeteners added to coffee was associated with a higher risk of high- and low-grade ovarian cancer, and that artificial sweeteners added to tea was associated with higher risk of cancers of the oral cavity and pharynx[193]. Of note, inverse associations were found between artificial sweeteners added to tea and cancers of the bronchus and lung. No other association was found between artificial sweeteners added to tea or coffee and cancer outcomes[193].

Supplementary Table 2. Eligibility criteria for cancer outcomes commonly investigated in the epidemiological studies[a]

Cancer sites (incidence or mortality)	Inclusion criteria	Exclusion criteria
Bladder cancer	Bladder cancer; transitional cell carcinoma (urothelial carcinoma), squamous cell carcinoma, adenocarcinoma; histologically defined carcinoma in situ; and imprecise anatomical definitions of cancer sites that include bladder cancer, such as urological tract cancer, provided that they are of invasive carcinoma.	Pre-malignant bladder cancer other than histologically defined carcinoma in situ.
Brain and other central nervous system cancers	Brain cancer; glioma, glioblastoma; grade III meningioma; spinal cord cancer; brain combined with meninges and spinal cord cancers.	Benign brain tumours; benign spinal cord tumours; metastatic spinal cancer.
Breast cancer	Invasive breast cancer; premenopausal or postmenopausal breast cancer; any molecular, genetic, or histopathological subtypes.	In situ breast cancer.
Cervical cancer	Invasive or microinvasive cervical cancer; squamous cell carcinoma (SCC), epidermoid carcinoma (large cell or small cell, keratinizing or nonkeratinizing), or adenocarcinoma; cervical intraepithelial neoplasia III (CIN 3)/carcinoma in situ (CIS).	Pre-invasive neoplastic lesions (cervical dysplasia, cervical intraepithelial neoplasia (CIN I or II), squamous intraepithelial lesion (SIL, different grades).
Colorectal cancer	Colorectal cancer; (distal, proximal) colon cancer, rectal cancer; any molecular, genetic, or histopathological subtypes; Lynch syndrome colorectal cancer, early onset colorectal cancer.	Pre-malignant colorectal conditions, e.g. colorectal adenomas or polyps.
Endometrial cancer	Endometrial cancer; type I endometrial cancer (endometrioid adenocarcinoma), type II endometrial cancer (serous, clear cell, carcinosarcoma and undifferentiated/dedifferentiated cancers)	----
Gallbladder cancer	Gallbladder cancer; imprecise anatomical definitions of cancer sites that include gallbladder cancer, such as biliary tract cancer.	----
Kidney cancer	Kidney cancer; (clear cell, non-clear cell) renal cell carcinoma (RCC), renal parenchyma cancer; renal pelvis cancer, transitional cell carcinoma (TCC) (urothelial carcinoma).	Wilm's tumour (more common in children) or cancer related to schistosomiasis infection.
Liver cancer	Liver cancer; hepatocellular carcinoma (HCC).	----
Lung cancer	Lung cancer; non-small cell lung cancer (NSCLC), adenocarcinoma, squamous cell carcinoma, large cell carcinoma; small cell lung cancer (SCLC).	----
Lymphoid and hematopoietic cancers	Leukaemia; acute lymphoblastic/lymphocytic leukaemia (ALL), acute myeloid leukaemia (AML), chronic lymphocytic leukaemia (CLL)[b], chronic myeloid leukaemia (CML), chronic myelomonocytic leukaemia (CMML).	----

Cancer sites (incidence or mortality)	Inclusion criteria	Exclusion criteria
	Lymphoma; non-Hodgkin lymphoma, Hodgkin lymphoma, diffuse large B-cell lymphoma, follicular lymphoma, small lymphocytic lymphoma (SLL)[b] Multiple myeloma.	
Mouth, pharyngeal, and laryngeal cancer	Cancer of the mouth, pharynx or larynx as separate outcomes, as combinations of these cancers, or for all these cancers combined; head and neck cancer; upper aerodigestive cancer; and other cancer groups that explicitly include mouth, pharynx, or larynx cancers.	----
Nasopharyngeal cancer	Nasopharyngeal cancer.	Cancer combinations that include nasopharyngeal cancer.
Oesophageal cancer	Oesophageal cancer; gastro-oesophageal cancer; squamous cell carcinoma, adenocarcinoma.	Upper aerodigestive cancer that includes oesophageal cancer that is evaluated under mouth, pharyngeal, and laryngeal cancers.
Ovarian cancer	Ovarian cancer; epithelial ovarian carcinoma; serous carcinomas.	----
Pancreatic cancer	Pancreatic cancer.	----
Prostate cancer	Prostate cancer; advanced/aggressive prostate cancer (see (a)-(h) below), early localised/low grade prostate cancer; imprecise anatomical definitions of cancer sites that include prostate cancer, such as urogenital cancer. (a) stage 3-4 on the AJCC 1992 classification (b) advanced cancer (c) advanced or metastatic cancer (d) metastatic cancer (e) stage C or D on the Whitemore/Jewertt scale (f) fatal cancer (g) high stage or grade (h) Gleason grade >= 7	Pre-malignant prostate conditions, e.g. high-grade prostate intra epithelial neoplasia.
Skin cancer	Skin cancer, including basal cell carcinoma (BCC), basal cell epithelioma; squamous cell carcinoma (SCC) of skin, squamous cell epithelioma; (invasive or in situ) melanoma, cutaneous melanoma; non-melanoma skin cancer (NMSC).	Skin cancer in patients with AIDS (e.g. Kaposi's sarcoma and AIDS).
Small intestine cancer	Small intestine cancer.	Small intestine polyps.
Stomach cancer	Gastric (stomach) cancer; cardia or non-cardia gastric cancers.	Anatomical definitions of cancer sites that include gastric cancer, e.g. gastrointestinal cancer; gastro-oesophageal cancer that is evaluated under oesophageal cancer.
Thyroid cancer	Thyroid cancer; differentiated thyroid cancer (papillary, follicular, and oncocytic carcinoma).	----

[a]All listed cancers were reviewed in the TER, apart from brain and other central nervous system cancers, lymphoid and hematopoietic cancers, small intestine cancer, and thyroid cancer. The list is

not meant to be exhaustive. Any additional cancers or cancer subtypes identified in eligible studies during the literature search will be included in the present SLRs.

[b]CLL is the same disease as SLL.

Supplementary Table 3. Risk of Bias for Nutrition Observational Studies (RoB-NObs) tool for evaluation of cancer incidence studies (modified version dated 29/01/2025).

Assess for each exposure-outcome association for publications included in the meta-analyses or narrative reviews.

Some sections can be assessed for the overall publication (1, 2, 5, 7) but exposure and outcome-related domains should be assessed separately (3, 4, 6). We consider lumping together similar exposures (e.g., dietary exposures) or outcomes (e.g., mortality outcomes).

The levels of judgement are low, moderate, serious, critical, and no information for each of the seven domains. There is no overall risk of bias.

Abbreviations:
Y: Yes
PY: Probably yes
N: No
PN: Probably no
NI: No information

1. Bias due to confounding.

Question	Issues/ Remarks	Prompting questions/ indicators
1.1 Is there potential for confounding of the effect of exposure in this study? **If N or PN**: skip all remaining questions (1.2 to 1.8) and go to Bias due to confounding: Risk of bias judgement; the study can be considered to be at low risk of bias due to confounding and no further signalling questions need be considered. **If Y or PY**: answer question 1.2 to determine whether there is a need to assess time-varying confounding.	Issues: - Confounding cannot be ruled out in observational studies.	This question should be always answered as **PY** in observational studies of the areas we work on.

Question	Issues/ Remarks	Prompting questions/ indicators
1.2. **If Y or PY to 1.1**: Was the analysis based on splitting follow-up time according to exposure received? **If N or PN:** skip 1.3 and answer questions 1.4 to 1.6, which relate to baseline confounding. If Y or PY, go to question 1.3.	Issues: - Exposures may change across time and are subject to time-varying confounding. Remarks: - This question asks whether a time-varying exposure analysis was conducted (which also requires to adjust for time-varying confounders).	Consider whether the study has evaluated the exposure at multiple time points. This question should be always answered as either **Y** or **N.** -**Y** The study has evaluated the exposure at multiple time points and the investigators have performed time-varying exposure/ confounder analyses. -**N** The study has not evaluated the exposure at multiple time points OR the investigators have not performed time-varying exposure/ confounder analyses.
1.3. **If Y or PY to 1.2**: Were exposure discontinuations or switches likely to be related to factors that are prognostic for the outcome? **If N or PN:** answer questions 1.4 to 1.6, which relate to baseline confounding only. Do not answer 1.7 and 1.8, which relate to both baseline and time-varying confounding. **If Y or PY**: skip questions 1.4 to 1.6, and answer questions 1.7 and 1.8, which relate to both baseline confounding and time-varying confounding.	Issues: - How to tell whether the changes are related to prognostic factors for the outcome? Remarks: - If exposure switches are unrelated to the outcome, for example when the outcome is an unexpected harm, then time-varying confounding will not be present and only control for baseline confounding is required. - This is unlikely on the areas and outcomes we work on.	This question should be always answered as **PY** in observational studies of the areas we work on.
Questions relating to baseline confounding		
1.4. **If N or PN to 1.2 or 1.3**: Did the authors use an appropriate analysis method that adjusted for all the critically important confounding variables at baseline? Go to 1.5	Issues: - Which method of adjustments can be considered as adequate? Remarks: - Any method to adjust for measured confounders should be acceptable e.g., stratification, regression, matching,	-**N** Not adjusted at least for all the required confounding variables. -**PY** Adjusted at least for all the required confounders. -**Y** Adjusted at least for all the required plus the desired confounding variables. Please consult the external list of important confounding variables below.

Question	Issues/ Remarks	Prompting questions/ indicators
	restriction, standardization, and inverse probability weighting, multivariable analysis. - Consider the association as "adjusted" when the required factors (as they appear in the Prompting questions/ indicators) were used in matching between those with or without a study outcome or stratification in analysis. - Consider the association as "adjusted" when the required factors (as they appear in the Prompting questions/ indicators) were tested but not included in the final statistical model due to lack of statistical significance or small change in risk estimate. E.g., age was tested univariably and was found to be not significant or the estimates did not change by more than 10%.	
1.5. Were confounders that were adjusted for measured validly and reliably by the variables available in this study? Go to 1.6	Issues: - Residual confounding is possible if covariates are not measured validly and reliably. Remarks: - For some topics, a list of valid and reliable measures of confounding domains will be specified in the review protocol but for others such a list may not be available. - Study authors may cite references to support the use of a particular measure. - If authors control for confounding variables with no indication of their validity or reliability pay attention to the subjectivity of the measure.	-**Y** Adiposity (any index or measure) was measured. Dietary factors and physical activity were self-reported but based on a validated questionnaire, or their assessment was validated against another assessment method (within the same study or externally in another study reported in the paper). Comorbidities (if relevant) were ascertained by a physician, medical records, registries. -**PY** Adiposity (any index or measure) was self-reported. Dietary factors and physical activity were self-reported but based on a validated questionnaire, or their assessment was validated against another assessment method (within the same study or externally in another study reported in the paper). Comorbidities (if relevant) were self-reported but further ascertained by a physician, medical records, registries.

Question	Issues/ Remarks	Prompting questions/ indicators
	- Subjective measures (e.g. based on self-report) may have lower validity and reliability than objective measures such as lab findings.	-**N/ PN** Adiposity (any index or measure) was self-reported. Dietary factors and physical activity were self-reported but were not based on a validated questionnaire, or their assessment was not validated against another assessment method. Comorbidities (if relevant) are self-reported and not further ascertained. **-NI** Information was not reported in detail/ separately for each critical confounder When two or more different confounders lead to different judgement then go with the worst-case scenario.
1.6. Did the authors avoid adjusting for post-exposure variables? Skip to Bias due to confounding: Risk of bias judgement.	Issues: - Controlling for post-exposure variables that are affected by the exposure is not appropriate. - Controlling for mediating variables estimates the direct effect of the exposure and may introduce bias. - Controlling for common effects of the exposure and outcome introduces bias. Remarks: - Confounders should be measured at or before (ideally) the time that exposure was assessed and not after (a few days/ weeks is ok but definitively not longer).	This question should be always answered as either **PY** or **PN**. -**PY** The study has not adjusted for post-exposure variables affected by the exposure, mediators, colliders (common effects of the exposure and outcome) AND the adjustment variables should be measured at or before the time of exposure assessment. -**PN** All other cases.
Questions relating to baseline and time-varying confounding		
1.7. **If Y or PY to 1.3**: Did the authors use an appropriate analysis method that adjusted for all the critically important confounding variables, including baseline and time-varying confounding? **If N or PN to 1.7**: skip to Bias due to confounding: Risk of bias judgement.	Issues: - Exposures and confounders may change across time. Remarks: - Any method to adjust for baseline and time-varying confounding should be considered appropriate (e.g., regular	Please consult the external list of important confounding variables. Time-fixed confounders -**PY** Age, sex (if relevant), race (if relevant), reproductive factors (if relevant), comorbidities (if relevant). Time-varying confounders

Question	Issues/ Remarks	Prompting questions/ indicators
If Y or PY to 1.7, answer question 1.8.	regression, methods based on inverse probability weighting, marginal structural models).	-**Y** Adiposity, smoking, dietary factors, physical activity, comorbidities (if relevant). -**PN** All other cases.
1.8 **If Y or PY to 1.3 and Y or PY to 1.7**: Were confounders that were adjusted for measured validly and reliably by the variables available in this study? Skip to Bias due to confounding: Risk of bias judgement.		-**Y** Adiposity (any index or measure) was measured. Dietary factors and physical activity were self-reported but based on a validated questionnaire, or their assessment was validated against another assessment method (within the same study or externally in another study reported in the paper). Comorbidities (if relevant) were ascertained by a physician, medical records, registries. -**PY** Adiposity (any index or measure) was self-reported. Dietary factors and physical activity were self-reported but based on a validated questionnaire, or their assessment was validated against another assessment method (within the same study or externally in another study reported in the paper). Comorbidities (if relevant) were self-reported but further ascertained by a physician, medical records, registries. -**N/ PN** Adiposity (any index or measure) was self-reported. Dietary factors and physical activity were self-reported but were not based on a validated questionnaire, or their assessment was not validated against another assessment method. Comorbidities (if relevant) are self-reported and not further ascertained. **-NI** Information was not reported in detail/ separately for each critical confounder When two or more different confounders lead to different judgement then go with the worst-case scenario.
RoB judgement		
Low risk of bias	No confounding expected. Observational studies should never have low RoB in this domain.	

Question	Issues/ Remarks	Prompting questions/ indicators
The study is comparable to a well-performed randomized trial with regard to this domain.		
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) Confounding expected, all known important confounding domains appropriately measured and controlled for; and (ii) Reliability and validity of measurement of important domains were sufficient, such that we do not expect serious residual confounding.	
Serious risk of bias The study has some important problems.	(i) At least one key confounder was not appropriately measured, or not controlled for; or (ii) Reliability or validity of measurement of a key confounder **could not be evaluated or** was low enough that we expect serious residual confounding.	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) Confounding is inherently not controllable; or (ii) The use of negative controls strongly suggests unmeasured confounding.	

2. Bias in selection of participants into the study.

Question	Issues/ Remarks	Prompting questions/ indicators
2.1. Was selection of participants into the study or into the analysis based on participant characteristics observed after the start of the exposure assessment? If **N or PN:** go to 2.4 (skip 2.2 and 2.3). If **Y or PY**: go to 2.2 and 2.3.	Issues: - Systematic difference in risk factors and risk of the outcome between study participants and non-participants. Can arise from the initial self-selection of study participants into the study.	Expect to answer this question almost always as **Y/ PY**. -**N/ PN** Study population was a random sample of the target population or was based on a national registry. -**Y/ PY** If participant contact or consent is required, selection bias may occur.
2.2. **If Y or PY to 2.1**: Were the post-exposure variables that influenced selection of participants (into the study or analysis) associated with exposure? Go to 2.3	Issues: - Post-exposure variables may influence study selection which can lead to unrepresentative exposure groups. Remarks:	-**Y** An analysis has been performed and there is a difference (10% or more) in the exposure value/ rate between the groups. -**PY** An analysis has not been performed. -**PY** An analysis has been performed and there is a difference (5-10%) in the exposure value/ rate between the groups.

Question	Issues/ Remarks	Prompting questions/ indicators
	- The focus of this question should only be on the exposure and not on other variables. - Consider whether an analysis (by exposure status) comparing participants and non-participants has been performed. - Consider whether the characteristics (age, sex [when appropriate], BMI or other exposures e.g., diet, physical activity [when appropriate]) between the participants and non-participants at baseline (at the time of exposure) are comparable. - Keep in mind that sometimes studies compare baseline characteristics of included vs. excluded individuals based on a certain exclusion criterion, but we need to evaluate here whether they have also performed something similar for individuals that never participated [volunteered] in the study.	-**PN** An analysis has been performed and there is a difference (<5%) in the exposure value/ rate between the groups. -**N** An analysis has been performed and there is no difference in the exposure value/ rate between the groups OR there is a statement in the manuscript that potential selection of participants was not associated with exposure.
2.3. **If Y or PY to 2.1**: Were the post-exposure variables that influenced selection of participants (into the study or analysis) associated with the outcome? Go to 2.4	Issues: - Post-exposure variables may influence study selection leading to unrepresentative outcome ascertainment. - In cohort studies (of cancer incidence), any self-selection of participants should not be associated with the outcome that occurs years later.	*Expect to answer this question almost always as **N/PN** when cohort studies are evaluated.*
2.4. Do start of follow-up and start of exposure assessment coincide for most participants? If **N or PN**: answer 2.5.	Remarks: - The time of follow-up start should coincide with the time of exposure assessment.	-**Y** Follow-up for outcome assessment started at the time of exposure assessment (or within 3 months maximum). **-PN** The study has mentioned that the start of follow-up for outcome assessment and the time of

Question	Issues/ Remarks	Prompting questions/ indicators
If **Y or PY**: go to Bias in selection of participants into the study: Risk of bias judgement.		exposure assessment did not coincide (the exposure was assessed after the start of follow-up) but there was no information on the timing between the two measurements. **-N** The start of follow-up for outcome assessment only started after the time of exposure assessment (more than 3 months). **-NI** The study has not mentioned anything about the start of follow-up for outcome assessment and the time of exposure assessment.
2.5 **If Y or PY to 2.2 and 2.3, or N or PN to 2.4**: Were adjustment techniques that were likely to correct for the presence of selection biases used? Go to Bias in selection of participants into the study: Risk of bias judgement.	Remarks: - It is in principle possible to correct for selection biases, for example by using inverse probability weights to create a pseudo-population in which the selection bias has been removed, or by modelling the distributions of the missing participants or follow up times and outcome events and including them using missing data methodology. - Check whether any adjustment techniques (e.g., inverse probability weighting, g-formula, marginal structural models) were used for accounting for selection bias either as a main analysis or a sensitivity analysis.	-**Y/ PY** Such an analysis was performed. -**N/ PN** Such an analysis was not performed.
RoB judgement		
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	(i) All participants who would have been eligible for inclusion, were included in the study; and (ii) For each participant, start of follow up and start of exposure coincided.	
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be	(i) All participants who would have been eligible for inclusion, were included in the study; and There was no information on whether start of follow up and start of exposure coincided for all participants.	

Question	Issues/ Remarks	Prompting questions/ indicators
considered comparable to a well-performed randomized trial.	or (ii) Selection into the study may have been related to exposure and outcome; and The authors used appropriate methods to adjust for the selection bias; or (iii) Start of follow up and start of exposure do not coincide for all participants; and (a) the proportion of participants for which this was the case was too low to induce important bias; or (b) the authors used appropriate methods to adjust for the selection bias; or (c) the review authors are confident that the rate (hazard) ratio for the effect of exposure remains constant over time.	
Serious risk of bias The study has some important problems.	(i) Selection into the study was related (but not very strongly) to exposure and outcome; and This could not be adjusted for in analyses; or (ii) Start of follow up and start of exposure do not coincide; and A potentially important amount of follow-up time is missing from analyses; and The rate ratio is not constant over time	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) Selection into the study was very strongly related to exposure and outcome; and This could not be adjusted for in analyses; or (ii) A substantial amount of follow-up time is likely to be missing from analyses; and The rate ratio is not constant over time.	

3. Bias in classification of exposures.

Question	Issues/ Remarks	Prompting questions/ indicators
3.1. Is the exposure that was assessed clearly defined?	Issues: - Ambiguity in the definition may lead to bias in the classification of participants. Remarks: - Example where exposure may not be clearly defined may be e.g., a study has an unclear definition of dietary and supplement intake of vitamins and ends up with a mixture of info for the different participants in the study.	Expect to answer this question most often as **Y/ PY**. -**Y/ PY** The study provided details for the definition of the exposure. -**N/ PN** The study did not provide sufficient details for the definition of the exposure. E.g., The study aim is to assess vitamin D, but did not define what is considered as vitamin D.
3.2. Does the exposure that was assessed represent the exposure of interest?		Expect to answer this question most often as **Y/ PY**. -**Y/ PY** The assessed exposure directly represents the exposure of interest. -**N/ PN** The assessed exposure does not directly represent the exposure of interest. E.g., The study aim is to assess total physical activity, but data are only on recreational physical activity.
3.3. Were the methods used to assess the exposure clearly described?		Expect to answer this question most often as **Y/ PY**. -**Y/ PY** The study provided details on the assessment methods of the exposure of interest. -**N/ PN** The study did not provide sufficient details on the assessment methods of the exposure of interest.
3.4. Were the methods used to measure the exposure valid and/ or reliable?		-**Y** Assessment was based on any objective measure of assessing the exposure (measured adiposity, measured physical activity, measured sedentary behaviour, diet biomarkers). -**Y** Exposure was self-reported and assessment was validated against another exposure assessment method, in whole or subset of study populations AND

Question	Issues/ Remarks	Prompting questions/ indicators
		replicated with the same exposure method at a different time point. -**PY** Assessment was based on self-reported weight/ height/ BMI. -**PY** Exposure was self-reported, and assessment was validated against another exposure assessment method, in whole or subset of study populations OR replicated with the same exposure method at a different time point. -**PY** Exposure was self-reported, and assessment was validated against another exposure assessment method AND replicated with the same exposure method at a different time point, but these were performed in another study cohort (also check discussion section). -**PN** Exposure was self-reported, and assessment was validated against another exposure assessment method OR replicated with the same exposure method at a different time point, but these were performed in another study cohort (also check discussion section). -**PN** Assessment was based on retrospective assessment or chart review of exposures. -**N** Exposure was self-reported and assessment was not validated against another exposure assessment method OR not replicated with the same exposure method at a different time point. -**NI** No data on validation AND replication of the self-reported measurement.
3.5. Were the same methods used to assess the exposure status for all participants/ groups?		-**PY/ Y** Assessment method and timeframe were the same regardless of exposure status. -**PN/ N** Assessment method and timeframe differed in terms of exposure status.
3.6. Were the methods used to define exposure status for participants/ groups clearly described?	Remarks: - A study may use different definitions of exposure, an exposure may be measured	-**Y/ PY** The study provided details on how the exposure status was defined.

Question	Issues/ Remarks	Prompting questions/ indicators
	based on a score, or a continuously measured exposure may be used as categories. The definition of the variable used for the exposure should be clearly defined.	-**N/ PN** The study did not provide sufficient details on how the exposure status was defined.
3.7. Were the methods used to define exposure status for participants/ groups likely to result in minimal random or systematic exposure misclassification?	Remarks: - Misclassification exists in self-reported diet, adiposity, and physical activity assessments. - The question is whether this misclassification is different in those with high vs. low levels of exposure, which might be the case. - It is expected to see different statistics evaluating validity/ reliability (correlation coefficient, sensitivity, specificity, kappa, etc.). - Please use common sense (or check for established thresholds for the specific exposure) about what an acceptable level for the specific statistic is, but as guidance: a correlation coefficient of 0.4 or larger can be considered acceptable for nutritional exposures but not acceptable for BMI for which we would expect a correlation coefficient of 0.7 or larger.	-**Y** Exposure assessment is based on objective measures (measured adiposity, measured physical activity, diet biomarkers) or based on self-reported anthropometric factors AND a validity/ reliability statistic is presented and is at an acceptable level. -**PY** Exposure assessment is based on objective measures (measured adiposity, measured physical activity, diet biomarkers) or based on self-reported anthropometric factors AND a validity/ reliability statistic is not presented. -**PY** Exposure assessment is based on any self-reported measure (except for anthropometric factors) AND a validity/ reliability statistic is presented and is at an acceptable level -**PN** Exposure assessment is based on any self-reported measure (except for anthropometric factors) AND a validity/ reliability statistic is not presented. -**N** A validity/ reliability statistic is presented, either for objective or the self-reported measures and is not at an acceptable level.
3.8. Could classification of exposure status been affected by the presence of the outcome, knowledge of the outcome or risk of the outcome? **If Y or PY**, there may be serious risk of bias. Go to Bias in classification of exposures: Risk of bias judgement.	Issues: - There is the possibility that the exposure of interest may be influenced by undiagnosed disease, thus resulting in misclassification.	-**Y/ PY** The study included participants for which assessment of the exposure was performed at least 1 or 2 years before diagnosis and there was no mention about performing some type of lag analysis (e.g., the study excluded events that happen within 1 or 2 years of exposure assessment in a sensitivity analysis). **-N/ PN** All other cases.

Question	Issues/ Remarks	Prompting questions/ indicators
RoB judgement		
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	(i) The exposure and the methods used to assess the exposure were well defined and represent the exposure of interest; and (ii) Methods were valid, reliable, the same across groups, and likely to result in minimal random or systematic exposure misclassification; and (iii) Exposure status was not affected by the presence of the outcome, knowledge of the outcome or risk of the outcome.	
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) The exposure and the methods used to assess the exposure are defined and represent the exposure of interest; and (ii) Methods were valid, reliable, the same across groups, and likely to result in minimal random or systematic exposure misclassification; or Exposure status was not affected by the presence of the outcome, knowledge of the outcome or risk of the outcome.	
Serious risk of bias The study has some important problems.	(i) Exposure status or the methods used to assess the exposure are not well defined or do not represent the exposure of interest; and (ii) Methods were not valid and reliable, the same across groups, or were likely to result in some degree of random or systematic exposure misclassification; or Exposure status was affected by the presence of the outcome, knowledge of the outcome or risk of the outcome.	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) Exposure status and the methods used to assess the exposure are not well defined or do not represent the exposure of interest; and (ii) Methods were not valid and reliable, were not the same across groups, and were likely to result in substantial random or systematic exposure misclassification; and	

Question	Issues/ Remarks	Prompting questions/ indicators
	(iii) Exposure status was affected by the presence of the outcome, knowledge of the outcome or risk of the outcome.	

4. Bias due to departures from intended exposures.

Question	Issues/ Remarks	Prompting questions/ indicators
4.1. Is there concern that changes in exposure status occurred among participants that were unbalanced across groups and likely to impact the outcome?	Issues: - Changes of exposure status may happen after baseline exposure assessment	This question should be always answered as **PY** in observational studies of the areas we work on.
4.2. Were any critical co-exposures that occurred unbalanced between exposure groups and likely to impact the outcome?		This question should be always answered as **PY** in observational studies of the areas we work on.
4.3. **If Y or PY to 4.1, or 4.2**: Were adjustment techniques that are likely to correct for these issues (i.e., changes in exposure status and/ or unbalanced co-exposures) used? Go to Bias due to departures from intended exposures: Risk of bias judgement.	Remarks: - Check whether there were repeated exposure assessments and whether these were used in time-varying models. - Check whether there was any type of sensitivity analysis. E.g., the study calculated an intraclass correlation coefficient (ICC) of exposure assessment with time and the ICC is high.	-**Y** The study has measured exposure and important confounders more than once and performed a time-varying exposure (and confounder) analysis. -**PY** The study has measured exposure more than once in a subset of the cohort and either performed a time-varying exposure (and confounder) analysis in that subset or estimated a correlation between the several exposure (and confounder) measures and the correlation was high. -**PN** The study has measured only exposure more than once and either performed a time-varying exposure but not confounder analysis in the total sample or in a subset or estimated a correlation between the exposure measures and the correlation was adequate. -**N** The study has not performed a time-varying exposure analysis.
RoB judgement		

Question	Issues/ Remarks	Prompting questions/ indicators
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	There were no changes in the exposure status that were likely to impact the outcome, and any important co-exposures were balanced across exposure groups. ***No study should have low RoB in this domain.***	
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) There were changes in exposures status or important coexposures were not balanced across groups; and (ii) the impact on the outcome is expected to be slight or measurement and/or adjustment techniques were used to correct for the issues.	
Serious risk of bias The study has some important problems.	(i) There were changes in exposure status or important co-exposures were not balanced across groups that were likely to impact the outcome; and (ii) No or inappropriate measurement and/or adjustment techniques were used to correct for the issues.	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) There were substantial changes in exposures status, or important co-exposures were not balanced across groups, that were likely to impact the outcome; and (ii) No or inappropriate measurement and/or adjustment techniques were used to correct for the issues.	

5. Bias due to missing data.

Question	Issues/ Remarks	Prompting questions/ indicators
5.1. Were there missing outcome data?	Issues: - Missing outcome measurements due to loss to follow-up or any missed outcome assessment may lead to bias in the results.	-**N/PN** The participants were completely followed-up and assessed for outcomes or the percent of missingness was <10%. -**N/PN** No mention of missingness but outcomes were ascertained via record linkages. -**Y/PY** ≥10% of the participants missing an outcome. **-NI** There was no information about missing outcome data.
5.2. Were participants excluded due to missing data on exposure status?	Issues:	-**N/PN** The participants were completely assessed for exposures or the percent of missingness was <10%.

Question	Issues/ Remarks	Prompting questions/ indicators
	- Differential inclusion of participants in the analysis may lead to bias in the results.	-**Y/PY** ≥10% of the participants missing the exposure. **-Y/PY** Study mentions that only participants with complete data on exposure were included. **-NI** There was no information about missing data on exposure status.
5.3. Were participants excluded due to missing data on other variables (besides outcome data and exposure status) needed for the analysis?	Issues: - Missing covariates needed in the analysis may lead to incomplete adjustment or residual confounding. Remarks: - Please consult the external list of important confounding variables.	-**N/PN** The participants were completely assessed for important confounders or the percent of missingness (cumulatively) was <10%. -**Y/PY** ≥10% of the participants (cumulatively) missing important confounders. **-Y/PY** Study mentions that only participants with complete data on confounders were included. **-NI** There was no information about missing data on confounders.
5.4. **If Y or PY to 5.1, 5.2 or 5.3**: Are the proportion of participants and reasons for missing data similar across exposure groups?	Issues: - Differential rates of missing data between the exposure groups may lead to bias in the results. Remarks: - To answer, the study has to provide the information, such as, in a sub-analysis comparing the proportion (and reason) of participants with missing outcome (or confounder) data across exposure groups.	**-Y** The proportions of missing outcome (or confounder) data were found to be the same or similar (<10%) across exposure groups. **-Y** The proportions of missing data were dissimilar (≥10% difference) BUT reasons for missingness did not differ across exposure groups. **-PY** The proportions of missing data were slightly different (10-<15%) AND reasons for missingness were either not presented or differ across exposure groups. **-PN** The proportions of missing data were substantially different (15-<20%) AND reasons for missingness were either not presented or differ across exposure groups. **-N** The proportions of missing data were critically different (≥20%) AND reasons for missingness were either not presented or differ across exposure groups. -**NI** No sub-analysis performed. Studies with missing exposure data are highly unlikely to have conducted such a sensitivity analysis.

Question	Issues/ Remarks	Prompting questions/ indicators
5.5. **If Y or PY to 5.1, 5.2 or 5.3**: Were appropriate statistical methods used to account for missing data? Go to Bias due to missing data: Risk of bias judgement.	Remarks: - The use of appropriate statistical methods would remove/minimise any risk of bias.	-**Y/ PY** The study performed a multiple imputation analysis, inverse probability weighting, g-formula, marginal structural model (or any other equivalent method) for missing data. -**PN** The study performed a simple imputation analysis for missing data. -**PN** The study used a missing-indicator for categorical variables. **-PN** The study performed a complete case analysis and a sensitivity analysis for missing data using a simple imputation method and found no materially different results. -**N** The study did not account for missing data using any statistical methods. -**N** The study had only performed a complete case analysis.
RoB judgement		
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	(i) Data were reasonably complete; or (ii) Proportions of and reasons for missing participants were similar across exposure groups; or (iii) The analysis addressed missing data and is likely to have removed any risk of bias.	
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) Proportions of and reasons for missing participants differ slightly across exposure groups; and (ii) The analysis is unlikely to have removed the risk of bias arising from the missing data.	
Serious risk of bias The study has some important problems.	(i) Proportions of missing participants differ substantially across exposures; or Reasons for missingness differ substantially across exposures; and (ii) The analysis is unlikely to have removed the risk of bias arising from the missing data; or	

Question	Issues/ Remarks	Prompting questions/ indicators
	Missing data were addressed inappropriately in the analysis; or The nature of the missing data means that the risk of bias cannot be removed through appropriate analysis.	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) (Unusual) There were critical differences between exposures in participants with missing data; and (ii) Missing data were not, or could not, be addressed through appropriate analysis.	
No information on which to base a judgement about risk of bias for this domain.	There is too little information to make a judgement (for example if only an abstract is available for the study).	

6. Bias in measurement of outcomes.

Question	Issues/ Remarks	Prompting questions/ indicators
6.1. Could the outcome measure have been influenced by knowledge of the exposure received?	Remarks: - Outcome measures such as cancer incidence and mortality involve negligible assessor judgment. Risk of bias due to measurement of these outcomes would be expected to be low.	-**N** Mortality (all-cause mortality, cause-specific mortality) or any primary cancer outcomes were ascertained by record linkages to death registries, cancer registries, or hospital records. -**N** Mortality outcomes were reported by their proxies and verified by record linkages to death registries, cancer registries, or hospital records. -**N** Incidence outcomes were based on biopsy/ measures of laboratory testing. -**PN** Mortality outcomes were reported by their proxies, and it has not been verified or verification not reported. -**PN** Outcomes were self-reported by the participants or their proxies, with an objective verification. -**PY** Outcomes were self-reported by the participants or their proxies, without any objective verification.

Question	Issues/ Remarks	Prompting questions/ indicators
6.2. Were outcome assessors aware of the exposure received by study participants?	Remarks: - "Outcome assessors" here is interpreted as "the researchers who processed the data". - For self-reported measures, "outcome assessors" are "the participants" who reported the data.	-**N** Outcomes were ascertained by record linkages to death registries, cancer registries, hospital records, or laboratory measurements. -**N** Outcomes were ascertained by assessors "blinded" to the exposure status of the participants. -**PN** Outcomes were ascertained by independent assessors without "blinding" or "blinding" not reported. -**PY** Any outcomes self-reported by the participants or their proxies, without mention of any further ascertainment. **-NI** No information was reposted about outcome ascertainment.
6.3. Were the methods of outcome assessment the same across exposure groups?	Issues: Outcome assessment methods (detection methods and threshold, time point, definition, and measurements) should be compatible across exposure groups. Remarks: - Studies normally only describe one outcome assessment method that was applied to all participants, any difference would likely be described explicitly.	-**Y/ PY** Same outcome detection methods, thresholds, time point (ended on the date of event or end of study follow-up, whichever came first), same definition, same measurements, across exposure groups. **-PY** It was not explicitly reported whether outcome detection methods were the same across exposure groups. **-PN** The authors have explicitly described some differences of outcome ascertainment e.g., definition, detection methods, threshold, and measurement across exposure groups. -**N** The authors have explicitly described very different outcome assessment, e.g., definition, detection methods, threshold, and measurement across exposure groups.
6.4. Were any systematic errors during measurement of the outcome related to exposure received? Go to Bias in measurement of outcomes: Risk of bias judgement.	Issues: - This question refers to differential misclassification of outcomes. - Systematic errors in measuring the outcome, if present, could cause bias if they	-**PY** The outcome was self-reported by the participants. -**PY** The authors have explicitly described different outcome assessment methods across exposure groups. -**N/ PN** All other instances.

Question	Issues/ Remarks	Prompting questions/ indicators
	are related to exposure (or to a confounder of the exposure-outcome association). Remarks: Example: Outcome was detected by health screening/ examination and there was differential attendance related to the lifestyle of the participants.	
RoB judgement		
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	(i) The methods of outcome assessment were comparable across exposure groups; and (ii) The outcome measure was unlikely to be influenced by knowledge of the exposure received by study participants (i.e. is objective) or the outcome assessors were unaware of the exposure received by study participants ***or there was no information provided about outcome ascertainment***; and (iii) Any error in measuring the outcome is unrelated to exposure status.	
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) The methods of outcome assessment were comparable across exposure groups; and (ii) The outcome measure is only minimally influenced by knowledge of the exposure received by study participants ***or there was no information provided about outcome ascertainment***; and (iii) Any error in measuring the outcome is only minimally related to exposure status.	
Serious risk of bias The study has some important problems.	(i) The methods of outcome assessment were not comparable across exposure groups; or (ii) The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the exposure received by study participants); and The outcome was assessed by assessors aware of the exposure received by study participants; or (iii) Error in measuring the outcome was related to exposure status.	

Question	Issues/ Remarks	Prompting questions/ indicators
Critical risk of bias The study is too problematic to provide any useful evidence.	The methods of outcome assessment were so different that they cannot reasonably be compared across exposure groups.	

7. Bias in selection of reported result.

Question	Issues/ Remarks	Prompting questions/ indicators
7.1. Is the reported effect estimate likely to be selected on the basis of the results from multiple outcome measurements within the outcome domain?	Issues: - It is possible to generate multiple effect estimates for different measurements of the same or related outcome/s. - Studies may selectively report a subset of results for the pre-specified outcomes depending on their clinical importance (but without having stated this in the methods/protocol) or statistical significance, magnitude, or direction of the findings, which may threaten the validity of the review. Remarks: - Research protocol and statistical analysis plan is often unclear in observational studies. This question has to be determined from the study aim and methods and their consistency against the results reported.	-**N** All findings for the pre-specified outcomes (primary or secondary) as stated in the methods or the available protocol were reported fully in the results. -**PN** Some of the findings for the pre-specified outcomes (primary or secondary) as stated in the methods or the available protocol were reported briefly as null (data not shown or with a P-value only) because of not achieving statistical significance. -**Y/ PY** Not all findings for the pre-specified outcomes were reported or only statistically significant findings were reported, without mentioning of the statistical significance of the non-reported findings.
7.2. Is the reported effect estimate likely to be selected on the basis of the results from multiple analyses of the exposure-outcome relationship?	Issues: - Studies may analyse an exposure-outcome association in a number of pre-specified manners. Application of such methods generates multiple effect estimates. - If the analyst does not pre-specify the methods to be applied, and multiple estimates are generated but only one or a subset is	-**N** All findings for the pre-specified analyses (different adjustments, different transformation of variables, different analysis techniques) as stated in the methods or the available protocol were reported fully in the results. -**PN** Some of the findings for the pre-specified analyses (different adjustments, different transformation of variables, different analysis

Question	Issues/ Remarks	Prompting questions/ indicators
	reported (e.g., depending on their nature or significance of the findings), there is a risk of selective reporting on the basis of results. Remarks: Examples include unadjusted and adjusted models; use of final value vs change from baseline vs analysis of covariance; different transformations of variables; a continuously scaled outcome converted to categorical data with different cut-points; different sets of covariates used for adjustment; and different analytic strategies for dealing with missing data.	techniques) as stated in the methods or the available protocol were reported briefly/ partially as null (data not shown or with a P-value only) because of not achieving statistical significance. -**Y/ PY** Not all findings for the pre-specified analyses (different adjustments, different transformation of variables, different analysis techniques) were reported or only statistically significant findings were reported, without mentioning of the statistical significance of the non-reported findings.
7.3. Is the reported effect estimate likely to be selected on the basis of the results from different subgroups? Go to Bias in selection of reported result: Risk of bias judgement.	Issues: - Particularly with large cohorts often available from routine data sources, it is possible to generate multiple effect estimates for different subgroups or simply to omit varying proportions of the original cohort that is not part of the design. If multiple estimates are generated but only one or a subset is reported, there is a risk of selective reporting on the basis of results.	-**N** All findings for the pre-specified subgroup analyses (exposure and cancer subtypes, population subgroups) as stated in the methods or the available protocol were reported fully in the results. -**PN** Some of the findings for the pre-specified subgroup analyses (exposure and cancer subtypes, population subgroups) as stated in the methods or the available protocol were reported briefly/ partially as null (data not shown or with a P-value only) because of not achieving statistical significance. -**Y/ PY** Not all findings for the pre-specified subgroup analyses (exposure and cancer subtypes, population subgroups) were reported or only statistically significant findings were reported, without mentioning of the statistical significance of the non-reported findings.
RoB judgement		
Low risk of bias The study is comparable to a well-performed randomized trial with regard to this domain.	There is clear evidence (usually through examination of a pre-registered protocol or statistical analysis plan) that all reported results correspond to all intended outcomes, analyses and sub-cohorts.	

Question	Issues/ Remarks	Prompting questions/ indicators
Moderate risk of bias The study is sound for an observational study with regard to this domain but cannot be considered comparable to a well-performed randomized trial.	(i) The outcome measurements and analyses are consistent with an a priori plan; or are clearly defined and both internally and externally consistent; and (ii) There is no indication of selection of the reported analysis from among multiple analyses; and (iii) There is no indication of selection of the cohort or subgroups for analysis and reporting on the basis of the results.	
Serious risk of bias The study has some important problems.	(i) Outcomes are defined in different ways in the methods and results sections, or in different publications of the study; or (ii) There is a high risk of selective reporting from among multiple analyses; or (iii) The cohort or subgroup is selected from a larger study for analysis and appears to be reported on the basis of the results.	
Critical risk of bias The study is too problematic to provide any useful evidence.	(i) There is evidence or strong suspicion of selective reporting of results; and (ii) The unreported results are likely to be substantially different from the reported results.	

Supplementary Table 4. List of important confounding variables.

Cancer	Confounder*		Mediator variable(s)**
Bladder	Required	Age, sex, smoking	Body fatness
	Desirable	---	
Brain and spinal cord	Required	Age, sex	---
	Desirable	---	
Colorectal	Required	Age, sex	Body fatness
	Desirable	Smoking, alcohol, physical activity, red/processed meat	
Gallbladder/bile ducts	Required	Age, sex, smoking	Body fatness
	Desirable	Gallstones/gallbladder disease/cholecystitis	
Kidney	Required	Age, sex, alcohol	Body fatness
	Desirable	Physical activity	
Liver	Required	Age, sex, alcohol	Body fatness
	Desirable	Smoking, race, physical activity, one of: HBV, HCV, liver cirrhosis	
Lung	Required	Age, sex, smoking	---
	Desirable	Physical activity, race, environmental tobacco smoke	
Lymphoid and hematopoietic	Required	Age, sex	---
	Desirable	---	
Mouth, pharynx, and larynx	Required	Age, sex, smoking, alcohol	Body fatness
	Desirable	Race, environmental tobacco smoke	

Cancer	**Confounder***		**Mediator variable(s)****
Nasopharynx	Required	Age, sex, smoking	Body fatness
	Desirable	---	
Oesophageal adenocarcinoma	Required	Age, sex	Body fatness
	Desirable	Smoking, alcohol, race, physical activity	
Oesophageal squamous cell carcinoma	Required	Age, sex, smoking, alcohol	Body fatness
	Desirable	Race, physical activity	
Pancreas	Required	Age, sex, smoking	Body fatness
	Desirable	Pancreatitis, alcohol	
Melanoma	Required	Age, sex, at least one of the following: UV light -sun exposure/ indoor tanning, sunscreen use, moles, fair skin, red/blond hair, blue/green eyes, freckles	---
	Desirable	Race	
Basal cell skin cancer	Required	Age, sex, at least one of the following: UV light - sun exposure/ indoor tanning, sunscreen use, radiation therapy, immune-suppressing drugs	---
	Desirable	Race	
Small intestine	Required	Age, sex	---
	Desirable	Inflammatory Bowel Disease	
Stomach	Required	Age, sex, smoking, alcohol	Body fatness
	Desirable	Salt/preserved foods, race, Helicobacter Pylori	

Cancer	**Confounder***		**Mediator variable(s)****
Thyroid	Required	Age, sex	---
	Desirable	One of: Benign thyroid nodules, goiter, thyroiditis	
Sex-specific cancers			
Breast - premenopausal	Required	Age, reproductive factor(s)	Body fatness
	Desirable	Alcohol, smoking, HRT/ oral contraceptive use, physical activity	
Breast - postmenopausal	Required	Age, reproductive factor(s)	Body fatness
	Desirable	Alcohol, smoking, HRT, physical activity	
Cervix	Required	Age, HPV, smoking	Body fatness
	Desirable	Physical activity	
Endometrium	Required	Age, race	Body fatness
	Desirable	HRT/ oral contraceptive use, physical activity	
Ovary	Required	Age, reproductive factor(s)	Body fatness
	Desirable	HRT/ oral contraceptive use	
Prostate	Required	Age, race	---
	Desirable	Physical activity, smoking	

***Smoking:** For cancers not related very strongly to smoking such as prostate, breast or colorectal, status is ok. For smoking-related cancers, adjustments should also include duration and intensity.

** **Mediator variable(s)** should be considered as an intermediate factor(s) between soft drinks, sugar sweetened beverages, juices, ultraprocessed foods, and sedentary behaviour and cancer and should not be adjusted for when investigating these associations (please see Supplementary Text 3 for more information).

Reproductive factor(s): At least one of the following: age at menarche, age at menopause, parity, lactation.

Supplementary Table 5. WCRF grading criteria for evidence on diet, nutrition, physical activity and cancer incidence.

The CUP Global Grading Criteria summary table below provides a summary of the conditions required to reach each conclusion, along with the list of the possible upgrading and downgrading factors.

CUP Global Grading Criteria summary table

Evidence grades	GRADING CRITERIA FOR EVIDENCE ON DIET, NUTRITION, PHYSICAL ACTIVITY AND CANCER INCIDENCE
Convincing	A combination of all the following points • **Volume and type of evidence**: Convincing epidemiological evidence from several well-conducted, independent cohort studies and, when available, supporting evidence from pertinent RCTs • **Consistency of evidence**: This includes absence of unexplained heterogeneity between studies • **Quality of evidence**: This excludes with confidence the possibility that the observed association results from systematic error, including confounding, measurement error, and selection bias • **Level of statistical significance and precision**: When available, summary risk estimates from meta-analyses with sufficiently narrow 95%CI, clearly excluding no association
Probable	A combination of all the following points • **Volume and type of evidence**: Sufficient epidemiological evidence from at least two well-conducted, independent cohort studies • **Consistency of evidence**: This includes absence of unexplained heterogeneity between studies • **Quality of evidence**: This excludes with confidence the possibility that the observed association results from systematic error, including confounding, measurement error, and selection bias • **Level of statistical significance and precision**: When available, summary risk estimates from meta-analyses indicating an association with 95%CI excluding the null
Limited suggestive	A combination of both of the following points • **Volume and type of evidence**: Evidence from at least two independent cohort studies • **Consistency of evidence**: Some unexplained heterogeneity may be present • **Quality of Evidence:** Not able to rule out the possibility that the observed association may primarily result from systematic error, including confounding and selection bias • **Level of statistical significance and precision:** When available, summary risk estimates from meta-analyses suggesting an association, but with 95% CI that may include the null
Limited – no conclusion	Any of the following reasons – or a combination of them: • **Volume and type of evidence**: Too few studies available. Note there may be instances where the Panel considers an individual study warrants a *Limited-no conclusion* judgement • **Consistency of evidence**: Inconsistency of direction of effect across different studies • **Quality of the evidence**: Poor quality of studies (for example, lack of adjustment for known confounders) • **Level of statistical significance and precision:** Too imprecise risk estimate(s)
Substantial effect on risk unlikely	A combination of all the following points • **Volume and type of evidence**: Convincing epidemiological evidence from several well-conducted, independent cohort studies of an absence of effect and, when available, supporting evidence of no effect from pertinent RCTs • **Consistency of evidence**: This includes absence of unexplained heterogeneity between studies • **Quality of evidence**: This excludes with confidence the possibility that the observed association results from systematic error, including confounding, measurement error, and selection bias • **Level of statistical significance and precision**: When available, summary risk estimates from meta-analyses close to 1.0, with sufficiently narrow 95%CI clearly indicating that an association is unlikely

Note that there are exposures for which there is insufficient data to make a judgement (typically when only a single cohort study, of moderate quality, is available for a specific exposure-outcome pair of interest). These do not qualify for any of the evidence grades above.

In addition, there are associations for which the expert panel did not grade the quality of evidence. These include:

1- Combined exposures (e.g., SSBs + Carbonated SSBs; ASBs and Carbonated ASBs; Fruit juice + Pure Fruit juice) or outcome types (Incidence + Mortality): the approach was not grading the underlying single exposures (SSBs, Carbonated SSBs, ASBs, Carbonated ASBs, Fruit juice, Pure fruit juice) or outcome types (Incidence).

2- Cancer subsites or subtypes (ER+ or ER- breast cancer; localised or advanced prostate cancer; distal and proximal colon; distal stomach): The numbers of studies for these cancer subtypes/subsites are often too low to inform evidence grading, unlike for colon or rectum cancers and cancers among pre- or postmenopausal women. For the latter, overall cancers (colorectal cancer, breast cancer) are also graded, utilising all available evidence.

3- Exposure components (Fruit drinks; Sugar-sweetened cola; Apple juice): the approach was not grading the individual components as we have grading for the major exposure (e.g., fruit drinks and sugar-sweetened cola are components of SSBs). For each cancer, the evidence was graded utilising all available evidence.

4- Cancer mortality: The evidence for cancer mortality outcome was not graded and considered as supportive evidence.

Upgrading factors

- Presence of a **plausible gradient ('dose-response')** in the association. Such a gradient need not be linear or even in the same direction across the different levels of exposure, so long as this can be explained plausibly.
- **Strong and plausible mechanistic evidence**, either from human studies or relevant animal models, that typical human exposures can lead to relevant cancer outcomes.
- A particularly **large summary effect size** (an odds ratio or relative risk of 2.0 or more - depending on the unit of exposure - with a 95%CI excluding the null), after appropriate control for confounders.
- Evidence from well-conducted, pertinent (in terms of exposure, dosage, and duration of intervention and follow-up period) **randomised controlled trials in humans supporting** the epidemiological evidence.
- Additional consideration regarding **Mendelian randomisation (MR) studies:**

There is currently no formal method for assessing the quality of MR studies in a rapidly evolving field or for determining how well these studies apply to specific nutritional exposures. Therefore, MR studies are not formally listed as an upgrading factor. However, all MR studies that appear potentially relevant will be presented to the Panel, who will decide, case by case, whether to incorporate that evidence into its judgment and, if so, how.

Downgrading factors

- Evidence from well-conducted, pertinent (in terms of exposure, dosage, and duration of intervention and follow-up period) **randomised controlled trials in humans unsupportive** of the epidemiological evidence
- Evidence of **publication bias**

Supplementary Table 6. Studies excluded and reasons of exclusion from the potentially eligible studies after further assessment.

Reason of exclusion	Number of studies	Reference
17 publications excluded after further inspection		
Examined in situ breast cancer	1	211
Examined other exposures (e.g., black tea, green tea, mixed beverages, aspartame, sugar from sugary beverages, fruit plus fruit juices, and dietary indexes)	6	212-217
Superseded publications	6	218-223
Examined adenoma	1	224
Examined cancer recurrence	1	225
Retrospective case-control	1	226
Examined total cancer mortality	1	227

Supplementary Table 7. List of studies included in the systematic review on sugar sweetened beverages and studies included and not included in the dose-response meta-analysis (cancers are ordered by ICD-10 codes).

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Head and neck	Sugar sweetened beverages	Incidence	1 publication[172]	N/A	1 publication[172]	NA
Larynx, oral cavity, and pharynx	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Oral cavity, larynx, pharynx, and oesophagus	Red fruit drinks	Incidence	1 publication[90]	N/A	1 publication[90]	NA
Oral cavity, larynx, pharynx, and oesophagus	Lemonade	Incidence	1 publication[90]	N/A	1 publication[90]	NA
Oesophageal	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Small intestine	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Stomach	Sugar sweetened beverages	Incidence	2 publications[84,97]	2 publications[84,97]	N/A	NA
Stomach cardia	Sugar sweetened beverages	Incidence	2 publications[70,84]	2 publications[70,84]	N/A	NA
Stomach non-cardia	Sugar sweetened beverages	Incidence	1 publication[84]	N/A	1 publication[84]	NA
Stomach distal	Sugar sweetened beverages	Incidence	1 publication[34]	N/A	1 publication[34]	NA
Stomach	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Colorectal	Sugar sweetened beverages	Incidence	16 publications[38,40,44,70,78,81,97,101,108,122,129,135,168,178,219,223]	12 publications[38,40,44,70,81,97,101,108,129,135,168,178]	2 publications[78,122] Insufficient data format	2 publications[219,223]
Colorectal	Sugar sweetened beverages	Mortality	3 publications[113,126,178]	3 publications[113,126,178]	N/A	
Early onset colorectal	Sugar sweetened beverages, adulthood	Incidence	1 publication[72]	N/A	1 publication[72]	N/A
Early onset colorectal	Substitution of sugar sweetened beverages with artificially sweetened beverages	Incidence	1 publication[72]	N/A	1 publication[72]	N/A
Early onset colorectal	Substitution of sugar sweetened beverages with fruit juice	Incidence	1 publication[72]	N/A	1 publication[72]	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Early onset colorectal	Sugar sweetened beverages, adolescence	Incidence	1 publication[72]	N/A	1 publication[72]	N/A
Colorectal	Sweetened bottled water or tea	Incidence	1 publication[135]	N/A	1 publication[135]	N/A
Colorectal	Fruit drinks	Incidence	1 publication[135]	N/A	1 publication[135]	N/A
Colorectal	Sugar sweetened beverages without fruit drinks	Incidence	1 publication[135]	N/A	1 publication[135]	N/A
Colon	Sugar sweetened beverages	Incidence	6 publications[38,78,81,101,129,178]	5 publications[38,81,101,129,178]	1 publication[78] Insufficient data format	NA
Colon	Carbonated sugar sweetened beverages	Incidence	1 publication[182]	1 publication[182]	N/A	N/A
Colon	Sugar sweetened beverages	Mortality	1 publication[109]	1 publication[109]	N/A	N/A
Proximal colon	Sugar sweetened beverages	Incidence	4 publications[81,101,135,178]	4 publications[81,101,135,178]	N/A	N/A
Proximal colon	Substitution of sugar sweetened beverages with artificially sweetened beverages	Incidence	1 publication[178]	1 publication[178]	N/A	N/A
Proximal colon	Substitution of sugar sweetened beverages with artificially sweetened beverages	Mortality	1 publication[178]	1 publication[178]	N/A	N/A
Distal colon	Sugar sweetened beverages	Incidence	4 publications[81,101,135,178]	4 publications[81,101,135,178]	N/A	NA
Distal colon	Substitution of sugar sweetened beverages with artificially sweetened beverages	Incidence	1 publication[178]	N/A	1 publication[178] No risk estimate	N/A
Distal colon	Sugar sweetened beverages	Mortality	1 publication[178]	1 publication[178]	N/A	N/A
Distal colon	Substitution of sugar sweetened beverages with	Mortality	1 publication[178]	N/A	1 publication[178] No risk estimate	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
	artificially sweetened beverages					
Rectal	Sugar sweetened beverages	Incidence	4 publications[78,81,101,178]	3 publications[81,101,178]	1 publication[78] Insufficient data format	N/A
Rectal	Substitution of sugar sweetened beverages with artificially sweetened beverages	Incidence	1 publication[178]	N/A	1 publication[178] No risk estimate	N/A
Rectal	Sugar sweetened beverages	Mortality	1 publication[178]	1 publication[178]	N/A	N/A
Rectal	Substitution of sugar sweetened beverages with artificially sweetened beverages	Mortality	1 publication[178]	N/A	1 publication[178] No risk estimate	N/A
Liver	Sugar sweetened beverages	Incidence/mortality	7 publications[79,105,106,113,159,186,222]	5 publications[79,106,113,159,186]	1 publication[105] Insufficient data format	1 publication[222]
Liver	Carbonated sugar sweetened beverages	Incidence	2 publications[79,187]	1 publication[79]	1 publication[187] Insufficient data format	N/A
Liver	Sugar sweetened beverages without fruit drinks	Incidence	1 publication[186]	N/A	1 publication[186]	NA
Liver	Fruit drinks	Incidence	3 publications[79,186,187]	2 publications[79,186]	1 publication[187] Insufficient data format	NA
Liver	Sugar sweetened fruit drinks	Incidence	1 publication[79]	1 publication[79]	N/A	N/A
Gallbladder	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Pancreas	Sugar sweetened beverages	Incidence/mortality	7 publications[39,45,80,113,127,184,188]	5 publications[39,45,113,127,184]	2 publications[80,188] Insufficient data format	N/A
Pancreas	Carbonated sugar sweetened beverages	Incidence/mortality	2 publications[64,131]	2 publications[64,131]	N/A	NA
Pancreas	Sugar sweetened cola	Incidence/mortality	1 publication[151]	1 publication[151]	N/A	NA
Pancreatic adenocarcinoma	Carbonated sugar sweetened beverages	Incidence	1 publication[64]	1 publication[64]	N/A	NA

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Lung	Sugar sweetened beverages	Incidence	3 publications[37,97,190]	2 publications[97,190]	1 publication[37] Insufficient data format	NA
Lung	Sugar sweetened beverages	Mortality	2 publications[109,113]	2 publications[109,113]	N/A	NA
Melanoma	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Breast	Sugar sweetened beverages	Incidence	10 publications[38,44,97,108,128,145,146,169,220,223]	7 publications[38,44,97,108,128,145,146]	1 publication[169] Insufficient data format	2 publications[220,223]
Breast	Caffeinated sugar sweetened cola	Incidence	1 publication[75]	N/A	1 publication[75]	N/A
Breast	Decaffeinated sugar sweetened cola	Incidence	1 publication[75]	N/A	1 publication[75]	N/A
Breast	Sugar sweetened beverages	Mortality	3 publications[109,113,126]	3 publications[109,113,126]	N/A	N/A
Postmenopausal breast	Sugar sweetened beverages	Incidence	7 publications[38,44,70,128,130,145,146]	5 publications[38,44,70,128,145]	2 publications[130,146] Insufficient data format	N/A
Premenopausal breast	Sugar sweetened beverages	Incidence	5 publications[38,44,128,145,146]	4 publications[38,44,128,145]	1 publication[146] Insufficient data format	NA
Basal like breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
Luminal A breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
Luminal B breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
HER2 breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
ER- breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
ER+ breast	Sugar sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	NA
ER-/PR- breast	Sugar sweetened beverages	Incidence	1 publication[128]	N/A	1 publication[128]	NA
ER+/PR+ breast	Sugar sweetened beverages	Incidence	1 publication[128]	N/A	1 publication[128]	NA
ER+ or PR+ breast	Sugar sweetened beverages	Incidence	1 publication[128]	N/A	1 publication[128]	NA
Endometrial	Sugar sweetened beverages	Incidence	3 publications[38,70,74]	3 publications[38,70,74]	N/A	NA
Type I endometrial	Sugar sweetened beverages	Incidence	2 publications[38,74]	2 publications[38,74]	N/A	NA
Type II endometrial	Sugar sweetened beverages	Incidence	1 publication[74]	N/A	1 publication[74]	NA
Endometrial	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Ovarian	Sugar sweetened beverages	Incidence	2 publications[38,70]	2 publications[38,70]	N/A	NA
Ovarian	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Prostate	Sugar sweetened beverages	Incidence	6 publications[44,47,70,97,108,223]	4 publications[44,70,97,108]	1 publication[47] Insufficient data format	1 publication[223]
Prostate	Sugar sweetened beverages	Mortality	4 publications[42,109,113,126]	3 publications[109,113,126]	1 publication[42] Insufficient data format	NA
Kidney	Sugar sweetened beverages	Incidence	4 publications[66,70,100,173]	4 publications[66,70,100,173]	N/A	NA
Kidney	Carbonated sugar sweetened beverages	Incidence	1 publication[98]	1 publication[98]		NA
Kidney	Fruit drinks	Incidence	1 publication[36]	N/A	1 publication[36]	NA
Kidney	Sugar sweetened beverages	Mortality	2 publications[66,113]	2 publications[66,113]	N/A	NA
Bladder	Sugar sweetened beverages	Incidence	3 publications[46,82,100]	N/A	3 publications[46,82,100] Insufficient data format	NA
Bladder	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Brain	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Thyroid	Sugar sweetened beverages	Incidence	2 publications[53,180]	N/A	2 publications[53,180] Insufficient data format	NA
Papillary thyroid	Sugar sweetened beverages	Incidence	1 publication[180]	N/A	1 publication[180] Insufficient data format	NA
Follicular thyroid	Sugar sweetened beverages	Incidence	1 publication[180]	N/A	1 publication[180] Insufficient data format	NA
Leukaemia	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Multiple Myeloma	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Non-Hodgkin lymphoma	Sugar sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	NA
Leukaemia	Carbonated sugar sweetened beverages	Incidence	1 publication[150]	1 publication[150]	N/A	NA
Multiple myeloma	Carbonated sugar sweetened beverages	Incidence	1 publication[150]	1 publication[150]	N/A	NA
Non-Hodgkin Lymphoma	Carbonated sugar sweetened beverages	Incidence	2 publications[114,150]	2 publications[114,150]	N/A	NA

Supplementary Table 8. List of studies included in the systematic review on artificially sweetened drinks and studies included and not included in the dose-response meta-analysis (cancers are ordered by ICD-10 codes).

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Larynx/oral cavity/pharynx	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Oesophageal	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Gastric cardia	Artificially sweetened beverages	Incidence	1 publication[70]	N/A	1 publication[70]	N/A
Stomach	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Small intestinal	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Colorectal	Artificially sweetened beverages	Incidence	4 publications[44,70,78,168]	2 publications[70,168]	2 publications: [44], Implausible effect size per 10 g/day; [78], Insufficient data format	N/A
Early onset colorectal	Artificially sweetened beverages	Incidence	1 publication[72]	N/A	1 publication[72]	N/A
Rectal	Artificially sweetened beverages	Incidence	1 publication[78]	N/A	1 publication[78]	N/A
Colorectal	Artificially sweetened beverages	Mortality	2 publications[113,126]	2 publications[113,126]	N/A	N/A
Colon	Artificially sweetened beverages	Mortality	1 publication[109]	1 publication[109]	N/A	N/A
Liver	Artificially sweetened beverages	Incidence/mortality	5 publications[79,113,159,186,187]	4 publications[79,113,159,186]	1 publication[187] Insufficient data format	N/A
Liver	Carbonated artificially sweetened beverages	Incidence/mortality	2 publications[79,187]	1 publication[79]	I publication[187]	N/A
Liver	Artificially sweetened fruit drinks	Incidence/mortality	1 publication[79]	1 publication[79]	N/A	N/A
Gallbladder	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Pancreas	Artificially sweetened beverages	Incidence/mortality	3 publications[39,113,127]	3 publications[39,113,127]	N/A	N/A
Pancreas	Carbonated artificially sweetened beverages	Incidence/mortality	1 publication[151]	1 publication[151]	N/A	N/A
Pancreas	Artificially sweetened cola	Incidence/mortality	1 publication[151]	1 publication[151]	N/A	N/A
Lung	Artificially sweetened beverages	Incidence	1 publication[177]	N/A	1 publication[177]	N/A
Lung	Artificially sweetened beverages	Mortality	2 publications[109,113]	2 publications[109,113]	N/A	N/A
Melanoma	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Breast	Artificially sweetened beverages	Incidence	3 publications[44,49,145]	2 publications[49,145]	1 publication[44]	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
					Implausible effect size per 10 g/day	
Breast	Artificially sweetened caffeinated cola	Incidence	1 publication[75]	N/A	1 publication[75]	N/A
Breast	Artificially sweetened decaffeinated cola	Incidence	1 publication[75]	N/A	1 publication[75]	N/A
Postmenopausal	Artificially sweetened beverages	Incidence	4 publications[44,49,70,145]	3 publications[49,70,145]	1 publication[44] Implausible effect size per 10 g/day	N/A
Premenopausal	Artificially sweetened beverages	Incidence	3 publications[44,49,145]	2 publications[49,145]	1 publication[44] Implausible effect size per 10 g/day	N/A
Luminal A	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
Luminal B	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
Basal like	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
HER2	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
RE- breast	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
RE+ breast	Artificially sweetened beverages	Incidence	1 publication[145]	1 publication[145]	N/A	N/A
Breast	Artificially sweetened beverages	Mortality	3 publications[109,113,126]	3 publications[109,113,126]	N/A	N/A
Endometrial	Artificially sweetened beverages	Incidence	3 publications[49,70,74]	3 publications[49,70,74]	N/A	N/A
Postmenopausal endometrial	Artificially sweetened beverages	Incidence	3 publications[49,70,74]	3 publications[49,70,74]	N/A	N/A
Endometrial	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Ovarian	Artificially sweetened beverages	Incidence	2 publications[49,70]	2 publications[49,70]	N/A	N/A
Ovarian	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Prostate	Artificially sweetened beverages	Incidence	2 publications[44,70]	N/A	2 publications[44,70] Implausible effect size per 10 g/day in one study	N/A
Prostate	Artificially sweetened beverages	Mortality	3 publications[109,113,126]	3 publications[109,113,126]	N/A	N/A
Kidney	Artificially sweetened beverages	Incidence	3 publications[66,70,144]	3 publications[66,70,144]	N/A	N/A
Kidney	Carbonated artificially sweetened beverages	Incidence	1 publication[98]	1 publication[98]	N/A	N/A
Kidney	Artificially sweetened beverages	Mortality	2 publications[66,113]	2 publications[66,113]	N/A	N/A
Bladder	Artificially sweetened beverages	Incidence	1 publication[144]	N/A	1 publication[144]	N/A
Bladder	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Brain	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Thyroid	Artificially sweetened beverages	Incidence	1 publication[180]	N/A	1 publication[180]	N/A
Papillary thyroid	Artificially sweetened beverages	Incidence	1 publication[180]	N/A	1 publication[180]	N/A
Follicular thyroid	Artificially sweetened beverages	Incidence	1 publication[180]	N/A	1 publication[180]	N/A
Leukaemia	Carbonated artificially sweetened beverages	Incidence	1 publication[150]	1 publication[150]	N/A	N/A
Multiple Myeloma	Carbonated artificially sweetened beverages	Incidence	1 publication[150]	1 publication[150]	N/A	N/A
Non-Hodgkin Lymphoma	Carbonated artificially sweetened beverages	Incidence	1 publication[150]	1 publication[150]	N/A	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Leukaemia	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Multiple Myeloma	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Non-Hodgkin Lymphoma	Artificially sweetened beverages	Mortality	1 publication[113]	N/A	1 publication[113]	N/A
Myeloproliferative neoplasms	Caffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Polycythemia vera	Caffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Essential thrombocythemia	Caffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Myeloproliferative neoplasms	Decaffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Polycythemia vera	Decaffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Essential thrombocythemia	Decaffeinated diet soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA

Supplementary Table 9. List of studies included in the systematic review on juices and studies included and not included in the dose-response meta-analysis (cancers are ordered by ICD-10 codes).

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Head and neck	Fruit juice	Incidence	2 publications[59,90]	2 publications[59,90]	N/A	N/A
Oral squamous cell	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Oropharynx and hypopharynx squamous cell	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Oesophageal adenocarcinoma	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Oesophageal squamous cell	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Oesophageal	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Stomach	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Stomach	Citrus juice	Incidence	1 publication[43]	N/A	1 publication[43]	N/A
Stomach	Pure orange juice	Incidence	1 publication[84]	N/A	1 publication[84]	N/A
Stomach	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Colorectal	Fruit juice	Incidence	4 publications[78,87,93,108]	2 publications[93,108]	2 publications[78,87] Insufficient data format	N/A
Colorectal	Pure fruit juice	Incidence	2 publications[38,44]	2 publications[38,44]	N/A	N/A
Colorectal	Fruit and vegetable juice	Incidence	2 publications[81,136]	2 publications[81,136]	N/A	N/A
Colorectal	Tomato juice	Incidence	1 publication[77]	N/A	1 publication[77]	N/A
Early onset colorectal	Fruit juice	Incidence	1 publication[72]	N/A	1 publication[72]	N/A
Colorectal	Tomato juice	Mortality	1 publication[77]	N/A	1 publication[77]	N/A
Colon	Fruit juice	Incidence	1 publication[78]	N/A	1 publication[78]	N/A
Colon	Pure fruit juice	Incidence	1 publication[38]	N/A	1 publication[38]	N/A
Colon	Citrus juice	Incidence	1 publication[165]	N/A	1 publication[165]	N/A
Colon	Other fruit juices (not citrus)	Incidence	1 publication[165]	N/A	1 publication[165]	N/A
Colon	Fruit and vegetable juice	Incidence	2 publications[81,158]	2 publications[81,158]	N/A	N/A
Colon	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Proximal colon	Fruit and vegetable juice	Incidence	2 publications[81,158]	2 publications[81,158]	N/A	N/A
Distal colon	Fruit and vegetable juice	Incidence	2 publications[81,158]	2 publications[81,158]	N/A	N/A
Rectal	Fruit juice	Incidence	1 publication[78]	N/A	1 publication[78]	N/A
Rectal	Citrus juice	Incidence	1 publication[165]	N/A	1 publication[165]	N/A
Rectal	Other fruit juices (not citrus)	Incidence	1 publication[165]	N/A	1 publication[165]	N/A
Rectal	Fruit and vegetable juice	Incidence	1 publication[81]	N/A	1 publication[81]	N/A
Rectal	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Liver	Fruit juice	Incidence/mortality	2 publications[88,183]	N/A	2 publications[88,183]	N/A
Liver	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Liver	Citrus	Incidence	1 publication[79]	1 publication[79]	N/A	N/A
Liver	Other fruit juice (not citrus)	Incidence	1 publication[185]	N/A	1 publication[185]	N/A
Liver	Fruit and vegetable juice	Incidence	1 publication[159]	N/A	1 publication[159]	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Intrahepatic bile duct	Fruit and vegetable juice	Incidence	1 publication[159]	N/A	1 publication[159]	N/A
Extrahepatic bile duct	Fruit and vegetable juice	Incidence	1 publication[159]	N/A	1 publication[159]	N/A
Ampulla of Vater	Fruit and vegetable juice	Incidence	1 publication[159]	N/A	1 publication[159]	N/A
Liver	Vegetable juice	Incidence	2 publications[79]	2 publications[79]	N/A	N/A
Liver	Other juices (not citrus and vegetables)	Incidence	2 publications[79]	2 publications[79]	N/A	N/A
Gallbladder	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Pancreas	Fruit juice	Incidence	4 publications[41,131,167,188]	3 publications[41,131,167]	1 publication[188] Insufficient data format	N/A
Pancreas	Pure fruit juice	Incidence/mortality	2 publications[103,154]	N/A	2 publications[103,154] Insufficient data format	N/A
Pancreas	Pure apple juice	Incidence	1 publication[176]	N/A	1 publication[176]	N/A
Pancreas	Pure orange juice	Incidence	1 publication[176]	N/A	1 publication[176]	N/A
Pancreas	Citrus juice	Incidence	1 publication[167]	N/A	1 publication[167]	N/A
Pancreas	Fruit and vegetable juice	Incidence/mortality	2 publications[125,127]	2 publications[125,127]	N/A	N/A
Pancreas	Tomato juice	Incidence	1 publication[176]	N/A	1 publication[176]	N/A
Laryngeal squamous cell	Fruit juice	Incidence	1 publication[59]	N/A	1 publication[59]	N/A
Lung	Citrus juice	Incidence	2 publications[104,155]	2 publications[104,155]	N/A	N/A
Lung	Other fruit juice (not citrus)	Incidence	1 publication[165]	N/A	1 publication[165]	N/A
Lung	Grapefruit juice	Incidence	1 publication[55]	1 publication[55]	N/A	N/A
Lung	Fruit and vegetable juice	Incidence	2 publications[65,104]	2 publications[65,104]	N/A	N/A
Lung	Fruit juice	Mortality	1 publication[134]	N/A	1 publication[134]	N/A
Lung	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Melanoma	Citrus juice	Incidence	4 publications[107,110,115,116]	4 publications[107,110,115,116]	N/A	N/A
Melanoma	Orange juice	Incidence	3 publications[54,110,171]	3 publications[54,110,171]	N/A	N/A
Melanoma	Grapefruit juice	Incidence	2 publications[110,171]	2 publications[110,171]	N/A	N/A
Non-melanoma skin	Citrus juice	Incidence	2 publications[111,148]	2 publications[111,148]	N/A	N/A
Non-melanoma skin	Orange juice	Incidence	1 publication[111]	N/A	1 publication[111]	N/A
Non-melanoma skin	Grapefruit juice	Incidence	1 publication[111]	N/A	1 publication[111]	N/A
Basal cell carcinoma	Citrus juice	Incidence	1 publication[107]	N/A	1 publication[107]	N/A
Basal cell carcinoma	Orange juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Basal cell carcinoma	Grapefruit juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Squamous cell carcinoma	Citrus juice	Incidence	1 publication[107]	N/A	1 publication[107]	N/A
Squamous cell carcinoma	Orange juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Squamous cell carcinoma	Grapefruit juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Squamous cell carcinoma on head, neck and extremities	Orange juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Squamous cell carcinoma on truncal sites	Orange juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Squamous cell carcinoma on head, neck and extremities	Grapefruit juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Squamous cell carcinoma on truncal sites	Grapefruit juice	Incidence	1 publication[170]	1 publication[170]	N/A	N/A
Breast	Fruit juice	Incidence	5 publications[52,69,108,112,156]	5 publications[52,69,108,112,156]	N/A	N/A
Breast	Fruit juice, early adulthood	Incidence	1 publication[51]	N/A	1 publication[51]	N/A
Breast	Fruit juice, adolescence	Incidence	1 publication[51]	N/A	1 publication[51]	N/A
Breast	Pure fruit juice	Incidence	2 publications[38,44]	2 publications[38,44]	N/A	N/A
Breast	Citrus juice	Incidence	1 publication[160]	N/A	1 publication[160]	N/A
Breast	Apple juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
Breast	Apple juice, early adulthood	Incidence	1 publication[51]	N/A	1 publication[51]	N/A
Breast	Apple juice, adolescence	Incidence	1 publication[51]	N/A	1 publication[51]	N/A
Breast	Orange juice	Incidence	2 publications[51,52]	I publication[52]	1 publication[51] In early adulthood	N/A
Breast	Orange juice, adolescence	Incidence	2 publications[51,57]	N/A	2 publications[51,57] In adolescence	N/A
Breast	Orange juice, children	Incidence	1 publication[121]	N/A	1 publication[121]	N/A
Breast	Grapefruit juice	Incidence	2 publications[51,86]	2 publications[51,86]	N/A	N/A
Breast	Other fruit juices (not orange and apple)	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
Breast	Other fruit juices (not citrus and apple)	Incidence	1 publication[51]	N/A	1 publication[51]	N/A
Breast	Fruit and vegetable juice	Incidence	2 publications[133,164]	2 publications[133,164]	N/A	N/A
Breast	Pure fruit and vegetable juice	Incidence	1 publication[49]	N/A	1 publication[49]	N/A
Breast	Tomato juice	Incidence	1 publication[153]	N/A	1 publication[153]	N/A
Breast	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Postmenopausal breast	Fruit juice	Incidence	3 publications[51,52,83]	2 publications[52,83]	1 publication [51] In early adulthood	N/A
Postmenopausal breast	Pure fruit juice	Incidence	2 publications[38,44]	2 publications[38,44]	N/A	N/A
Postmenopausal breast	Citrus juice	Incidence	1 publication[160]	N/A	1 publication[160]	N/A
Postmenopausal breast	Grapefruit juice	Incidence	1 publication[86]	N/A	1 publication[86]	N/A
Postmenopausal breast	Pure fruit and vegetable juice	Incidence	1 publication[49]	N/A	1 publication[49]	N/A
Premenopausal breast	Fruit juice	Incidence	2 publications[51,52]	1 publication[52]	1 publication [51] In early adulthood	N/A
Premenopausal breast	Pure fruit juice	Incidence	2 publications[38,44]	2 publications[38,44]	N/A	N/A
Premenopausal breast	Pure fruit and vegetable juice	Incidence	1 publication[49]	N/A	1 publication[49]	N/A
ER- breast	Fruit juice	Incidence	1 publication[63]	N/A	1 publication[63]	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
ER- breast	Orange juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER- breast	Apple juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER- breast	Other fruit juice juices (not apple and orange)	Incidence	1 publication	1 publication[52]	N/A	N/A
ER- breast	Fruit and vegetable juice	Incidence	1 publication[133]	N/A	1 publication[133]	N/A
ER+ breast	Apple juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER+ breast	Orange juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER+ breast	Other fruit juice juices (not apple and orange)	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER+ breast	Orange juice	Incidence	1 publication[52]	1 publication[52]	N/A	N/A
ER+ breast	Fruit and vegetable juice	Incidence	1 publication[133]	N/A	1 publication[133]	N/A
ERα- breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
ERα+ breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
ERα+/β- breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
ERα+/β+ breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
ERβ- breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
ERβ+ breast	Fruit juice	Incidence	1 publication[156]	N/A	1 publication[156]	N/A
Type I endometrial	Fruit juice	Incidence	1 publication[74]	N/A	1 publication [74]	N/A
Type II endometrial	Fruit juice	Incidence	1 publication[74]	N/A	1 publication [74]	N/A
Endometrial	Pure fruit juice	Incidence	1 publication[38]	N/A	1 publication[38]	N/A
Type I endometrial	Pure fruit juice	Incidence	1 publication[38]	N/A	1 publication[38]	N/A
Endometrial cancer	Fruit and vegetable juice	Incidence	1 publication[117]	N/A	1 publication[117]	N/A
Endometrial cancer	Pure fruit and vegetable juice	Incidence	1 publication[49]	N/A	1 publication[49]	N/A
Uterine cervical	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Epithelial ovarian	Fruit juice	Incidence	1 publication[91]	1 publication[91]	N/A	N/A
Ovarian	Pure fruit juice	Incidence	1 publication[38]	N/A	1 publication[38]	N/A
Epithelial ovarian	Pure fruit juice	Incidence	1 publication[38]	N/A	1 publication[38]	N/A
Epithelial ovarian	Other fruit juices (not citrus)	Incidence	1 publication[124]	N/A	1 publication[124]	N/A
Epithelial ovarian	Fruit and vegetable juice	Incidence	1 publication[118]	N/A	1 publication[118]	N/A
Ovarian	Pure fruit and vegetable juice	Incidence	1 publication[49]	N/A	1 publication[49]	N/A
Ovarian	Fruit juice	Mortality	1 publication[149]	N/A	1 publication[149]	N/A
Prostate	Fruit juice	Incidence	4 publications[47,89,94,108,161]	2 publications[89,108]	2 publications[47,161] Insufficient data format	N/A
Prostate	Fruit juice, adolescence	Incidence	1 publication[94]	N/A	1 publication[94]	N/A
Prostate	Pure fruit juice	Incidence	1 publication[44]	N/A	1 publication[44]	N/A
Prostate	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Prostate	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Prostate	Vegetable juice	Incidence	2 publications[139,221]	1 publication[139]	N/A	1 publication[221]
Prostate	Tomato juice	Incidence	2 publications[56,152]	2 publications[56,152]	N/A	N/A
Prostate	Fruit juice	Mortality	1 publication[94]	N/A	1 publication[94]	N/A
Prostate	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Prostate	Citrus juice	Mortality	1 publication[139]	1 publication[139]	N/A	N/A
Prostate	Fruit and vegetable juice	Mortality	1 publication[139]	1 publication[139]	N/A	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Prostate	Vegetable juice	Mortality	1 publication[139]	1 publication[139]	N/A	N/A
Advanced prostate	Fruit juice in adolescent	Incidence	1 publication[94]	N/A	1 publication[94]	N/A
Advanced prostate	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Advanced prostate	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Advanced prostate	Vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Advanced restricted	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Advanced restricted	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Advanced restricted	Vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Non-advanced prostate	Fruit juice in adolescent	Incidence	1 publication[94]	N/A	1 publication[94]	N/A
Extraporastatic prostate	Fruit juice	Incidence	1 publication[89]	N/A	1 publication[89]	N/A
Aggressive prostate	Fruit juice	Incidence	1 publication[89]	N/A	1 publication[89]	NA
High grade prostate	Fruit juice	Incidence	1 publication[161]	N/A	1 publication[161]	N/A
High grade prostate	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
High grade prostate	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
High grade prostate	Vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Low grade prostate	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Low grade prostate	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Low grade prostate	Vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Localised prostate	Citrus juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Localised prostate	Fruit and vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
Localised prostate	Vegetable juice	Incidence	1 publication[139]	1 publication[139]	N/A	N/A
High risk	Fruit juice	Incidence	1 publication[47]	N/A	1 publication[47]	N/A
Low risk	Fruit juice	Incidence	1 publication[47]	N/A	1 publication[47]	N/A
Symptomatic prostate	Fruit juice	Incidence	1 publication[47]	N/A	1 publication[47]	N/A
Kidney	Fruit juice	Incidence	3 publications[36,98,142]	3 publications[36,98,142]	N/A	N/A
Kidney	Fruit and vegetable juice	Incidence	3 publications[26,66,218]	2 publications[26,66]	N/A	1 publication[218]
Kidney	Fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Kidney	Fruit and vegetable juice	Mortality	1 publication[66]	N/A	1 publication[66]	N/A
Bladder	Fruit juice	Incidence	1 publication[138]	N/A	1 publication[138]	N/A
Bladder	Sweetened fruit juice	Incidence	1 publication[123]	N/A	1 publication[123]	N/A
Bladder	Apple juice	Incidence	1 publication[120]	N/A	1 publication[120]	N/A
Bladder	Citrus juice	Incidence	1 publication[181]	N/A	1 publication[181]	N/A
Bladder	Orange juice	Incidence	1 publication[120]	N/A	1 publication[120]	N/A
Bladder	Grapefruit juice	Incidence	1 publication[120]	N/A	1 publication[120]	N/A
Bladder	Other fruit juices (not citrus and apple)	Incidence	1 publication[120]	N/A	1 publication[120]	N/A
Urothelial	Fruit and vegetable juice	Incidence	1 publication[147]	N/A	1 publication[147]	N/A
High risk urothelial	Fruit and vegetable juice	Incidence	1 publication[147]	N/A	1 publication[147]	N/A
Low risk urothelial	Fruit and vegetable juice	Incidence	1 publication[147]	N/A	1 publication[147]	N/A
Bladder	Tomato	Incidence	2 publications[120,175]	N/A	2 publications[120,175] Insufficient data format	N/A
Bladder	Pure fruit juice	Mortality	1 publication[76]	N/A	1 publication[76]	N/A
Glioma	Fruit juice	Incidence	1 publication[92]	1 publication[92]	N/A	N/A

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Thyroid	Citrus juice	Incidence	1 publication[174]	N/A	1 publication[174]	N/A
Papillary thyroid	Citrus juice	Incidence	1 publication[174]	N/A	1 publication[174]	N/A
Differentiated thyroid	Fruit and vegetable juice	Incidence	1 publication[179]	N/A	1 publication[179]	N/A
Papillary thyroid	Fruit and vegetable juice	Incidence	1 publication[179]	N/A	1 publication[179]	N/A
Follicular thyroid	Fruit and vegetable juice	Incidence	1 publication[179]	N/A	1 publication[179]	N/A
Myeloproliferative neoplasms	Fruit juice	Incidence	1 publication[141]	N/A	1 publication[141]	N/A
Polycythaemia vera	Fruit juice	Incidence	1 publication[141]	N/A	1 publication[141]	N/A
Essential thrombocythemia	Fruit juice	Incidence	1 publication[141]	N/A	1 publication[141]	N/A
non-Hodgkin lymphoma	Apple juice	Incidence	1 publication[162]	N/A	1 publication[162]	N/A
Diffuse large B-cell lymphoma	Apple juice	Incidence	1 publication[162]	N/A	1 publication[162]	N/A
Follicular lymphoma	Apple juice	Incidence	1 publication[162]	N/A	1 publication[162]	N/A

Supplementary Table 10. List of studies included in the systematic review on soft drinks, and studies included and not included in the dose-response meta-analysis (cancers are ordered by ICD-10 codes).

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Pharynx	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Oral	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Oesophageal squamous cell	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Oesophageal adenocarcinoma	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Stomach cardia	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Stomach non-cardia	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Colorectal	Soft drinks	Incidence	2 publications[35,136]	N/A	2 publications[35,136] Insufficient data format	NA
Colorectal	Soft drinks	Mortality	2 publications[85,126]	N/A	2 publications[85,126] Insufficient data format	NA
Colorectal	Cola	Mortality	1 publication[85]	N/A	1 publication[85]	NA
Colon	Soft drinks	Incidence	1 publication[136]	N/A	1 publication[136] Insufficient data format	NA
Proximal colon	Soft drinks	Incidence	1 publication[136]	N/A	1 publication[136] Insufficient data format	NA
Distal colon	Soft drinks	Incidence	1 publication[136]	N/A	1 publication[136] Insufficient data format	NA
Rectal	Soft drinks	Incidence	1 publication[136]	N/A	1 publication[136] Insufficient data format	NA
Liver	Soft drinks	Incidence	3 publications[79,159,183]	3 publications[79,159,183]	N/A	NA
Liver	Carbonated soft drinks	Incidence	1 publication[79]	1 publication[79]	N/A	NA
Gallbladder	Soft drinks	Incidence	2 publications[96,159]	2 publications[96,159]	N/A	NA
Intrahepatic biliary tract	Soft drinks	Incidence	2 publications[96,159]	2 publications[96,159]	N/A	NA
Extrahepatic biliary tract	Soft drinks	Incidence	2 publications[96,159]	2 publications[96,159]	N/A	NA
Ampulla of Vater	Soft drinks	Incidence	1 publication[159]	N/A	1 publication[159]	NA
Pancreas	Soft drinks	Incidence	5 publications[39,85,95,127,189]	4 publications[39,85,95,127,189]	1 publication[85] Insufficient data format	NA
Pancreatic adenocarcinoma	Carbonated soft drinks	Incidence	1 publication[125]	N/A	1 publication[125]	NA
Larynx	Carbonated soft drinks	Incidence	1 publication[143]	N/A	1 publication[143]	NA
Lung	Soft drinks	Incidence	3 publications[65,67,177]	2 publications[65,67]	1 publication[177] Insufficient data format	NA
Lung	Soft drinks	Mortality	1 publication[85]	N/A	1 publication[85]	NA
Lung	Cola	Mortality	1 publication[85]	N/A	1 publication[85]	NA
Squamous cell	Soft drinks	Incidence	1 publication[73]	N/A	1 publication[73]	NA
Breast	Soft drinks	Incidence	2 publications[49,68]	2 publications[49,68]	NA	NA
Postmenopausal breast	Soft drinks	Incidence	1 publication[49]	N/A	1 publication[49]	NA
Premenopausal breast	Soft drinks	Incidence	1 publication[49]	N/A	1 publication[49]	NA
Breast	Soft drinks	Mortality	1 publication[126]	N/A	1 publication[126]	NA

Cancer	Exposure	Outcome	Publications identified	Publications included in various meta-analyses	Publications included in the descriptive synthesis only	Superseded
Endometrial	Soft drinks	Incidence	3 publications[49,61,117]	2 publications[49,117]	1 publication[61] Insufficient data format	NA
Ovarian	Soft drinks	Incidence	1 publication[49]	N/A	1 publication[49]	NA
Epithelial ovarian	Cola	Incidence	1 publication[163]	N/A	1 publication[163]	NA
Prostate	Soft drinks	Incidence	1 publication[137]	NA	1 publication[137]	NA
Prostate	Soft drinks	Mortality	2 publications[126,137]	N/A	1 publication[126]	1 publication [137]
Prostate	Cola	Incidence/mortality	1 publication[50]	N/A	1 publication[50]	NA
Kidney	Soft drinks	Incidence	2 publications[66,102]	N/A	2 publications[66,102] Insufficient data format	NA
Kidney	Carbonated soft drinks	Incidence	2 publications[26,36]	2 publications[26,36]	N/A	NA
Kidney	Soft drinks	Mortality	2 publications[66,102]	N/A	2 publications[66,102] Insufficient data format	NA
Bladder	Soft drinks	Incidence	2 publications[119,147]	2 publications[119,147]	N/A	NA
Glioma	Carbonated soft drinks	Incidence	1 publication[48]	N/A	1 publication[48]	NA
Glioma	Carbonated and caffeinated soft drinks	Incidence	2 publications[48,71]	2 publications[48,71]	N/A	NA
Glioma	Carbonated and decaffeinated soft drinks	Incidence	2 publications[48,71]	2 publications[48,71]	N/A	NA
Thyroid	Soft drinks	Incidence	1 publication[180]	N/A	1 publication[180]	NA
Papillary thyroid	Soft drinks	Incidence	1 publication[180]	N/A	1 publication[180]	NA
Follicular thyroid	Soft drinks	Incidence	1 publication[180]	N/A	1 publication[180]	NA
Myeloproliferative neoplasms	Caffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Polycythemia vera	Caffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Essential thrombocythemia	Caffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Myeloproliferative neoplasms	Decaffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Polycythemia vera	Decaffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA
Essential thrombocythemia	Decaffeinated soft drinks	Incidence	1 publication[140]	NA	1 publication[140]	NA

Supplementary Table 11. Descriptive table of the included observational studies of sugar sweetened beverages and cancer incidence and mortality.

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mouth, pharynx, and larynx																			
Wu 2023 USA (37810918)[172]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Range:55-74 years M/F Mixed	279 / 101,755 8.84 years	Annual study update form, medical records, death certificates and family reports.	Questionnaire, **SSB**: Sugar-sweetened beverages	Incidence, Head and Neck cancer	≥318.19 vs ≤31.95 g/day	1.14 (0.82 - 1.58) Ptrend:0.087	✓	✓	✓	✓	✓		✓ E	D			✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	1,852 / 31,691 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks	Mortality, Larynx/oral cavity/pharynx	2+ drinks/day vs never	1.04 (0.87 - 1.24) Ptrend:0.963	✓		✓	✓			✓ *				✓	
		1,852 / 31,691 27.7 years				Per 1 drink day	1.01 (0.97 - 1.06)	✓		✓	✓			✓ *				✓	
Kjaerheim 1998 Norway (9486469)[90]	Norwegian Men UADT Prospective Cohort M	63 / 10,900 25 years	population survey	FFQ, Lemonade	Incidence, Oral cavity, larynx, pharynx, esophagus	6+ times/month vs < monthly	0.90 (0.50 - 1.60) Ptrend:>0.5	✓		✓	✓								
		65 / 10,900 25 years		FFQ, Red fruit drink		6+ times/month vs < monthly	1.20 (0.60 - 2.20) Ptrend:>0.5	✓		✓	✓								
Oesophageal																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,727 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Oesophageal cancer	2+ drinks/day vs never	0.88 (0.76 - 1.03) Ptrend:0.016	✓		✓	✓			✓ *				✓	
						Per 1 drink day	0.97 (0.92 - 1.01)	✓		✓	✓			✓ *				✓	
Stomach																			
Lee 2023 Korea (37536716)[97]	Health Examinees-Gem study Prospective Cohort Range:40-69 years M/F	498 / 36,266	Korea Central Cancer Registry +Cancer Statistics in Korea	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Stomach cancer, male	0 vs >250 g/day	1.69 (0.83 - 3.46)[1]			✓				✓ E				✓	
		402 / 68,130			Incidence, Stomach cancer, female	0 vs >250 g/day	1.58 (0.59 - 4.22)[1]			✓				✓ E				✓	
Khairan 2023 Japan (36167978)[84]	The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-59 years M/F Japanese	676 / 39,353 16.7 years	medical and population cancer registries, death certificates	Questionnaire & FFQ, **SSB**: Beverages containing caloric sweeteners, which included β-carotene- and calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juice (apple and orange juice), lactic acid bacteria beverages, and vitamin fortified beverages	Incidence, Gastric cancer, females	>278.1 vs 0 - 0.04 ml/day	1.03 (0.79 - 1.33) Ptrend:0.47	✓		✓	✓	✓	✓	✓ E				✓	

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		1,465 / 35,102 16.7 years			Incidence, Gastric cancer, males	>398.6 vs 0 - 30.5 ml/day	0.98 (0.82 - 1.17) Ptrend:0.48	✓		✓	✓	✓	✓	✓ E				✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,798 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Stomach cancer	2+ drinks/day vs never	1.08 (0.94 - 1.25) Ptrend:0.128	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.03 (0.99 - 1.08)	✓		✓	✓			✓ *				✓	
Khairan 2023 Japan (36167978)[84]	The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-59 years M/F Japanese	26 / 39,353 16.7 years	medical and population cancer registries, death certificates	Questionnaire & FFQ, **SSB**: Beverages containing caloric sweeteners, which included β-carotene- and calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juice (apple and orange juice), lactic acid bacteria beverages, and vitamin fortified beverages	Incidence, Cardia cancer, females	>278.1 vs 0 - 0.04 ml/day	1.28 (0.32 - 5.12) Ptrend:0.53	✓		✓	✓	✓	✓	✓ E				✓	
		99 / 35,102 16.7 years			Incidence, Cardia cancer, males	>398.6 vs 0 - 30.5 ml/day	0.48 (0.23 - 0.99) Ptrend:0.03	✓		✓	✓	✓	✓	✓ E				✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Excluded participants with diabetes at baseline	165 / 35,593 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar sweetened soft drinks	Incidence, Gastric cardia adenocarcinoma	≥1/day vs <1/month	1.17 (0.73 - 1.89) Ptrend:0.37	✓	✓	✓	✓		✓	✓				✓	
						Linear model	1.24 (0.77 - 1.99)	✓	✓	✓	✓		✓	✓				✓	
Acuna 2023 USA (36789943)[34]	The Multiethnic cohort study Prospective Cohort M/F Multi-ethnic	/ 176,752 19.2 years	cancer registries	Quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice	Incidence, Gastric distal adenocarcinoma	Per 1 point increase in AHEI-2010 component score	0.99 (0.97 - 1.01)	✓	✓	✓				✓ E				✓	
				Quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Gastric distal adenocarcinoma	Per 1 point increase in DASH score component score	0.96 (0.91 - 1.01)	✓	✓	✓				✓ E				✓	
Khairan 2023 Japan (36167978)[84]	The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-59 years M/F Japanese	650 / 39,353 16.7 years	medical and population cancer registries, death certificates	Questionnaire & FFQ, **SSB**: Beverages containing caloric sweeteners, which included β-carotene- and calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juice (apple and orange juice), lactic acid bacteria beverages, and vitamin fortified beverages	Incidence, non-Cardia cancer, females	>278.1 vs 0 - 0.04 ml/day	1.01 (0.78 - 1.32) Ptrend:0.56	✓		✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		1,366 / 35,102 16.7 years			Incidence, non-Cardia cancer, males	>398.6 vs 0 - 30.5 ml/day	1.03 (0.86 - 1.24) Ptrend:0.88	✓		✓	✓	✓	✓	✓ E				✓	
Small intestine																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	324 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Small intestinal cancer	2+ drinks/day vs never	1.26 (0.84 - 1.90) Ptrend:0.609	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.01 (0.89 - 1.14)	✓		✓	✓			✓ *				✓	
Colorectal																			
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	4,403 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **SSB**: Chocolate milk, cocoa or Ovaltine; milkshakes or malts; regular sodas; fruit drink (not 100% fruit juice); cappuccino, regular coffee, decaffeinated coffee, and black tea (if sugar or honey were added to them)	Incidence, Colorectal cancer	Median 351.2 vs 0 g/1000 kcal	1.03 (0.93 - 1.15) Ptrend:0.29	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Lee 2023 Korea (37536716)[97]	Health Examinees-Gem (HEXA-G) study Prospective Cohort Range:40-69 years M/F	397 / 36,266	Korea Central Cancer Registry +Cancer Statistics in Korea	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Colorectal cancer, male	0 vs >250 g/day	1.05 (0.46 - 2.40)[1]			✓				✓ E				✓	
		388 / 68,130			Incidence, Colorectal cancer, female	0 vs >250 g/day	3.39 (0.76 - 15.25)[1]			✓				✓ E				✓	
Wang 2022 USA (38752573)[168]	Nurses' Health Study, Nurses' Health Study II, Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Mainly white	1,294 / 46,341 28 years	self-report, blinded physicians reviewed medical records & pathology report, next of kin, national death index.	Semi-quantitative FFQ, **SSB**: Sugar- or artificially sweetened beverages (Caffeine-free Coke; Coke/Pepsi/Cola; dairy coffee drink; Hawaiian punch; Low-calorie soda, caffeine-free; low-calorie soda, Pepsi, 7-up; other carbon beverage; other low-calorie Cola with caffeine)	Incidence, colorectal cancer, male	Per 1 serving day	1.28 (1.05 - 1.55)	✓		✓	✓		✓	✓ E	✓				✓	
		1,922 / 159,907 28 years			Incidence, Colorectal cancer, female	Per 1 serving day	1.09 (0.94 - 1.25)	✓		✓	✓		✓	✓ E	✓	✓	✓	✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	247 / 2,633 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Colorectal cancer	>9.5 vs ≤3.2 cups/week	1.27 (0.89 - 1.82) Ptrend:0.175	✓		✓	✓	✓	✓	✓				✓	
				Self-administered Questionnaire, **SSB**: sugar sweetened beverages; without fruit juices		>3.3 cups/week vs none	1.12 (0.79 - 1.60) Ptrend:0.256	✓		✓	✓	✓	✓	✓				✓	
Leung 2021 Japan(33563648)[101]	The Japan Public Health Center-based Prospective Study Prospective Cohort	940 / 33,709 15 years	Cancer registry and death certificates		Incidence, Colorectal cancer,	Per 100 ml day	0.99 (0.97 - 1.01)	✓		✓	✓	✓	✓	✓ E	✓ D				

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	Age:56.5 years M/F Japanese			Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	male													
		708 / 40,361 15 years			Incidence, Colorectal cancer, female	Per 100 ml day	1.00 (0.96 - 1.05)	✓		✓	✓	✓	✓	✓ E	✓ D			
Barrubés 2020 Spain (32340309)[40]	PREDIMED Prospective Cohort Age:67 years M/F High risk of cardiovascular disease	97 / 7,216 6 years	Medical records + national death index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Colorectal cancer	0 vs ≥ 250 g/day	0.42 (0.19 - 0.93)[1] Ptrend:0.192	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	166 / 101,257 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **SSB**: Beverages with more than 5% simple carbohydrates and 100% fruit juices (no added sugar), soft drinks (carbonated or not), syrups, 100% juice, fruit drinks, sugar sweetened hot beverages, milk-based sugar sweetened beverages, sport drinks, and energy drinks	Incidence, Colorectal cancer	Per 100 ml day	1.12 (0.84 - 1.50)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
				24 Hour Diet Recall, **SSB**: Sugary drinks except 100% fruit juices		Per 100 ml day	1.13 (0.74 - 1.72)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Pacheco 2019 USA (31596902)[135]	California Teachers Study, 1995 Prospective Cohort Age:52 years F Mostly white teachers	1,318 / 99,798 20.1 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: sweetened carbonated and noncarbonated beverages (caloric soft drinks, sweetened bottled waters and/or teas, and fruit drinks)	Incidence, Colorectal cancer	≥1 serving/day vs rare or never	1.15 (0.87 - 1.52) Ptrend:0.259	✓		✓	✓			✓	✓	✓	✓	✓	
				Sweetened bottled water or tea	Incidence, Colorectal cancer	≥1 serving/day vs rare or never	1.24 (0.94 - 1.62) Ptrend:0.287	✓		✓	✓			✓	✓	✓	✓	✓	
				Fruit drinks	Incidence, Colorectal cancer	≥1 serving/day vs rare or never	0.44 (0.11 - 1.77) Ptrend:0.290	✓		✓	✓			✓	✓	✓	✓	✓	
				SSBs without fruit drinks	Incidence, Colorectal cancer	≥1 serving/day vs rare or never	1.03 (0.70 - 1.51) Ptrend:0.730	✓		✓	✓			✓	✓	✓	✓	✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F	1,055 / 35,593 23 years	cancer registry/death	Self-administered Questionnaire, **SSB**: Sugar sweetened soft drinks	Incidence, Colorectal cancer	≥1/day vs <1/month	1.28 (1.04-1.57)	✓	✓	✓	✓		✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
			records/National Death Index																
						Linear model	1.17 (0.96 - 1.43)												
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort Prospective Cohort Age:55.4 years M/F	68 / 3,184 ~10 years	medical examinations	Semi-quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice.	Incidence, Colorectal cancer	>9.4 vs <4 serving/week	1.39 (0.68 - 2.82)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
				Semi-quantitative FFQ, **SSB**: Regular sugar-sweetened soda and fruit drinks (lemonade and punch)		>3.5 vs >0.5 serving/week	0.96 (0.51 - 1.82)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Miller 2013 USA (23864539)[122]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-70 years M/F White non-Hispanic	1,749 / 293,248 11 years	Cancer and mortality registries	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Colorectal cancer, male	Quintile 5 vs Quintile 1	0.94 (0.85 - 1.03)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1,016 / 198,593 11 years			Incidence, Colorectal cancer, female	Quintile 5 vs Quintile 1	1.09 (0.93 - 1.26)	✓		✓	✓	✓	✓	✓ E			✓	✓	
Nomura 2016 USA (27220873)[129]	Black Women's Health Study, 1995 Prospective Cohort Range:21-69 years F Black	354 / 49,103 15.1 years	self-report, linkage to cancer registries, medical and pathology records	FFQ, **SSB**: Sugary drinks	Incidence, Colorectal cancer, baseline data	0 vs ≥250 g/day	1.29 (0.72 - 2.30)[1] Ptrend:0.57	✓		✓	✓	✓	✓	✓ E	✓ D	✓			✓
					Time-varying data		1.24 (0.71-2.17)[1] Ptrend:0.88	✓		✓	✓	✓	✓	✓ E	✓ D	✓			✓
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	3,018 / 121,111	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages	Incidence, Colorectal cancer	>1/day vs never	1.04 (0.85 - 1.27)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
						Per 1 serving day	1.03 (0.94 - 1.12)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	1,466 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **SSB**: Sugar-sweetened beverages & other sugary drinks	Incidence, Colorectal cancer	Per 1 SD day	1.00 (0.95 - 1.05)	✓	✓	✓		✓	✓	✓ E	✓ D				✓
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	1,038 / 121,111	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches,	Mortality, Colorectal cancer	>1/day vs never	1.18 (0.84 - 1.65)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				lemonades, or other fruit drinks) beverages.															
						Per 1 serving day	1.12 (0.97 - 1.30)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	13,752 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks	Mortality, Colorectal cancer	2+ drinks/day vs never	1.09 (1.02 - 1.17) Ptrend:0.011	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.02 (1.00 - 1.04)	✓		✓	✓			✓ *				✓	
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	2,095 / 451,743 16.4 years	active follow up, cancer registry, death certificate and National death index	Sema-quantitative FFQ, **SSB**: Sugar sweetened soft drinks	Mortality, Colorectal cancer	≥1 vs <1 glasses/month	1.10 (0.86 - 1.40) Ptrend:0.41	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Hur 2021 USA (33958435)[72]	Nurses' Health Study II Prospective Cohort F nurses	109 / 95,464 24 years	Medical records and National Death Index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened carbonated or noncarbonated beverages (soft drinks, fruit drinks, sports drinks, and sweetened tea beverages)	Incidence, Early-onset colorectal cancer, adulthood intake	≥2 servings/d vs <1 serving/week	1.97 (0.96 - 4.03) Ptrend:0.03			✓	✓	✓	✓	✓ *	✓	✓	✓	✓	
						Per 1 serving day	1.15 (0.97 - 1.35)			✓	✓	✓	✓	✓ *	✓	✓	✓	✓	
		35 / 41,272 ~51 years			Incidence, Early-onset colorectal cancer, adolescence intake	≥2 servings/d vs <1 serving/week	3.41 (1.08 - 10.80) Ptrend:0.01	✓		✓	✓	✓	✓	✓ E				✓	
						Per 1 serving day	1.32 (1.00 - 1.75)	✓		✓	✓	✓	✓	✓ E				✓	
		109 / 95,464 24 years		Substitution of SSB with ASB	Incidence, Early-onset colorectal cancer, adulthood intake	Per 1 serving day	0.83 (0.69 – 0.99)	✓		✓	✓	✓	✓	✓ E				✓	
		109 / 95,464 24 years		Substitution of SSB with fruit juice		Per 1 serving day	1.02 (0.61 – 1.69)	✓		✓	✓	✓	✓	✓ E				✓	
Nomura 2016 USA (27220873)[129]	Black Women's Health Study, 1995 Prospective Cohort Range:21-69 years F Black	277 / 49,103 15.1 years	self-report, linkage to cancer registries, medical and pathology records	FFQ, **SSB**: Sugary drinks	Incidence, Colon cancer, baseline data	0 vs ≥250 g/day	1.20 (0.62 - 2.31)[1] Ptrend:0.40	✓		✓	✓	✓	✓	✓ E	✓ D	✓		✓	
					Time-varying data	0 vs ≥250 g/day	1.16 (0.61 – 2.21)[1]	✓		✓	✓	✓	✓	✓ E	✓ D	✓		✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	192 / 2,633 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft	Incidence, Colon cancer	>9.5 vs ≤3.2 cups/week	1.41 (0.95 - 2.27) Ptrend:0.074	✓		✓	✓	✓	✓	✓				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea															
Leung 2021 Japan (33563648)[101]	The Japan Public Health Center-based Prospective Study Prospective Cohort Age:56.5 years M/F Japanese	606 / 33,709 15 years	Cancer registry and death certificates	Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Colon cancer, male	≥254 ml/day vs non consumers	0.80 (0.63 - 1.02) Ptrend:0.11	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	0.99 (0.96 - 1.02)	✓		✓	✓	✓	✓	✓ E	✓ D				
		515 / 40,361 15 years	Cancer registry and death certificates	Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Colon cancer, female	≥254 ml/day vs non consumers	1.36 (1.03 - 1.78) Ptrend:0.04	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	0.99 (0.93 - 1.04)	✓		✓	✓	✓	✓	✓ E	✓ D				
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	3,351 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **SSB**: Chocolate milk, cocoa or Ovaltine; milkshakes or malts; regular sodas; fruit drink (not 100% fruit juice); cappuccino, regular coffee, decaffeinated coffee, and black tea (if sugar or honey were added to them)	Incidence, Colon cancer	Median 351.2 vs 0 g/1000 kcal	1.05 (0.93 - 1.18) Ptrend:0.23	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	842 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **SSB**: Sugar-sweetened beverages & other sugary drinks.	Incidence, Colon cancer	Per 1 SD day	1.01 (0.94 - 1.08)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Malik 2019 USA (30882235 2)[109]	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Mostly white Health professionals	NR / 118,363 34 years	Physician confirmation	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (fruit punches, lemonades, or other fruit drinks)	Mortality, Colon cancer	Consumption ≥2/day vs <1/month	1.38 (0.99 - 1.92) Ptrend:0.07	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
						Per 1 serving day	1.09 (0.99 - 1.19)	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
Pacheco 2019 USA (31596902)[135]	California Teachers Study, 1995 Prospective Cohort Age:52 years F	718 / 99,798 20.1 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: sweetened carbonated and	Incidence, Proximal colon cancer	≥1 serving/day vs Rare or never	1.08 (0.72 - 1.61) Ptrend:0.998	✓		✓	✓			✓	✓	✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	Mostly white teachers			noncarbonated beverages (caloric soft drinks, sweetened bottled waters and/or teas, and fruit drinks)															
Yuan 2022 USA (35470384)[178]	Nurses' Health Study and Health Professionals Follow-up Study Prospective Cohort F/M White Health professionals	470 / 46,384 28 years	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages.	Incidence, Proximal colon cancer, male	Per 1 serving day	1.29 (1.05 - 1.48)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		805 / 74,727 30 years			Incidence, Proximal colon cancer, female	Per 1 serving day	1.07 (0.89 - 1.29)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		168			<60 years old at diagnosis	Per 1 serving day	1.22 (0.93, 1.61)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		402			60 to 60 years old at diagnosis	Per 1 serving day	1.27 (1.03, 1.57)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		705			≥70 years old at diagnosis	Per 1 serving day	1.09 (0.87, 1.36)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		597			BMI<25 kg/m^2	Per 1 serving day	1.11 (0.90 - 1.37)	✓	✓	✓	✓		✓	✓ E	✓ D	✓	✓	✓
		675			BMI≥25 kg/m^2	Per 1 serving day	1.25 (1.05 - 1.48)	✓	✓	✓	✓		✓	✓ E	✓ D	✓	✓	✓
		750			Ever smokers	Per 1 serving day	1.09 (0.90 - 1.30)	✓	✓		✓	✓	✓	✓ E	✓ D	✓	✓	✓
		495			Never smoker	Per 1 serving day	1.28 (1.04 - 1.59)	✓	✓		✓	✓	✓	✓ E	✓ D	✓	✓	✓
		256			Never alcohol drinker	Per 1 serving day	1.17 (0.90 - 1.50)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓
		750			Alcohol intake 0.1-14.9 g/day	Per 1 serving day	1.15 (0.95 - 1.39)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓
		269			Alcohol intake ≥15 g/d	Per 1 serving day	1.22 (0.88 - 1.68)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓
		644			Physical activity < median	Per 1 serving day	1.23 (1.03 - 1.47)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓
		596			Physical activity > median	Per 1 serving day	1.07 (0.85 - 1.35)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓
		636			Fruit intake≤1 serving/day	Per 1 serving day	1.16 (0.98, 1.38)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓
		639			Fruit intake>1 serving/day	Per 1 serving day	1.24 (0.99, 1.56)	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments											
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
														E	D				
				Substituting SSB with ASB: substituting 1 serving of SSBs per day with an equivalent amount of ASBs	Incidence, Proximal colon cancer	Per 1 serving day	0.84 (0.77 – 0.95)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
Leung 2021 Japan (33563648)[101]	The Japan Public Health Center-based Prospective Study Prospective Cohort Age:56.5 years M/F Japanese	258 / 33,709 15 years	Cancer registry and death certificates	Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Proximal colon cancer, male	≥254 ml/day vs Non consumers	0.82 (0.57 - 1.19) Ptrend:0.17	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	0.99 (0.95 - 1.04)	✓		✓	✓	✓	✓	✓ E	✓ D				
		322 / 40,361 15 years			Incidence, Proximal colon cancer, female	≥254 ml/day vs Non consumers	1.45 (1.01 - 2.09) Ptrend:0.22	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	0.98 (0.92 - 1.06)	✓		✓	✓	✓	✓	✓ E	✓ D				
		175			Male, BMI <25 kg/m^2	Per 100 ml day	1.02 (0.97 - 1.07)	✓		✓	✓		✓	✓ E	✓ D				
		83			Male, BMI ≥25 kg/m^2	Per 100 ml day	0.93 (0.84 - 1.02)	✓		✓	✓		✓	✓ E	✓ D				
		226			Female, BMI <25 kg/m^2	Per 100 ml day	0.99 (0.91 - 1.07)	✓		✓	✓		✓	✓ E	✓ D				
		96			Female, BMI ≥25 kg/m^2	Per 100 ml day	0.97 (0.85 - 1.12)	✓		✓	✓		✓	✓ E	✓ D				
		158			Male, ever smokers	Per 100 ml day	1.02 (0.97 - 1.07)	✓			✓	✓	✓	✓ E	✓ D				
		100			Male, never smokers	Per 100 ml day	0.93 (0.84 - 1.02)	✓			✓	✓	✓	✓ E	✓ D				
		17			Female, ever smokers	Per 100 ml day	0.88 (0.65 - 1.19)	✓			✓	✓	✓	✓ E	✓ D				
		305			Female, never smokers	Per 100 ml day	0.99 (0.92 - 1.07)	✓			✓	✓	✓	✓ E	✓ D				
		185			Male current drinker	Per 100 ml day	0.97 (0.91 - 1.03)	✓		✓		✓	✓	✓ E	✓ D				
		73			Male, non-drinker	Per 100 ml day	1.02 (0.95 - 1.09)	✓		✓		✓	✓	✓ E	✓ D				
		51			Female, current drinker	Per 100 ml day	0.92 (0.75 – 1.11)	✓		✓		✓	✓	✓ E	✓ D				

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		271			Female, non-drinkers	Per 100 ml day	1.00 (0.92 - 1.08)	✓		✓		✓	✓	✓ E	✓ D				
		126			Male, MET<31.85	Per 100 ml day	0.96 (0.90 - 1.04)	✓		✓	✓	✓		✓ E	✓ D				
		132			Male, MET ≥31.85	Per 100 ml day	1.01 (0.96 - 1.08)	✓		✓	✓	✓		✓ E	✓ D				
		134			Female, MET <31.85	Per 100 ml day	0.97 (0.87 - 1.09)	✓		✓	✓	✓		✓ E	✓ D				
		134			Female, MET ≥31.85	Per 100 ml day	0.99 (0.90 - 1.09)	✓		✓	✓	✓		✓ E	✓ D				
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	2,074 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **SSB**: Chocolate milk, cocoa or Ovaltine; milkshakes or malts; regular sodas; fruit drink (not 100% fruit juice); cappuccino, regular coffee, decaffeinated coffee, and black tea (if sugar or honey were added to them).	Incidence, Proximal colon cancer	Median 351.2 vs 0 g/1000 kcal	0.98 (0.84 - 1.14) Ptrend:0.93	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	158 / 48,384 28 years	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages.	Mortality, Proximal colon cancer, male	Per 1 serving day	1.47 (1.07 - 2.02)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		251 / 74,727 30 years			Mortality, Proximal colon cancer, female	Per 1 serving day	1.30 (0.97 - 1.75)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		40			<60 years old at diagnosis	Per 1 serving day	1.98 (1.32, 2.97)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		121			60 to 60 years old at diagnosis	Per 1 serving day	1.26 (0.85, 1.86)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		248			≥70 years old at diagnosis	Per 1 serving day	1.34 (0.96, 1.87)	✓		✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓
		204			BMI<25 kg/m^2	Per 1 serving day	1.42 (1.06, 1.89)	✓	✓	✓	✓		✓	✓ E	✓ D	✓	✓	✓
		204			BMI≥25 kg/m^2	Per 1 serving day	1.39 (1.03, 1.87)	✓	✓	✓	✓		✓	✓ E	✓ D	✓	✓	✓
		258			Ever smokers	Per 1 serving day	1.29 (0.97, 1.72)	✓	✓		✓	✓	✓	✓ E	✓ D	✓	✓	✓
		148			Never smoker	Per 1 serving day	1.53 (1.11, 2.12)	✓	✓		✓	✓	✓	✓ E	✓ D	✓	✓	✓
		82			Never alcohol drinker	Per 1 serving day	1.27 (0.80, 2.01)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		239			Alcohol intake 0.1-14.9 g/day	Per 1 serving day	1.36 (1.03, 1.80)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓	
		88			Alcohol intake ≥15 g/d	Per 1 serving day	1.95 (1.19, 3.21)	✓	✓	✓		✓	✓	✓ E	✓ D	✓	✓	✓	
		222			Physical activity < median	Per 1 serving day	1.60 (1.25, 2.06)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
		182			Physical activity > median	Per 1 serving day	1.17 (0.80, 1.72)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
		200			Fruit intake≤1 serving/day	Per 1 serving day	1.32 (1.01, 1.73)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
		209			Fruit intake>1 serving/day	Per 1 serving day	1.52 (1.08, 2.14)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
		409 / 121,111 28-30 years		**Substituting SSB with ASB**: substituting 1 serving of SSBs per day with an equivalent amount of ASBs	Mortality, Proximal colon cancer	Per 1 serving day	0.80 (0.71 – 0.95)	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
Pacheco 2019 USA (31596902)[135]	California Teachers Study, 1995 Prospective Cohort Age:52 years F Mostly white teachers	600 / 99,798 20.1 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: sweetened carbonated and noncarbonated beverages (caloric soft drinks, sweetened bottled waters and/or teas, and fruit drinks)	Incidence, Distal colorectum cancer	≥1 serving/day vs Rare or never	1.22 (0.82 - 1.80) Ptrend:0.101	✓		✓	✓			✓	✓	✓	✓	✓	
Leung 2021 Japan (33563648)[101]	The Japan Public Health Center-based Prospective Study Prospective Cohort Age:56.5 years M/F Japanese	311 / 33,709 15 years	Cancer registry and death certificates	Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Distal colon cancer, male	≥254 ml/day vs Non consumers	0.83 (0.60 - 1.15) Ptrend:0.42	✓		✓	✓	✓	✓	✓ E	✓ D				
		311 / 33,709 15 years				Per 100 ml day	1.00 (0.95 - 1.04)	✓		✓	✓	✓	✓	✓ E	✓ D				
		160 / 40,361 years			Incidence, Distal colon cancer, female	≥254 ml/day vs non consumers	1.38 (0.86 - 2.22) Ptrend:0.05	✓		✓	✓	✓	✓	✓ E	✓ D				
		160 / 40,361 15 years				Per 100 ml day	1.00 (0.91 - 1.10)	✓		✓	✓	✓	✓	✓ E	✓ D				
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	1,173 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **SSB**: Chocolate milk, cocoa or Ovaltine; milkshakes or malts; regular sodas; fruit drink (not 100% fruit juice); cappuccino, regular coffee, decaffeinated coffee, and black tea (if sugar or honey were added to them).	Incidence, Distal colon cancer	Median 351.2 vs 0 g/1000 kcal	1.15 (0.94 - 1.41) Ptrend:0.12	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	835 / 121,111	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages.	Incidence, Distal colon cancer	>1/day vs never	0.81 (0.54 - 1.20)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
		835 / 121,111				Per 1 serving day	0.88 (0.73 - 1.06)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
		835 / 121,111		**Substituting SSB with ASB**: substituting 1 serving of SSBs per day with an equivalent amount of ASBs		Per 1 serving day	Not significant	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
		266 / 121,111		**SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages	Mortality, Distal colon cancer	Per 1 serving day	0.97 (0.70 - 1.34)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
		835 / 121,111		**Substituting SSB with ASB**: substituting 1 serving of SSBs per day with an equivalent amount of ASBs		Per 1 serving day	Not significant	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
Leung 2021 Japan (33563648)[101]	The Japan Public Health Center-based Prospective Study Prospective Cohort Age:56.5 years M/F Japanese	334 / 33,709 15 years	Cancer registry and death certificates	Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Rectal cancer, male	≥254 ml/day vs non consumers	0.91 (0.66 - 1.26) Ptrend:0.94	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	0.98 (0.94 - 1.02)	✓		✓	✓	✓	✓	✓ E	✓ D				
		193 / 40,361 15 years		Self-administered Questionnaire, **SSB**: Beta-carotene fortified beverages, calcium fortified beverages, canned coffee, carbonated beverages, 100% fruit juices, lactic acid bacteria beverages and vitamin fortified beverages	Incidence, Rectal cancer, female	≥254 ml/day vs non consumers	0.91 (0.62 - 1.35) Ptrend:0.66	✓		✓	✓	✓	✓	✓ E	✓ D				
						Per 100 ml day	1.04 (0.96 - 1.11)	✓		✓	✓	✓	✓	✓ E	✓ D				
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	1,014 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **SSB**: Chocolate milk, cocoa or Ovaltine; milkshakes or malts; regular sodas; fruit drink (not 100% fruit juice); cappuccino, regular coffee, decaffeinated coffee, and black tea (if sugar or honey were added to them).	Incidence, Rectal cancer	Median 351.2 vs 0 g/1000 kcal	0.99 (0.80 - 1.23) Ptrend:0.93	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	623 / 121,111	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages.	Incidence, Rectal cancer	>1/day vs never	0.70 (0.44 - 1.12)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
						Per 1 serving day	0.89 (0.72 - 1.09)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
				Substituting SSB with ASB: substituting 1 serving of SSBs per day with an equivalent amount of ASBs		Per 1 serving day	Not significant	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	359 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **SSB**: Sugar-sweetened beverages & other sugary drinks.	Incidence, Rectal cancer	Per 1 SD day	1.01 (0.90 - 1.12)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Yuan 2022 USA (35470384)[178]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort M/F White Health professionals	226 / 121,111	self-report & biennial questionnaire & active follow-up for participant deaths	Validated FFQ, **SSB**: Sugar-sweetened carbonated (caffeinated colas, caffeine-free colas, other carbonated noncola), and noncarbonated (fruit punches, lemonades, or other fruit drinks) beverages.	Mortality, Rectal cancer	Per 1 serving day	0.92 (0.64 - 1.31)	✓	✓	✓	✓	✓	✓	✓ E	✓ D	✓	✓	✓	
				Substituting SSB with ASB: substituting 1 serving of SSBs per day with an equivalent amount of ASBs		Per 1 serving day	Not significant	✓	✓	✓	✓	✓		✓ E	✓ D	✓	✓	✓	
Zhang 2010 multi-national (20453203)[182]	Pooled analysis Cohort (n=13 cohorts) M/F 6-20 years	4895 / 731,441	Self-report verified by medical record	FFQ, **Carbonated SSB**: Carbonated sugar sweetened soft drinks	Incidence, Coln cancer	Per 12-ounce day	1.00 (0.91 - 1.10)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1477 / 239,193			Male	Per 12-ounce day	1.05 (0.91 - 1.22)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		3418 / 492,248			Female	Per 12-ounce day	0.96 (0.84 - 1.09)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		780 / 239,193			Proximal colon, male	Per 12-ounce day	1.13 (0.93 – 1.46)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1846 / 492,248			Proximal colon, female	Per 12-ounce day	0.91 (0.76 – 1.10)	✓		✓	✓	✓	✓	✓ E				✓	
		656 / 239,193			Distal colon, male	Per 12-ounce day	0.97 (0.76 – 1.24)	✓		✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		1283 / 492,248			Distal colon, female	Per 12-ounce day	1.04 (0.86 – 1.25)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1972			Never smokers	Per 12-ounce day	0.98 (0.80 – 1.18)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1619			Past smokers	Per 12-ounce day	1.10 (0.93 0 1.30)	✓		✓	✓	✓	✓	✓ E				✓	
		837			Current smokers	Per 12-ounce day	1.02 (0.89 – 1.21)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		1813			Non-drinkers	Per 12-ounce day	1.07 (0.93 – 1.22)	✓		✓	✓	✓	✓	✓ E				✓	
		2227			Alcohol intake <15 g/day	Per 12-ounce day	0.94 (0.80 – 1.10)	✓		✓	✓	✓	✓	✓ E			✓	✓	
		845			Alcohol intake ≥15 g/day	Per 12-ounce day	1.14 (0.89 – 1.47)	✓		✓	✓	✓	✓	✓ E				✓	
		1926			Low physical activity	Per 12-ounce day	0.94 (0.82 – 1.09)	✓		✓	✓	✓	✓	✓ E				✓	
		1482			Median physical activity	Per 12-ounce day	0.94 (0.75 – 1.19)	✓		✓	✓	✓	✓	✓ E				✓	
		930			High physical activity	Per 12-ounce day	1.21 (0.99 – 1.48)	✓		✓	✓	✓	✓	✓ E				✓	
		2254			BMI<25 kg/m^2	Per 12-ounce day	0.94 (0.77 – 1.14)	✓		✓	✓	✓	✓	✓ E				✓	
		2519			BMI≥25 kg/m^2	Per 12-ounce day	1.03 (0.91 – 1.17)	✓		✓	✓	✓	✓	✓ E				✓	
		1686			Ever postmenopausal hormone use	Per 12-ounce day	1.11 (0.94 – 1.31)	✓		✓	✓	✓	✓	✓ E				✓	
		1001			Never postmenopausal hormone use	Per 12-ounce day	0.72 (0.48 – 1.08)	✓		✓	✓	✓	✓	✓ E				✓	
Liver																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,722 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Liver cancer	2+ drinks/day vs never	1.07 (0.92 - 1.24) Ptrend:0.648	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.02 (0.98 - 1.06) Ptrend:0.340	✓		✓	✓			✓ *				✓	
							1.01 (0.97 - 1.06) Ptrend:0.522	✓		✓	✓	✓		✓ *				✓	
						Wit BMI adjustment	1.01 (0.97 – 1.06)												
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and Nutrition study Prospective Cohort Mainly white	127 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ: SSB: Sugar sweetened soft drinks	Incidence, HCC	Per 1 serving week	1.00 (0.95 - 1.06)			✓	✓	✓	✓	✓	D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Jones 2022 USA (35728406)[79]	NIH-AARP + PLCO Pooled Analysis Cohorts M/F Mainly white	587 / 553,874 12 years	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **SSB**: Soda and fruit punch.	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per times day	1.12 (0.99 - 1.28)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 553,874 12 years			Incidence, Liver cancer, no diabetes & >12 yrs follow-up	Per times day	0.80 (0.61 - 1.05)	✓	✓	✓	✓	✓		✓ E				✓	
Luu 2021 Singapore (33129230)[106]	Singapore Chinese Health Study Prospective Cohort Range:45-74 years M/F Chinese	561 / 61,321 17.7 years	Singapore Cancer and Singapore Birth and Death Registry self-administered questionnaire, verified by pathology reports, physician/discharge, operative/radiology reports, tumour registry.	Semi-quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice	Incidence, Hepatocellular carcinoma	Per 1 serving day	0.98 (0.78 - 1.23)	✓	✓	✓	✓	✓		✓ E *	D			✓	
Zhao 2023 USA (37552302)[186]	Women's Health Initiative Prospective Cohort Range:50-79 years F Mixed Postmenopausal	207 / 98,786 20.9		FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Liver cancer	≥1 serving/day vs never - ≤3 servings/month, adjusted for BMI	1.85 (1.16 - 2.96) Ptrend:0.01	✓		✓	✓	✓	✓	✓ E	D		✓	✓	
						Not adjusted for BMI	1.77 (1.11 - 2.82) Ptrend:0.02	✓		✓	✓		✓	✓ E			✓	✓	
		182		FFQ, **SSB**: Regular soft drinks or fruit drinks (Tang, Kool-Aid, Hi-C, and other fruit drinks)	Incidence, Liver cancer, excluding diabetes at baseline	After exclusion of diabetes	2.03 (1.25 - 3.30) Ptrend:0.005	✓		✓	✓	✓	✓	✓ E	D		✓	✓	
Ma 2018 USA (30506561)[222]	Health professionals follow up study & Nurses' Health Study Pooled Analysis Cohorts Range:30-75 years M/F Mostly white	143 / 138,688 32 years	Self-report, medical records and National Death Index	Validated FFQ, **SSB**: Sugar sweetened beverages and fruit juice	Incidence / Mortality, Hepatocellular carcinoma	Per 1 point	0.99 (0.93 - 1.05)	✓	✓	✓		✓	✓	✓ E	D			✓	
Luo 2019 USA (31688024)[105]	Health professionals follow up study & Nurses' Health Study Pooled Analysis Cohorts M/F Mostly white Health professionals	75 / 49,665 32 years	medical records, cancer registries, national death index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Hepatocellular carcinoma, male	Q4 vs Q1	1.27 (0.62 - 2.60) Ptrend:0.61	✓		✓	✓	✓	✓	✓ E				✓	
		85 / 87,943 32 years			Incidence, Hepatocellular carcinoma, female		1.22 (0.65 - 2.28) Ptrend:0.37	✓		✓	✓	✓	✓	✓ E				✓	
Zhao 2024 USA (39226717)[187]	Southern Community Cohort Study Prospective Cohort Range:40-79 years M/F White, black, other	453	National death index and cancer registry	Semi-quantitative FFQ, **Carbonated SSB**: Regular soda: Coke, Sprite.	Incidence, Liver cancer	≥median vs non-consumer	0.78 (0.58 - 1.05) Ptrend:0.02	✓	✓	✓	✓	✓	✓	✓ E	✓ D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Jones 2022 USA (35728406)[79]	NIH-AARP + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Carbonated SSB**: Regular soda	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per time day	1.18 (1.03 - 1.35)	✓	✓	✓	✓	✓		✓ E				✓	
		252			Incidence, Liver cancer, no diabetes & >12 yrs follow-up	Per time day	0.84 (0.62 - 1.13)	✓	✓	✓	✓	✓		✓ E				✓	
		587		Questionnaire, **Fruit drinks**: Fruit punch	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per time day	0.98 (0.78 - 1.24)	✓	✓	✓	✓	✓		✓ E				✓	
		252			Incidence, Liver cancer, no diabetes & >12 yrs follow-up	Per time day	0.88 (0.59 - 1.31)	✓	✓	✓	✓	✓		✓ E				✓	
Zhao 2024 USA (39226717)[187]	Southern Community Cohort Study Prospective Cohort Range:40-79 years M/F White, black, other	453 / 73,119 13.9 years	National death index and cancer registry	Semi-quantitative FFQ, **Fruit drinks**: Sweetened fruit drinks: Kool-Aid, punch, Tang, lemonade, or sunny delight	Incidence, Liver cancer	≥median vs non-consumer g/day	1.11 (0.86 - 1.45) Ptrend:0.39	✓	✓	✓	✓	✓	✓	✓ E	✓ D			✓	
Zhao 2023 USA (37552302)[186]	Women's Health Initiative Prospective Cohort Range:50-79 years F Mixed Postmenopausal	207 / 98,786 20.9	self-administered questionnaire, verified by pathology reports, physician/discharge, operative/radiology reports, tumour registry.	FFQ, **Fruit drinks**: Fruit drinks (Tang, Kool-Aid, Hi-C, and other fruit drinks not including fruit juice)	Incidence, Liver cancer	≥1 serving/day vs never - ≤3 servings/month	1.66 (0.73 - 3.80) Ptrend:0.14	✓		✓	✓		✓	✓ E			✓	✓	
				FFQ, **SSB without fruit drinks**:		≥1 serving/day vs never - ≤3 servings/month	1.66 (0.97 - 2.85) Ptrend:0.14	✓		✓	✓	✓	✓	✓ E	D		✓	✓	
Jones 2022 USA (35728406)[79]	NIH-AARP + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587 / 506,389	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Sugar-sweetened fruit drinks**: Regular fruit punch	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per time day	0.89 (0.62 - 1.29)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 506,389			Incidence, Liver cancer, no diabetes & >12 yrs follow-up	Per time day	0.60 (0.29 - 1.27)	✓	✓	✓	✓	✓		✓ E				✓	
Gallbladder/bile ducts																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	1,024 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Gallbladder cancer	2+ drinks/day vs never	1.13 (0.87 - 1.47) Ptrend:0.060	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.03 (0.96 - 1.11)	✓		✓	✓			✓ *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Pancreas																		
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	9,196 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Pancreas cancer	2+ drinks/day vs never	1.02 (0.94 - 1.11) Ptrend:0.754	✓		✓	✓			✓ *				✓	
		9,196				Per 1 drink day	1.00 (0.98 - 1.03)	✓		✓	✓			✓ *				✓	
		9,196				With BMI adjustment	1.00 (0.98 - 1.02)	✓		✓	✓	✓		✓ *				✓	
		4,339			Mortality, Pancreas cancer, male	Per 1 drink day	1.01 (0.98 - 1.04)	✓		✓	✓			✓ *				✓	
		4,857			Mortality, Pancreas cancer, female	Per 1 drink day	0.99 (0.95 - 1.03)	✓		✓	✓			✓ *				✓	
		3,955			Mortality, Pancreas cancer, never smokers	Per 1 drink day	1.01 (0.97 - 1.05)	✓			✓			✓ *				✓	
		4,234			Mortality, Pancreas cancer, normal weight (BMI 18.5 to <25 kg/m^2)	Per 1 drink day	1.01 (0.97 - 1.05)	✓		✓	✓			✓ *				✓	
		3,625			Mortality, Pancreas cancer, overweight (BMI 25 to <30 kg/m^2)	Per 1 drink day	0.98 (0.94 - 1.02)	✓		✓	✓			✓ *				✓	
		1,002			Mortality, Pancreas cancer, Obese (≥30 kg/m^2)	Per 1 drink day	1.03 (0.97 - 1.09)	✓		✓	✓			✓ *				✓	
Navarrete-Muñoz 2016 multi-national (27510540)[127]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51 years M/F Mostly white	686 / 477,199 11.6 years	cancer and pathology registry, active follow up, health insurance record, mortality registry and contact of participants or next-of-kin	Diet Questionnaire, **SSB**: Sugar-sweetened beverages	Incidence / Mortality, Pancreas cancer	>121.4 vs 0.1 - 4.5 g/day	0.92 (0.67 - 1.28)[1] Ptrend:0.46	✓	✓	✓	✓		✓	✓ *				✓	
						Per 100 g day	1.02 (0.97 - 1.08)	✓	✓	✓	✓		✓	✓ *				✓	
		313			Incidence / Mortality,	Per 336 g day	1.04 (0.82 - 1.32)	✓	✓	✓	✓		✓	✓ *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
					Pancreas cancer, male														
		373			Incidence / Mortality, Pancreas cancer, female	Per 336 g	1.14 (0.87 - 1.50)	✓	✓	✓	✓		✓	✓ *				✓	
		213			Incidence / Mortality, Pancreas cancer, Current smoker	Per 336 g	1.12 (0.85 - 1.47)	✓	✓		✓		✓	✓ *				✓	
		201			Incidence / Mortality, Pancreas cancer, Former smoker	Per 336 g	1.18 (0.86 - 1.63)	✓	✓		✓		✓	✓ *				✓	
		257			Incidence / Mortality, Pancreas cancer, Never smoked	Per 336 g	0.92 (0.61 - 1.40)	✓	✓		✓		✓	✓ *				✓	
Bao 2008 USA (18689380)[39]	NIH- AARP Diet and Health Study Prospective Cohort Age:62 years M/F Mostly white Retired	1,258 / 487,922 7.2 years	Cancer registry and national death index	Dietary Recall, **SSB**: Regular soft drinks and regular fruit drinks	Incidence / Mortality, Pancreatic Adenocarcinoma	Median intake 430.9 vs 0 g/day	0.83 (0.67 - 1.04) Ptrend:0.10	✓	✓	✓	✓	✓	✓	✓ E				✓	
		775			Incidence / Mortality, Pancreatic Adenocarcinoma, Never smoker or quit 10+ yrs ago		1.10 (0.79 - 1.54) Ptrend:0.96	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		998			Incidence / Mortality, Pancreatic Adenocarcinoma, BMI <30 kg/m^2		0.91 (0.68 - 1.20) Ptrend:0.34	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		231			Incidence / Mortality, Pancreatic Adenocarcinoma, BMI ≥30 kg/m^2		1.26 (0.71 - 2.24) Ptrend:0.29	✓	✓	✓	✓	✓	✓	✓ E *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Julián-Serrano 2022 USA (35474368)[80]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F	/ 535,824 16 years	State Health Registry, National Death Index	Semi-quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice	Incidence, Pancreatic ductal adenocarcinoma	Per 1 point increase in AHEI-2010 component score	1.01 (1.00 - 1.02)	✓	✓	✓	✓	✓		✓ E	D				
		/ 535,824 16 years				Per 1 increase in DASH diet component score	1.04 (1.01 - 1.06)	✓	✓	✓		✓		✓ E	D				
Zhang 2020 USA (32716590)([179])	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Range:55-74 years M/F	337 / 95,962 8.87 years	Self-report, medical records and National Death Index	Diet History Questionnaire, **SSB**: Sugar sweetened beverages and fruit juice	Incidence, Pancreatic cancer	Per 1 serving/day	1.42 (1.00 – 2.03)	✓	✓	✓	✓	✓	✓	✓ E *	D			✓	
Zhong 2023 USA (36863825)[188]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort M/F Mostly white	387 / 101,748 8.86 years	Annual study update form, medical records, death certificates and family reports.	FFQ, **SSB**:	Incidence, Pancreas cancer	Q4 vs Q1	1.01 (0.76 - 1.33) Ptrend:0.519	✓	✓	✓	✓	✓		✓ *	D			✓	
Chen 2022 Taiwan (35463371)[45]	Taiwan MJ clinics Prospective Cohort Age:39.9 years M/F Asian	489 / 491,929 15 years	Cancer registry and death registry	Self-administered Questionnaire, **SSB**: Caffeinated or decaffeinated cola, carbonated SSBs, and noncarbonated SSBs. Bubble milk tea, a Taiwan handmade specialty drink with high sugar content, was included.	Incidence, Pancreas cancer	≥2 vs 0 - <0.5 serving/day	1.55 (1.08 - 2.23) Ptrend:0.233	✓	✓	✓	✓	✓	✓		D			✓	
Steel 2023 (36306381)[157]	Multiethnic Cohort Study Prospective Cohort Range:45-75 years	1,779 / 177,313 19.3 years	State Health Registry, National Death Index	FFQ, **Sugary drinks**: Sugar sweetened beverages	Incidence, Pancreatic cancer	Quintile 5 vs Quintile 1	0.98 (0.84 - 1.21) Ptrend:0.36	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Genkinger 2012 (22194529)[64]	Pooled Analysis Cohorts M/F	2,047 / 853,894	Self-report, medical record, cancer registries and death registries	FFQ, **Carbonated SSB**: Sugar-sweetened Carbonated Soft Drinks; Caffeine-free or caffeinated colas and non-colas carbonated beverages.	Incidence, Pancreas cancer	Per 175 g day	1.06 (1.02 - 1.12)	✓		✓	✓	✓		✓ E	D				
		1,556 / 853,894			Incidence, Adenocarcinoma of pancreas	Per 175 g	1.08 (1.03 - 1.14)	✓		✓	✓	✓		✓ E	D				
Nöthlings 2007 USA (17991664)[131]	Multiethnic Cohort Prospective Cohort Age:60 years M/F Multi-ethnic	434 / 162,150 8 years	Cancer registry and national death index	FFQ, **Carbonated SSB**: Nondiet sodas	Incidence, Exocrine cancer of the pancreas	≥75.7 vs 0 g/1000 kcal/day	1.07 (0.82 - 1.41) Ptrend:0.54	✓	✓	✓		✓		✓ E				✓	
Schernhammer 2005 USA (16172216)[151]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M Health professionals	174 / 49,364 14 years	Death register/ subject or family	FFQ, Sugar-sweetened cola:	Incidence / Mortality, Pancreatic cancer, male	>3 vs <1 servings/month	0.92 (0.50 - 1.69) Ptrend:0.77	✓		✓		✓	✓	✓ E *	D				
		205 / 88,794 20 years			Incidence / Mortality, Pancreatic cancer, female	>3 vs <1 servings/month	1.25 (0.70 - 2.22) Ptrend:0.36	✓		✓		✓	✓	✓ E *	D				
Lung																			

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	34,381 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Lung cancer	2+ drinks/day vs never	0.91 (0.87 - 0.95) Ptrend:<0.0001	✓		✓	✓			✓ *				✓	
						Per 1 drinks day	0.98 (0.96 - 0.99)	✓		✓	✓			✓ *				✓	
Malik 2019 USA (30882235)[109]	Health Professionals Follow-up Study + Nurses' Health Study Pooled Analysis Cohorts M/F Mostly white Health professionals	/ 118,363 34 years	Physician confirmation	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (fruit punches, lemonades, or other fruit drinks).	Mortality, Lung cancer	Consumption ≥2/day vs <1/month	1.07 (0.86 - 1.33) Ptrend:0.73	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
						Per 1 serving day	1.01 (0.94 - 1.07)	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
Khan, 2004 Japan (15075007)[85]	Japan, Hokkaido Cohort Study Prospective Cohort Age:58 years M/F	/ 1,524 14.8 years	Area residency lists	Dietary History Questionnaire, **Cola**: Cola	Mortality, Lung cancer, male	Everyday + several times/weeks vs never + several times/month + several times/year	0.50 (0.10 - 2.20)	✓		✓									
Anic 2016 USA (26264348)[37]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Retired	5,856 / 277,174 10.5 years	cancer registries	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Lung cancer, male	Per 1 point increase in the AHEI-2010 component score	1.01 (1.00 - 1.02)	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 1 point increase in the DASH component score	1.03 (1.00 - 1.05)	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 1 point increase in the HEI-2010 component score	1.00 (0.99 - 1.00)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		3,416 / 183,596 10.5 years			Incidence, Lung cancer, female	Per 1 point increase in the DASH component	1.01 (0.98 - 1.04)	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 1 point increase in the AHEI-2010 component score	1.01 (1.00 - 1.02)	✓	✓	✓	✓	✓	✓	✓ E				✓	
Zhu 2023 USA (37255940)[190]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort	1,642 / 98,459 8.84 years	active follow-up/self-report, death	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Lung cancer	>495.22 vs ≤130.55 g/day	0.80 (0.69 - 0.91) Ptrend:0.007	✓	✓	✓	✓	✓		✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments: Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Lee 2023 Korea (37536716)[97]	Age:65.52 years M/F Mainly white Screening Program Health Examinees-Gem (HEXA-G) study Prospective Cohort Range:40-69 years M/F	291 / 36,266	certificates, family reports, medical records to confirm Korea Central Cancer Registry +Cancer Statistics in Korea	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Lung cancer, male	0 vs >250 g/day	0.61 (0.19 - 1.99)[1]			✓				✓ E				✓	
		243 / 68,130			Incidence, Lung cancer, female	0 vs >250 g/day	0.20 (0.03 - 1.59)[1]			✓				✓ E				✓	
Skin																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,130 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Melanoma	2+ drinks/day vs never	0.88 (0.74 - 1.06) Ptrend:0.682	✓		✓	✓			✓ *				✓	
						Per 1 drink day	0.97 (0.92 - 1.02)	✓		✓	✓			✓ *				✓	
Leone 2020 Spain (32492135)[99]	Seguimiento Universidad de Navarra (SUN) cohort Nested Case Control Range:40-50 years M/F	101	self-report physician diagnosis validated by oncologist	Semi-quantitative FFQ, **Carbonated SSB**: Sweetened carbonated beverages	Incidence, Basal cell carcinoma	Quintile 5 vs Quintile 1 (median 99 vs 0 g/day)	1.67 (0.69 - 4.02) Ptrend:0.6	✓		✓			✓	✓ E				✓	✓
Breast (female)																			
Nomura 2016 USA (27578546)[128]	Black Women's Health Study, 1995 Prospective Cohort Age:37.8 years F African American African American	1,827 / 49,103 13.86 years	self-report + cancer registry	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer	0 vs ≥ 250 g/d, baseline data	0.71 (0.50 - 1.02)[1] Ptrend:0.70	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
						0 vs ≥ 250 g/d, time-varying data	0.73 (0.54 - 1.00)[1]												
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	870 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Breast cancer	>9.3 vs ≤2.9 cups/week	1.13 (0.91 - 1.39) Ptrend:0.279	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
				Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), fruit drink/lemonade and power-based drinks/iced tea; without fruit juices		>3.1 cups/week vs none	1.08 (0.89 - 1.32) Ptrend:0.252	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort Prospective Cohort Age:55.4 years F	124 / 1,689	medical examinations	Semi-quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice.	Incidence, Breast cancer	>8.4 vs <3.5 servings/week	1.00 (0.65 - 1.57)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
				Semi-quantitative FFQ, **SSB**:		>1 vs 0 servings/week	1.04 (0.64 - 1.71)	✓		✓	✓	✓	✓	✓	D	✓	✓	✓	

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				Regular sugar-sweetened soda and fruit drinks (lemonade and punch).										E					
Lee 2023 Korea (37536716)[97]	Health Examinees-Gem (HEXA-G) study Prospective Cohort Range:40-69 years M/F women	862 / 68,130	Korea Central Cancer Registry +Cancer Statistics in Korea	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer	0 vs >250 g/day	1.15 (0.59 - 2.25)[1]			✓				✓ E				✓	
Wang 2022 Taiwan (35159055)[169]	National Health Interview Survey Prospective Cohort Age:49.74 years F Taiwanese	112 / 5,879 13.25 years	National Health Insurance Research Database and death registries and a panel of disease experts verifies diagnosis	Interview, **SSB**: Sugary drinks	Incidence, Breast cancer	Intake vs no intake	1.46 (0.96 - 2.21) Ptrend:0.074	✓			✓	✓					✓		
Romanos-Nanclares 2019 Spain (30284064)[146]	Seguimiento Universidad de Navarra (SUN) cohort study Prospective Cohort Age:33 years F Spanish	100 / 10,713 10 years	Medical records and National Death Index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer	>1/week vs Never/seldom serving	1.36 (0.74 - 2.50) Ptrend:0.312	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F women	693 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **SSB**: Beverages with more than 5% simple carbohydrates and 100% fruit juices (no added sugar), soft drinks (carbonated or not), syrups, 100% juice, fruit drinks, sugar sweetened hot beverages, milk-based sugar sweetened beverages, sport drinks, and energy drinks.	Incidence, Breast cancer	Per 100 ml day	1.22 (1.06 - 1.40)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
						Per 100 ml day	1.24 (1.02 - 1.50)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts F Health professionals	7,495 / 82,713 36 years	Medical records and National Death Index	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (e.g., punch, lemonade, fruit drink, or sugared iced tea).	Incidence, Breast cancer, NHS	≥1day vs <1/month servings	1.09 (0.98 - 1.21) Ptrend:0.10	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
						Per 1 serving day	1.04 (0.99 - 1.09)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		3,884 / 93,085 36 years	Medical records and National Death Index	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (e.g., punch, lemonade, fruit drink, or sugared iced tea).	Incidence, Breast cancer, NHS II	≥1day vs <1/month servings	0.93 (0.82 - 1.07) Ptrend:0.12	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
						Per 1 serving day	0.99 (0.94 - 1.05)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F women	1,402 / 321,081 16.4 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, **SSB**: Sugar Sweetened Soft Drinks	Mortality, Breast cancer	≥1 vs <1 glasses/month	1.21 (0.91 - 1.62) Ptrend:0.10	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Malik 2019 USA (30882235)[109]	Nurses' Health Study Prospective Cohort F Mostly white Health professionals	NR / 80,647 34 years	Physician confirmation	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (fruit punches, lemonades, or other fruit drinks).	Mortality, Breast cancer	Consumption ≥2/day vs <1/month	1.34 (1.00 - 1.80) Ptrend:0.02	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
						Per 1 serving day	1.09 (1.00 - 1.18)	✓		✓	✓	✓	✓	✓ E *	D		✓	✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	6,074 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Breast cancer	2+ drinks/day vs never	1.05 (0.93 - 1.19) Ptrend:0.558	✓		✓	✓			✓ *		✓	✓	✓	
						Per 1 drink day	1.00 (0.96 - 1.03)	✓		✓	✓			✓ *		✓	✓	✓	
Nomura 2016 USA (27578546)[128]	Black Women's Health Study, 1995 Prospective Cohort Age:37.8 years F African American	881 / 49,103 13.86 years	self-report + cancer registry	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Postmenopausal breast cancer	0 vs ≥ 250 g/d, time-varying data	0.90 (0.62 - 1.30)1 Ptrend:0.53	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	397 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Breast cancer, postmenopausal	>9.3 vs ≤2.9 cups/week	1.17 (0.85 - 1.59) Ptrend:0.410	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Nomura 2016 USA (26756307)[130]	Iowa Women's Health Study Prospective Cohort Range:55-69 years F Postmenopausal	3,189 / 36,626 23 years	Cancer registry	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Postmenopausal breast cancer	0 vs >250 g/day	Risk difference: 0.00 (-0.01 - 0.01)	✓		✓	✓	✓	✓			✓	✓	✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F women	946 / 21,492 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar Sweetened Soft Drinks	Incidence, Postmenopausal breast cancer	Consumption ≥1/day vs <1/month	1.11 (0.85 - 1.45) Ptrend:0.05	✓		✓	✓		✓	✓				✓	
						Linear model	1.26 (1.00 - 1.58)			✓	✓		✓	✓				✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts F Health professionals	8,140 / 175,798 36 years	Medical records and National Death Index	FFQ, **SSB**	Incidence, Postmenopausal breast cancer	≥1day vs <1/month servings	1.07 (0.97 - 1.19) Ptrend:0.40	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
						Per 1 serving day	1.04 (0.99 - 1.09)	✓			✓	✓	✓	✓ E	✓	✓	✓	✓	

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Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F women	410 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **SSB**: Beverages with more than 5% simple carbohydrates and 100% fruit juices (no added sugar), soft drinks (carbonated or not), syrups, 100% juice, fruit drinks, sugar sweetened hot beverages, milk-based sugar sweetened beverages, sport drinks, and energy drinks	Incidence, Postmenopausal breast cancer	Per 100 ml day	1.08 (0.88 - 1.33)	✓		✓	✓	✓	✓	✓ E *	D	✓	✓	✓
Romanos-Nanclares 2019 Spain (30284064)[146]	Seguimiento Universidad de Navarra (SUN) Project Prospective Cohort Age:33 years F Spanish	34 / 10,713 10 years	Medical records and National Death Index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer, postmenopausal	Regular intake vs never/seldom	2.12 (1.01 - 4.41) Ptrend:0.045	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓
Nomura 2016 USA (27578546)[128]	Black Women's Health Study, 1995 Prospective Cohort Age:37.8 years F African American	711 / 49,103 13.86 years	self-report + cancer registry	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Premenopausal breast cancer	0 vs ≥ 250 g/d, time-varying data	0.58 (0.31 - 1.10)[1] Ptrend:0.02	✓		✓	✓	✓	✓	✓ E		✓	✓	✓
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	473 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Breast cancer, premenopausal	>9.3 vs ≤2.9 cups/week	1.10 (0.81 - 1.49) Ptrend:0.385	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Romanos-Nanclares 2021 USA (34114021)[145]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts F Health professionals	2,503 / 175,798 36 years	Medical records and National Death Index	FFQ, **SSB:** Caffeinated and noncaffeinated colas with sugar, other (noncola) carbonated beverages with sugar, and noncarbonated sweetened beverages (e.g., punch, lemonade, fruit drink, or sugared iced tea)	Incidence, Premenopausal breast cancer	≥1day vs <1/month servings	0.96 (0.82 - 1.12) Ptrend:0.95	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓
						Per 1 serving day	1.02 (0.95 - 1.08)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	283 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **SSB**: Beverages with more than 5% simple carbohydrates and 100% fruit juices (no added sugar), soft drinks (carbonated or not), syrups, 100% juice, fruit drinks, sugar sweetened hot beverages, milk-based sugar sweetened beverages, sport drinks, and energy drinks.	Incidence, Premenopausal breast cancer	Per 100 ml day	1.26 (1.03 - 1.54)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓
Romanos-Nanclares 2019 Spain (30284064)[146]	Seguimiento Universidad de Navarra (SUN) Project Prospective Cohort Age:33 years F Spanish	57 / 10,713 10 years	Medical records and National Death Index	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer, premenopausal	Regular intake vs never/seldom	1.16 (0.66 - 2.07) Ptrend:0.602	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Romanos-Nanclares 2021 USA (34114021)[145]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts F Health professionals	7,301 / 175,798 36 years	Medical records and National Death Index	FFQ, **SSB:** Caffeinated and noncaffeinated colas with sugar, other (noncola) carbonated beverages with sugar, and noncarbonated sweetened beverages (e.g., punch, lemonade, fruit drink, or sugared iced tea)	Incidence, ER+	Per 1 serving day	1.03 (0.98 - 1.07)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,693 / 175,798 36 years			Incidence, ER-	Per 1 serving day	0.97 (0.89 - 1.06)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		2,673 / 175,798 36 years			Incidence, Luminal A breast cancer	Per 1 serving day	1.00 (0.93 - 1.08)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,147 / 175,798 36 years			Incidence, Luminal B breast cancer	Per 1 serving day	0.99 (0.88 - 1.12)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		250 / 175,798 36 years			Incidence, HER2+ breast cancer	Per 1 serving day	0.92 (0.71 - 1.19)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		303 / 175,798 36 years			Incidence, Basal-like breast cancer	Per 1 serving day	0.84 (0.67 - 1.05)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Nomura 2016 USA (27578546)[128]	Black Women's Health Study, 1995 Prospective Cohort Age:37.8 years F African American	205 / 49,103 13.86 years	self-report + cancer registry	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Breast cancer ER- and PR-	0 vs ≥ 250 g/d	0.83 (0.44 - 1.54)[1] Ptrend:0.37	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
		881 / 49,103 13.86 years			Incidence, Breast cancer ER+ & PR+	0 vs ≥ 250 g/d	0.55 (0.32 - 0.93)[1] Ptrend:0.07	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
		205 / 49,103 13.86 years			Incidence, Breast cancer ER+ or PR+	0 vs ≥ 250 g/d	0.95 (0.40 - 2.23)[1] Ptrend:0.98	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
		166 / 49,103 13.86 years			Incidence, Triple negative breast cancer	0 vs ≥ 250 g/d	0.76 (0.27 - 2.14)[1] Ptrend:0.76	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
Ishitani 2008 USA (18852405 1 [75]	Women's Health Study Prospective Cohort Age:55 years F	1,181 / 38,432 10 years	self-reported/death certificate/ medical records	FFQ, **Caffeinated sugar-sweetened cola**: Caffeinated cola	Incidence / Mortality, Invasive breast cancer	≥1 can/day vs almost never	1.17 (0.87 - 1.57) Ptrend:0.40	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
		1,170 / 38,432 10 years		FFQ, **Decaffeinated sugar-sweetened cola**: Decaffeinated cola		≥1 can/week vs almost never	0.83 (0.62 - 1.11) Ptrend:0.15	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Endometrial																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	1,693 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Uterus/Endometrium	2+ drinks/day vs never	1.17 (0.95 - 1.45) Ptrend:0.136	✓		✓	✓			✓ *		✓	✓	✓	
						Per 1 drink day	1.04 (0.98 - 1.11)	✓		✓	✓			✓ *		✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	169 / 2,351 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Endometrial cancer	>7.6 vs ≤4.4 cups/week	1.50 (1.03 - 2.17) Ptrend:0.02	✓		✓	✓	✓	✓	✓		✓	✓	✓	
		125 / 2,351 15 years			Incidence, type 1 endometrial cancer	>7.6 vs ≤4.4 cups/week	1.67 (1.08 - 2.59) Ptrend:0.015	✓		✓	✓	✓	✓	✓		✓	✓	✓	
Inoue-Choi 2013 USA (24273064)[74]	Iowa Women's Health Study Prospective Cohort Age:61.6 years F Postmenopausal	506 / 23,039 24 years	State Health Registry, National Death Index	FFQ, **SSB**: Sugar-sweetened Coke, Pepsi, or other colas and noncaffeinated sugar-sweetened Coke, Pepsi, or other colas; and other sugar-sweetened carbonated beverages (7-Up); and Hawaiian Punch, lemonade, other non-carbonated fruit drinks, and fruit juices	Incidence, Type 1 endometrial cancer	9.9 - 72.3 vs 0 - 1.3 servings/week	1.38 (1.03 - 1.87) Ptrend:0.02	✓		✓	✓	✓	✓	✓	D	✓	✓		
		86 / 23,039 24 years			Incidence, Type 2 endometrial cancer		1.05 (0.53- 2.06) Ptrend:0.89	✓		✓	✓	✓	✓	✓	D	✓	✓		
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F women	167 / 21,492 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar Sweetened Soft Drinks	Incidence, Endometrial Cancer	Consumption ≥1/day vs <1/month	1.02 (0.54 - 1.91) Ptrend:0.88	✓		✓	✓		✓	✓				✓	
						Linear model	1.04 (0.60 - 1.82)			✓	✓		✓	✓				✓	
Ovary																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	3,225 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Ovarian cancer	2+ drinks/day vs never	0.99 (0.84 - 1.17) Ptrend:0.761	✓		✓	✓			✓ *		✓	✓	✓	
						Per 1 drink day	1.01 (0.97 - 1.06)	✓		✓	✓			✓ *		✓	✓	✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F	130 / 21,492 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar Sweetened Soft Drinks	Incidence, Ovarian cancer	Consumption ≥1/day vs <1/month	1.35 (0.71 - 2.56) Ptrend:0.36	✓		✓	✓		✓	✓				✓	
						Linear model	1.32 (0.73 - 2.41)			✓	✓		✓	✓				✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	98 / 2,554 15 years	Cancer registry and national death index	Self-administered Questionnaire, **SSB**: Coca Cola, Pepsi, other cola, soft drinks (not dietetic), orange/grapefruit juice, apple/grape juice, other fruit juices, fruit drink/lemonade and power-based drinks/iced tea	Incidence, Ovarian cancer	>7.6 vs ≤4.3 cups/week	1.63 (1.02 - 2.60) Ptrend:0.022	✓		✓	✓	✓	✓	✓		✓	✓	✓	
		72 / 2,554 15 years			Incidence, Epithelial ovarian cancer	>7.6 vs ≤4.3 cups/week	1.51 (0.88 - 2.59) Ptrend:0.084	✓		✓	✓	✓	✓	✓		✓	✓	✓	
Prostate																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M Mainly white	9,381 / 416,313 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Prostate cancer	2+ drinks/day vs never	1.01 (0.93 - 1.09) Ptrend:0.570	✓		✓	✓			✓ *				✓	

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	907 / 130,662 16.4 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, **SSB**: Sugar sweetened soft drinks	Mortality, Prostate cancer	Per 1 drink day	0.99 (0.97 - 1.01)	✓		✓	✓			✓ *				✓	
						≥1 vs <1 glasses /month	1.08 (0.77 - 1.51) Ptrend:0.76	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Malik 2019 USA (30882235)[109]	Health Professionals Follow-up Study Prospective Cohort M Mostly white Health professionals	NR / 37,716 28 years	Physician confirmation	FFQ, **SSB**: Sugar-sweetened caffeinated and noncaffeinated colas, other (noncola) sugar-sweetened carbonated beverages, and noncarbonated sugar-sweetened beverages (fruit punches, lemonades, or other fruit drinks).	Mortality, Prostate cancer	Consumption ≥2/day vs <1/month	0.77 (0.39 - 1.52) Ptrend:0.43	✓		✓	✓	✓	✓	✓ E *				✓	
						Per 1 serving day	1.01 (0.86 - 1.19)	✓		✓	✓	✓	✓	✓ E *				✓	
Bosire 2013 USA (23408548)[42]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M Retired	428 / 293,464 8.9 years	annual linkage to the Social Security Administration Death Master File, follow-up searches of the National Death Index, Social Security Administration Death Master File,	FFQ, **SSB**: Sugar-sweetened beverages	Mortality, Prostate cancer	Higher AHEI-2010 component score	0.99 (0.96 - 1.02)	✓		✓	✓	✓	✓	✓ E	D			✓	
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort Prospective Cohort Range:26-84 years M/F	157 / 3,184 ~10 years	cancer registry and pathology reports	FFQ, **SSB**: Sugar sweetened beverages and fruit juice.	Incidence, Prostate cancer	>10.4 vs <5.5 serving/week	1.36 (0.88 - 2.09)	✓		✓	✓			✓ E					
Lee 2023 Korea (37536716)[97]	Health Examinees-Gem study Prospective Cohort Range:40-69 years M/F	449 / 36,266	Korea Central Cancer Registry +Cancer Statistics in Korea	Semi-quantitative FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Prostate cancer	0 vs >250 g/day	1.10 (0.45 - 2.67)[1]			✓				✓ E				✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	291 / 21,533 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **SSB**: Beverages with more than 5% simple carbohydrates and 100% fruit juices (no added sugar), soft drinks (carbonated or not), syrups, 100% juice, fruit drinks, sugar sweetened hot beverages, milk-based sugar sweetened beverages, sport drinks, and energy drinks.	Incidence, Prostate cancer	Per 100 ml day	1.11 (0.91 - 1.36)	✓		✓	✓	✓	✓	✓ E	D			✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F	433 / 14,101 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar Sweetened Soft Drinks	Incidence, Aggressive prostate cancer	Consumption ≥1/day vs <1/month	1.08 (0.78 - 1.50) Ptrend:0.47	✓		✓	✓		✓	✓				✓	
						Linear model	1.12 (0.83 - 1.51)			✓	✓		✓	✓				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Drake 2012 Sweden (23134882)[47]	Malmo Diet and Cancer, 1991 Prospective Cohort Range:45-73 years M	513 / 8,128 15 years	linkage of personal identification numbers with the Swedish Cancer Register	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Prostate cancer	Median intake 297.8 vs 0 g/day	1.13 (0.92 - 1.38) Ptrend:0.221	✓		✓	✓	✓	✓	✓ E				✓	
		332 / 8,128 15 years			Incidence, Low-risk prostate cancer	Tertile 3 vs 0 g/day	1.06 (0.82 - 1.37) Ptrend:0.661	✓		✓	✓	✓	✓	✓ E				✓	
		176 / 8,128 15 years			Incidence, High-risk prostate cancer	Tertile 3 vs 0 g/day	1.28 (0.92 - 1.78) Ptrend:0.103	✓		✓	✓	✓	✓	✓ E				✓	
		143 / 8,128 15 years			Incidence, Symptomatic prostate cancer	Tertile 3 vs 0 g/day	1.01 (0.68 - 1.51) Ptrend:0.597	✓		✓	✓	✓	✓	✓ E				✓	
Kidney																		
Leung 2021 Japan (34737349)[100]	The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-69 years M/F Japanese	169 / 73,024 15.8 years	Cancer registry and death certificates and participant contact	FFQ, **SSB**: Beta-carotene-fortified beverages, calcium-fortified beverages, canned coffee, carbonated beverages, 100% fruit juices (apple juice and orange juice), lactic acid bacteria beverages, and vitamin-fortified beverages.	Incidence, Kidney cancer	(male: ≥254 ml/day, female ≥134 ml/day) vs non-consumers	0.92 (0.57 - 1.47) Ptrend:0.93	✓		✓	✓	✓	✓	✓ E	D				
		169 / 73,024 15.8 years				Per 100 ml day	1.02 (0.96 - 1.08)	✓		✓	✓	✓	✓	✓ E	D				
		113 / 33,094 15.8 years			Male	Per 100 ml day	1.01 (0.95 - 1.08)	✓		✓	✓	✓	✓	✓ E	D				
		56 / 39,930 15.8 years			Female	Per 100 ml day	1.07 (0.95 - 1.21)	✓		✓	✓	✓	✓	✓ E	D				
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F	146 / 35,593 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **SSB**: Sugar Sweetened Soft Drinks	Incidence, Kidney cancer	Consumption ≥1/day vs <1/month	1.48 (0.87 - 2.53) Ptrend:0.29	✓	✓	✓	✓		✓	✓				✓	
						Linear model	1.32 (0.79 - 2.19)		✓	✓	✓		✓	✓				✓	
Xiang 2023 USA (37784113)[173]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Age:65.5 years M/F Mainly white	446 / 101,755 8.8 years	self-report, family members, death certificates, medical records to confirm	Questionnaire & FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Renal cancer	Q4 vs Q1 (≥318.19 vs ≤31.95 g/day)	1.46 (1.10 - 1.93) Ptrend:0.004	✓	✓	✓	✓	✓		✓ E	D			✓	
Heath 2021 multi-national (33849969)[66]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	589 / 389,220 15 years	population registries or active follow up	Diet Questionnaire, **SSB**: carbonated/soft/isotonic drinks and diluted syrups - sugar-sweetened and artificially sweetened beverages.	Incidence, Renal cell carcinoma	Per 100 g day	0.99 (0.94 - 1.05)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		347			Male	Per 100 g	0.98 (0.91 - 1.05)	✓	✓	✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments											
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		242			Female	Per 100 g	1.03 (0.94 - 1.13)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		265 / 389,220 15 years			Mortality, Renal cell carcinoma	Per 100 g	0.97 (0.89 - 1.07)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		142			Male	Per 100 g	0.92 (0.81 - 1.05)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		123			Female	Per 100 g	1.05 (0.93 - 1.18)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,129 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Kidney cancer	2+ drinks/day vs never	1.17 (1.03 - 1.34) Ptrend:0.056	✓		✓	✓			✓ *				✓	
					Mortality, Kidney cancer	Per 1 drinks day	1.06 (1.02 - 1.10)	✓		✓	✓			✓ *				✓	
		1,921			Male	Per 1 drinks day	1.05 (1.01 - 1.10)	✓		✓	✓			✓ *				✓	
					Female	Per 1 drinks day	1.09 (1.02 - 1.16)	✓		✓	✓			✓ *				✓	
Lee 2006 USA (16775182)[98]	Nurses' Health Study and Health Professionals Follow-up Study Pooled Analysis Cohorts Range:30-75 years M/F	248 / 136,587	Self-report, medical records reviewed by physician, national death index, death report by family members in follow up questionnaires	Validated FFQ, **Carbonated SSB**: sugar sweetened soda	Incidence, Renal cell cancer	Per 1 serving day	0.95 (0.69 - 1.31)	✓		✓	✓	✓		✓ E	D		✓		
Allen 2011 UK (21407222)[36]	The Million Women Study, 1996 Prospective Cohort Range:50-64 years F	588 / 779,369 5.2 years	National Health Service central registers	FFQ, **Fruit drinks**: Fruit squash	Incidence, Renal cell carcinoma	≥2 vs 0 or<1 drinks/day	1.10 (0.84 - 1.45)			✓		✓						✓	
						Per 1 drink day	1.03 (0.94 - 1.14)			✓		✓						✓	
Bladder																			
Kang 2024 USA (38931318)[82]	Multiethnic Cohort Study Prospective Cohort Range:45-75 years M/F	843 / 84,227 19.2 years	Cancer registry and natural death index	Quantitative FFQ, **SSB**: Sugar sweetened beverages and fruit juice	Incidence, Invasive bladder cancer, male	Per 2 points increase in AHEI-2010 component score	1.03 (0.99 - 1.07)	✓						✓ E				✓	
		309 / 102,752 19.2 years			Incidence, Invasive bladder cancer, female	Per 2 points increase in AHEI-2010 component score	0.99 (0.93 - 1.05)	✓						✓ E				✓	
Chen 2023 USA (37721479)[46]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Range:55-74 years M/F	378 / 99,001 11.7 years	Self-report, medical record + pathology report	Questionnaire & FFQ, **SSB**: Sugar sweetened beverages and fruit juice.	Incidence, Bladder cancer	Q4 vs Q1 (274.67 vs 564.66 g/day)	1.02 (0.96 - 1.08)	✓	✓	✓	✓	✓		✓ E	D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Leung 2021 Japan (34737349)[100]	Mainly white Screening Program The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-69 years M/F Japanese	297 / 73,024 15.8 years	Cancer registry and death certificates and participant contact	**SSB**: Beta-carotene-fortified beverages, calcium-fortified beverages, canned coffee, carbonated beverages, 100% fruit juices (apple juice and orange juice), lactic acid bacteria beverages, and vitamin-fortified beverages.	Incidence, Bladder cancer	(male: ≥254 ml/day, female ≥134 ml/day) vs non-consumers	0.79 (0.56 - 1.12) Ptrend:0.33	✓		✓	✓	✓	✓	✓ E	D				
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,419 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Bladder cancer	Per 100 ml day	1.01 (0.97 - 1.06)	✓		✓	✓	✓	✓	✓ E	D				
						2+ drinks/day vs never	1.11 (0.97 - 1.27) Ptrend:0.050	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.03 (0.99 - 1.07)	✓		✓	✓			✓ *				✓	
Brain and Spinal cord																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,402 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Brain cancer	2+ drinks/day vs never	0.96 (0.83 - 1.11) Ptrend:0.905	✓		✓	✓			✓ *				✓	
						Per 1 drink day	0.99 (0.95 - 1.03)	✓		✓	✓			✓ *				✓	
Thyroid																			
Feng 2022 UK (36508215)[53]	UK Biobank Prospective Cohort Age:57 years M/F	423 / 264,956 11.1 years	Cancer registry	Questionnaire, **SSB**: Sugar-sweetened beverages	Incidence, Thyroid cancer	Intake vs no intake	1.14 (0.88 - 1.49)	✓	✓									✓	
Zamora-Ros 2023 multi-national (35907037)[180]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51.1 years M/F	495 / 450,064 13.9 years	Cancer and mortality registries, pathology registries, active follow up, health insurance records	Questionnaire, **SSB**: Sugar-sweetened beverages	Incidence, Thyroid cancer	85.8–4201.7 ml/day vs non-consumers	0.91 (0.62 - 1.34) Ptrend:0.86	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml day	1.06 (0.98 - 1.15)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		403 / 450,064 13.9 years			Incidence, Papillary thyroid cancer	85.8 – 4 to201.7 ml/day vs non-consumers	0.96 (0.62 - 1.50) Ptrend:0.61	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml day	1.08 (0.99 - 1.17)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		73 / 450,064 13.9 years			Incidence, Follicular thyroid cancer	85.8 – 4 to201.7 ml/day vs non-consumers	0.81 (0.34 - 1.92) Ptrend:0.80	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml day	0.93 (0.72 - 1.21)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
Lymphoid and hematopoietic																			

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	6,319 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **SSB**: Regular colas and other nondiet soft drinks.	Mortality, Leukaemia	2+ drinks/day vs never	1.04 (0.94 - 1.15) Ptrend:0.375	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.00 (0.97 - 1.03)	✓		✓	✓	✓		✓ *				✓	
		3,511 / 934,777 27.7 years			Mortality, multiple Myeloma	2+ drinks/day vs never	0.97 (0.84 - 1.18) Ptrend:0.581	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.00 (0.96 - 1.04)	✓		✓	✓			✓ *				✓	
		6,600 / 934,777 27.7 years			Mortality, Non-Hodgkin Lymphoma	2+ drinks/day vs never	1.16 (1.05 - 1.28) Ptrend:0.001	✓		✓	✓			✓ *				✓	
						Per 1 drink day	1.04 (1.02 - 1.07)	✓		✓	✓			✓ *				✓	
Schernhammer 2012 USA (23097267)[150]	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Health professionals	186 / 47,810 22 years	medical records, cancer registries, national death index	Semi-quantitative FFQ, **Carbonated SSB**: sugar-sweetened soda; Caffeine-free or caffeinated colas and other soda	Incidence, Leukaemia, male	≥1 serving/day vs none	0.92 (0.42 - 2.02) Ptrend:0.61	✓		✓	✓	✓	✓	✓ E *				✓	
		153 / 77,218 22 years			Incidence, Leukaemia, female		1.39 (0.47 - 4.07) Ptrend:0.21	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
		131 / 47,810 22 years			Incidence, multiple Myeloma, male		1.76 (0.77 - 4.03) Ptrend:0.37	✓		✓	✓	✓	✓	✓ E *				✓	
		154 / 77,218 22 years			Incidence, multiple Myeloma, female		1.07 (0.36 - 3.16) Ptrend:0.58	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
		571 / 47,810 22 years			Incidence, Non-Hodgkin Lymphoma, male		1.66 (1.10 - 2.51) Ptrend:0.03	✓		✓	✓	✓	✓	✓ E *				✓	
		753 / 77,218 22 years			Incidence, Non-Hodgkin Lymphoma, female		1.01 (0.63 - 1.62) Ptrend:0.59	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
McCullough 2014 USA (25342696)[114]	Cancer Prevention Study II Prospective Cohort Age:69 years M/F	354 / 43,350 10 years	medical records and cancer registries	FFQ, **Carbonated SSB**: Sugar-sweetened carbonated beverage	Incidence, Non-Hodgkin Lymphoma, male	high past and high current intake vs no past and no current intake	1.19 (0.64 - 2.22)	✓	✓	✓		✓		✓ E *	D				
		300 / 57,092 10 years			Incidence, Non-Hodgkin Lymphoma, female		2.29 (1.21 - 4.32)	✓	✓	✓		✓		✓ E *	D				

Age: age; **Alc**: alcohol; **Diet**: dietary factors and energy intake (E), or * adjustment for other soft drinks not under investigation; **Med**: medical-related factors (e.g. infections, diseases in the breast, digestive tract, gallbladder, liver, or pancreas, cancer screening, precancerous conditions, or pre-existing skin cancer) or diabetes (D); **Mens**: menstrual characteristics (e.g. age at menarche, menopausal status/duration, age at menopause, or type of menopause); **Obe**: obesity (adiposity measures); **Oth**: others (e.g. family history/genetic factor, race/ethnicity, ancestry, socioeconomic factors, or marriage); **Phy**: physical activity; **Repr**: reproductive or hormonal factors (e.g. parity, age at first/last birth, postmenopausal hormone use, or oral contraceptive use); **Sex**: sex; **Skin**: skin-related factors (e.g. UV light/sun exposure, sunburns, time spent outdoors, sunscreen use, indoor tanning, moles, fair skin, red/blond hair, blue/green eyes, or freckles); **Smo**: smoking. **Abbreviations**: AHEI, Alternative healthy Eating Index; DASH, dietary Approaches to Stop Hypertension; SD, standard deviation; HEI, Healthy Eating Index.[1] Reported association estimates have been converted using the Hamling method for the analyses.

Supplementary Table 12. Descriptive table of the included observational studies of artificially sweetened beverages and cancer incidence and mortality.

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mouth Cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	1,852 / 31,691 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Larynx/oral cavity/pharynx	2+ drinks/day vs never	1.13 (0.94 - 1.37) Ptrend:0.107	✓		✓	✓	✓		✓ *				✓	
		1,852				Per 1 drink day	1.04 (0.99 - 1.09)	✓		✓	✓	✓		✓ *				✓	
Oesophageal cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,727 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Oesophageal cancer	2+ drinks/day vs never	0.92 (0.78 - 1.08) Ptrend:0.155	✓		✓	✓	✓		✓ *				✓	
		2,727				Per 1 drink day	0.99 (0.94 - 1.03)	✓		✓	✓	✓		✓ *				✓	
Stomach cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,727 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Stomach cancer	2+ drinks/day vs never	0.92 (0.78 - 1.08) Ptrend:0.155	✓		✓	✓	✓		✓ *				✓	
		2,727				Per 1 drink day	0.99 (0.94 - 1.03)	✓		✓	✓	✓		✓ *				✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	165 / 35,593 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially sweetened soft drinks	Incidence, Gastric cardia adenocarcinoma	≥1/day vs <1/month serving/month	1.03 (0.53 - 1.98) Ptrend:0.46	✓	✓	✓	✓	✓	✓	✓ *				✓	
		165			Incidence, Gastric cardia adenocarcinoma	Linear model	1.24 (0.70 - 2.18)	✓	✓	✓	✓	✓	✓	✓ *				✓	
Colorectal cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	324 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Small intestinal cancer	2+ drinks/day vs never	1.28 (0.85 - 1.93) Ptrend:0.244	✓		✓	✓	✓		✓ *				✓	
		324				Per 1 drinks day	1.11 (1.00 - 1.22)	✓		✓	✓	✓		✓ *				✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	1,466 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **ASB**: low/non-sugar sugar-sweetened beverages	Incidence, Colorectal cancer	Per 1 SD day	0.99 (0.94 - 1.05)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Wang 2022 USA (38752573)[168]	Nurse's Health Study, Nurse's Health Study II, Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Mainly white	1,922 / 150,907 26 years	self-report, blinded physicians reviewed medical records & pathology report, next of kin, national death index.	Semi-quantitative FFQ **ASB**: Caffeine-free Coke; Coke/Pepsi/Cola; dairy coffee drink; Hawaiian punch; Low-calorie soda, caffeine-free; low-calorie soda, Pepsi, 7-up; other carbon beverage; other low-calorie Cola with caffeine.	Incidence, Colorectal cancer, female	Q5 vs Q1	1.07 (0.91 - 1.25) Ptrend:0.78	✓		✓	✓		✓	✓ E	✓	✓	✓	✓

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
					Female	Per 1 serving/day	1.01 (0.95 - 1.07)	✓		✓	✓		✓	✓ E	✓	✓	✓	✓	
		1,294 / 46,341 26 years			Male	Q5 vs Q1	1.14 (0.95 - 1.38) Ptrend:0.31	✓		✓	✓		✓	✓ E	✓			✓	
					Male	Per 1 serving day	1.06 (0.95 - 1.19)	✓		✓	✓		✓	✓ E	✓			✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	166 / 101,257 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **ASB**: Beverages containing non-nutritive sweeteners, such as diet soft drinks, sugar-free syrups, and diet milk-based beverages.	Incidence, Colorectal cancer	Per 10 ml day	1.06 (0.77 - 1.48)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	1,055 / 35,593 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Colorectal cancer	≥1/day vs <1/month	0.79 (0.60 - 1.06) Ptrend:0.46	✓	✓	✓	✓	✓	✓	✓ *				✓	
		1,055				Linear model	0.91 (0.71 - 1.17)	✓	✓	✓	✓	✓	✓	✓ *				✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	13,752 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Colorectal cancer	2+ drinks/day vs never	0.92 (0.86 - 0.99) Ptrend:0.034	✓		✓	✓	✓		✓ *				✓	
		13,752				Per 1 drinks day	0.99 (0.97 - 1.01)	✓		✓	✓	✓		✓ *				✓	
Mullee 2019 Denmark,France, Germany,Greece ,Italy,Netherlands ,Norway,Spain,S weden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	2,095 / 451,743 16.4 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, **ASB**: Artificially Sweetened Soft Drinks	Mortality, Colorectal cancer	≥1 glass/day vs <1 glass/month	1.22 (0.91 - 1.64) Ptrend:0.21	✓	✓	✓	✓	✓	✓	✓ *		✓	✓	✓	
Hur 2021 USA (33958435)[72]	Nurses' Health Study II Prospective Cohort F nurses	109 / 95,464 24 years	Medical records and National Death Index	Semi-quantitative FFQ, **ASB**: Low-calorie carbonated beverages.	Incidence, Early-onset colorectal cancer	≥2 servings/d vs <1 serving/week	0.83 (0.47 - 1.47) Ptrend:0.24			✓	✓	✓	✓	✓ E *	✓	✓	✓	✓	
		109				Per 1 serving day	0.95 (0.85 - 1.06)			✓	✓	✓	✓	✓ *	✓	✓	✓	✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	842 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **ASB**: low/non-sugar sugar-sweetened beverages	Incidence, Colon cancer	Per 1 SD day	0.98 (0.91 - 1.06)	✓	✓	✓		✓	✓	✓	✓ D			✓	
Malik 2019 USA (30882235)[109]	Nurse's Health Study, Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Mostly white Health professionals	/ 118,363 34 years	Physician confirmation	FFQ, ASB: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages.	Mortality, Colon cancer	≥2/d vs <1 serving/month	1.01 (0.77 - 1.31) Ptrend:0.69	✓		✓	✓	✓	✓	✓ E *			✓	✓	
		/ 118,363 34 years			Mortality, Colon cancer	Per 1 serving day	1.00 (0.91 - 1.07)	✓		✓	✓	✓	✓	✓ E *			✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	359 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **ASB**: low/non-sugar sugar-sweetened beverages	Incidence, Rectal cancer	Per 1 SD day	0.97 (0.86 - 1.10)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Liver cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,722 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Liver cancer	2+ drinks/day vs never	0.95 (0.81 - 1.10) Ptrend:0.578	✓		✓	✓	✓		✓ *				✓	
		2,722			Mortality, Liver cancer	Per 1 drinks day	0.98 (0.94 - 1.02)	✓		✓	✓	✓		✓ *				✓	
Jones 2022 USA (35728406)[79]	NIH-AARP + Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Pooled Analysis Cohorts M/F Mainly white	587 / 506,389	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **ASB**: soda and fruit punch.	Incidence, Liver cancer, no diabetes & <=12 yrs follow-up	Once per day	1.01 (0.92 - 1.11)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 506,389			>12 yrs follow-up	Once per day	0.99 (0.86 – 1.15)	✓	✓	✓	✓	✓		✓ E				✓	
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and Nutrition study cohort Prospective Cohort Mainly white	101 / 477,206 11.4 years	cancer registries	, Semi-quantitative FFQ: Artificially sweetened soft drinks	Incidence, HCC	Per 1 serving wk	1.06 (1.03 - 1.09)			✓	✓	✓	✓	✓ E	D			✓	
Zhao 2024 USA (39226717)[187]	Southern Community Cohort Study Prospective Cohort Range:40-79 years M/F White, black, other	453 / 73,119 13.9 years	National death index and cancer registry	Semi-quantitative FFQ, **ASB**: Diet soda: diet Coke, or other diet drinks.	Incidence, Liver cancer	≥median vs non-consumer	0.83 (0.51 - 1.35) Ptrend:0.36	✓	✓	✓	✓	✓	✓	✓ E	✓ D			✓	
						Once per day	0.98 (0.83 - 1.15)	✓	✓	✓	✓	✓		✓ E				✓	
Zhao 2023 USA (37552302)[186]	Women's Health Initiative Prospective Cohort Range:50-79 years F Mixed Postmenopausal	207 / 98,786 20.9	self-administered questionnaire, verified by pathology reports, physician/discharge, operative/radiology reports, tumour registry.	FFQ, **SSB**: Sugar-sweetened beverages	Incidence, Liver cancer	≥1 serving/day vs never - ≤3 servings/month, adjusted for BMI	1.85 (1.16 - 2.96) Ptrend:0.01	✓		✓	✓	✓	✓	✓ E	D		✓	✓	
						Not adjusted for BMI	1.77 (1.11 - 2.82) Ptrend:0.02	✓		✓	✓		✓	✓ E			✓	✓	
Jones 2022 USA (35728406)[79]		587 / 506,389		Questionnaire, **Artificially sweetened fruit drinks**: diet fruit punch	Incidence, Liver cancer, no diabetes & <=12 yrs follow-up	Once per day	1.06 (0.80 - 1.41)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 506,389			>12 yrs follow-up	Once per day	1.11 (0.74 - 1.65)	✓	✓	✓	✓	✓		✓ E				✓	
Gallbladder cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort	1,024 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Gallbladder cancer	2+ drinks/day vs never	1.15 (0.90 - 1.46) Ptrend:0.105	✓		✓	✓	✓		✓ E *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	M/F Mainly white																		
		1,024				Per 1 drink day	1.05 (0.98 - 1.11)	✓		✓	✓	✓		✓ E *				✓	
Pancreatic cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	9,196 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Pancreas cancer	2+ drinks/day vs never	1.11 (1.02 - 1.20) Ptrend:0.008	✓		✓	✓	✓		✓ E *				✓	
		9,196				Per 1 drink day	1.03 (1.01 - 1.05)	✓		✓	✓	✓		✓ *				✓	
		4,339			Male	Per 1 drink day	1.04 (1.00 - 1.08)	✓		✓	✓	✓		✓ *				✓	
		4,857			Female	Per 1 drink day	1.02 (0.99 - 1.05)	✓		✓	✓	✓		✓ *				✓	
		4,234			Normal weight (BMI 18.5 to <25 kg/m^2)	Per 1 drink day	1.00 (0.97 - 1.04)	✓		✓	✓			✓ *				✓	
		3,625			Overweight (BMI 25 to <30 kg/m^2)	Per 1 drink day	1.05 (1.01 - 1.08)	✓		✓	✓			✓ *				✓	
		1,022			Obese (>= 30 kg/m^2)	Per 1 drink day	1.01 (0.95 - 1.07)	✓		✓	✓			✓ *				✓	
		3,955			Never smokers	Per 1 drink day	1.05 (1.02 - 1.09)	✓			✓	✓		✓ *				✓	
Navarrete-Muñoz 2016 multi-national (27510540)[127]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51 years M/F Mostly white generally healthy adults	686 / 477,199 11.6 years	cancer and pathology registry, active follow up, health insurance record, mortality registry and contact of participants or next-of-kin	Diet Questionnaire, **ASB**: Artificially sweetened beverages.	Incidence / Mortality, Pancreas cancer	>92.2 vs 0.1-2 g/day	1.07 (0.67 - 1.73) Ptrend:0.55	✓	✓	✓	✓		✓	✓ *				✓	
		686				Per 336 g day	1.13 (0.94 - 1.36)	✓	✓	✓	✓		✓	✓ *				✓	
		313			Male	Per 336 g day	0.69 (0.44 - 1.09)	✓	✓	✓	✓		✓	✓ *				✓	
		373			Female	Per 336 g day	1.25 (1.03 - 1.52)	✓	✓	✓	✓		✓	✓ *				✓	
		297			BMI <25 kg/m^2	Per 336 g day	0.83 (0.48 - 1.43)	✓	✓	✓	✓		✓	✓ *				✓	
		389			BMI >=25 kg/m^2	Per 336 g day	1.15 (0.94 - 1.41)	✓	✓	✓	✓		✓	✓ *				✓	
		213			Current smoker	Per 336 g day	1.06 (0.76 - 1.46)	✓	✓		✓		✓	✓ *				✓	
		257			Never smoker	Per 336 g day	0.95 (0.61 - 1.48)	✓	✓		✓		✓	✓ *				✓	
Bao 2008 USA (18689380)[39]	NIH- AARP Diet and Health Study Prospective Cohort Age:62 years M/F	1,014 / 487,922 7.2 years	Cancer registry and national death index	Dietary Recall, **ASB**: Diet soft drinks.	Incidence / Mortality, Pancreatic Adenocarcinoma	Median intake 816.9 vs 0 g/day	1.25 (0.94 - 1.66) Ptrend:0.19	✓	✓	✓	✓	✓	✓	✓ E *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	Mostly white Retired																	
		231			BMI >=30 kg/m^2	Median intake 816.9 vs 0 g/day	0.89 (0.51 - 1.53) Ptrend:0.59	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		423			Current smokers or quit <10yrs ago	Median intake 816.9 vs 0 g/day	0.92 (0.60 - 1.40) Ptrend:0.45	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		775			Never smoker or quit 10+ yrs ago	Median intake 816.9 vs 0 g/day	1.25 (0.92 - 1.71) Ptrend:0.32	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Schernhammer 2005 USA (16172216)[151]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M Not reported Health professionals	174 / 49,364 14 years	Death register/ subject or family	FFQ, **Carbonated ASB**: Carbonated diet soft drinks	Incidence / Mortality, Pancreatic cancer, Male	>3 servings/week <1 servings/month	0.89 (0.60 - 1.33) Ptrend:0.52	✓		✓		✓	✓	✓ E *	D				
		205 / 88,794 20 years			Female	>3 servings/week <1 servings/month	1.12 (0.79 - 1.59) Ptrend:0.64	✓		✓		✓	✓	✓ E *	D				
		119			BMI < 25 kg/m^2	>3 servings/week <1 servings/month	1.02 (0.64 - 1.62) Ptrend:0.93	✓		✓			✓	✓ E *	D				
		83			BMI ≥ 25 kg/m^2	>3 servings/week <1 servings/month	1.32 (0.75 - 2.33) Ptrend:0.62	✓		✓			✓	✓ E *	D				
Schernhammer 2005 USA (16172216)[151]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M Not reported Health professionals	174 / 49,364 14 years	Death register/ subject or family	FFQ, **Artificially sweetened cola**: Diet cola	Incidence / Mortality, Pancreatic cancer, Male	>3 servings/week <1 servings/month	0.85 (0.54 - 1.32) Ptrend:0.38	✓		✓		✓	✓	✓ E *	D				
		205 / 88,794 20 years			Female	>3 servings/week <1 servings/month	0.83 (0.43 - 1.59) Ptrend:0.96	✓		✓		✓	✓	✓ E *	D				
Lung cancer																		
You 2022 USA (36424907)[177]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Range:55-74 years M/F Mainly white	1,517 / 154,897 8.9 years	chest radiography, follow-up, cancer & death registry, physician	FFQ, **No intake**: No intake of soft drinks, soda, and pop	Incidence, Lung cancer	Intake vs no intake	0.79 (0.64 - 0.97)	✓	✓	✓	✓	✓	✓	✓ E				✓	
McCullough 2022 USA (36107009)[113]	Screening Program Cancer Prevention Study II Prospective Cohort M/F Mainly white	34,381 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Lung cancer	2+ drinks/day vs never	0.90 (0.86 - 0.95) Ptrend:<0.0001	✓		✓	✓	✓		✓ *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Malik 2019 USA (30882235)[109]	Health Professionals Follow-up Study + Nurse's Health Study Pooled Analysis Cohorts M/F Mostly white Health professionals	34,381 / 934,777 27.7 years	Physician confirmation	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages.	Mortality, Lung cancer	Per 1 drink day	0.97 (0.96 - 0.99)	✓		✓	✓	✓		✓ *				✓	
		/ 118,363 34 years			Mortality, Lung cancer	≥2/d vs <1serving/month	0.92 (0.77 - 1.09) Ptrend:0.20	✓		✓	✓	✓	✓	✓ E *			✓	✓	
		/ 118,363 34 years			Mortality, Lung cancer	Per 1 serving day	0.98 (0.92 - 1.08)	✓		✓	✓	✓	✓	✓ E *			✓	✓	
Skin cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	2,130 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Melanoma	2+ drinks/day vs never	1.02 (0.86 - 1.22) Ptrend:0.841	✓		✓	✓	✓		✓ *				✓	
		2,130				Per 1 drink day	1.01 (0.96 - 1.06)	✓		✓	✓	✓		✓ *				✓	
Schernhammer 2012 USA (23097267)([145])	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Health professionals	186 / 47,810 22 years	medical records, cancer registries, national death index	Semi-quantitative FFQ, **Carbonated ASB**: Artificially-sweetened soda; Caffeine-free or caffeinated colas and other soda	Incidence, Leukaemia, male	≥1 serving/day vs none	1.47 (0.92 – 2.35) Ptrend:0.13	✓		✓	✓	✓	✓	✓ E *				✓	
		153 / 77,218 22 years			Incidence, Leukaemia, female		1.36 (0.80 – 2.31) Ptrend:0.20	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
		131 / 47,810 22 years			Incidence, multiple Myeloma, male		2.02 (1.20 – 3.40) Ptrend:0.01	✓		✓	✓	✓	✓	✓ E *				✓	
		154 / 77,218 22 years			Incidence, multiple Myeloma, female		0.79 (0.45 – 1.36) Ptrend:0.79	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
		571 / 47,810 22 years			Incidence, Non-Hodgkin Lymphoma, male		1.31 (1.01 – 1.72) Ptrend:0.11	✓		✓	✓	✓	✓	✓ E *				✓	
		753 / 77,218 22 years			Incidence, Non-Hodgkin Lymphoma, female		1.00 (0.78 – 1.26) Ptrend:0.999	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
Breast cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	6,074 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Breast cancer	2+ drinks/day vs never	1.03 (0.94 - 1.13) Ptrend:0.838	✓		✓	✓	✓		✓ *		✓	✓	✓	
		6,074				Per 1 drink day	1.01 (0.98 - 1.04)	✓		✓	✓	✓		✓ *		✓	✓	✓	
Mullee 2019 Denmark,France, Germany,Greece ,Italy,Netherlands	European Prospective Investigation into Cancer and nutrition Prospective Cohort	1,402 / 321,081 16.4 years	active follow up, cancer registry, death certificate	Semi-quantitative FFQ, **ASB**: Artificially Sweetened Soft Drinks	Mortality, Breast cancer	≥1 glass/day vs <1 glass/month	0.85 (0.59 - 1.22) Ptrend:0.38	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
,Norway,Spain,Sweden,UK (31479109)[126]	Age:50.8 years M/F		and National death index																
Malik 2019 USA (30882235)[109]	Nurse's Health Study Prospective Cohort F Mostly white Health professionals	NR / 80,647 34 years	Physician confirmation	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages.	Mortality, Breast cancer	≥ 2/d vs <1 serving/month	1.14 (0.92 - 1.40) Ptrend:0.57	✓		✓	✓	✓	✓	✓ E *			✓	✓	
		NR / 118,363 34 years				Per 1 serving day	1.01 (0.95 - 1.08)	✓		✓	✓	✓	✓	✓ E *			✓	✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurse's Health Study I and II Pooled Analysis Cohorts F Health professionals	7,495 / 82,713 36 years	Medical records and National Death Index	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages	Incidence, Breast cancer, NHS	≥1day vs <1/ serving/month	0.99 (0.92 - 1.07) Ptrend:0.87	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		7,495			Incidence, Breast cancer, NHS	Per 1 serving day	1.00 (0.97 - 1.04)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		3,884 / 93,085 36 years			Incidence, Breast cancer, NHSII	≥1day vs <1 serving/month	0.91 (0.83 - 1.00) Ptrend:0.02	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		3,884			Incidence, Breast cancer, NHSII	Per 1 serving day	0.98 (0.95 - 1.00)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	693 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **ASB**: Beverages containing non-nutritive sweeteners, such as diet soft drinks, sugar-free syrups, and diet milk-based beverages	Incidence, Breast cancer	Per 10 ml day	0.97 (0.84 - 1.12)	✓		✓	✓	✓	✓	✓ E *	D	✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	1,625 / 32,289 18 years	NHS Central Registry	FFQ, **ASB**: Low calorie/diet soft drinks	Incidence, Breast cancer	Per 161 g/day	1.03 (0.88 - 1.21)	✓		✓	✓		✓	✓ E		✓	✓	✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurse's Health Study I and II Pooled Analysis Cohorts F Health professionals	8,140 / 175,798 36 years	Medical records and National Death Index	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages	Incidence, Postmenopausal breast cancer	≥ 1 day vs < 1 serving/month	0.96 (0.90 - 1.03) Ptrend:0.12	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		8,140				Per 1 serving day	0.98 (0.95 - 1.01)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	410 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **ASB**: Beverages containing non-nutritive sweeteners, such as diet soft drinks, sugar-free syrups, and diet milk-based beverages.	Incidence, Postmenopausal breast cancer	Per 10 ml day	0.99 (0.78 - 1.18)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	1,030 / 32,289 18 years	NHS Central Registry	FFQ, **ASB**: Low calorie/diet soft drinks	Incidence, Breast cancer, postmenopausal	Per 161g day	1.03 (0.90 - 1.18)	✓		✓	✓		✓			✓		✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	946 / 21,492 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Postmenopausal breast cancer, Women	≥1 /day vs < 1 serving/month	0.95 (0.73 - 1.25) Ptrend:0.51	✓		✓	✓	✓	✓	✓ *				✓	
		946					0.92 (0.71 - 1.18) Ptrend:0.71	✓		✓	✓	✓	✓	✓ *				✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurse's Health Study I and II Pooled Analysis Cohorts F Health professionals	3,331 / 175,798 36 years	Medical records and National Death Index	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages	Incidence, Premenopausal breast cancer	≥1day vs <1 serving/month	0.90 (0.80 - 1.01) Ptrend:0.20	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		3,331 / 175,798 36 years				Per 1 serving day	0.99 (0.96 - 1.03)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	291 / 32,289 18 years	NHS Central Registry	FFQ, **ASB**: Low calorie/diet soft drinks	Incidence, Breast cancer, premenopausal	Per 161 g/day	1.00 (0.78 - 1.29)	✓		✓	✓		✓			✓		✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	283 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **ASB**: Beverages containing non-nutritive sweeteners, such as diet soft drinks, sugar-free syrups, and diet milk-based beverages.	Incidence, Premenopausal breast cancer	Per 10 ml day	0.95 (0.78 - 1.16)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Romanos-Nanclares 2021 USA (34114021)[145]	Nurse's Health Study I and II Pooled Analysis Cohorts F Health professionals	303 / 175,798 36 years	Medical records and National Death Index	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages	Incidence, Basal-like breast cancer	≥1day vs <1 serving/month	1.04 (0.74 - 1.46) Ptrend:0.79	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		303			Incidence, Basal-like breast cancer	Per 1 serving day	0.97 (0.86 - 1.09)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,693			ER-	≥1day vs <1 serving/month	0.98 (0.85 - 1.14) Ptrend:0.92	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,693				Per 1 serving day	1.01 (0.97 - 1.07)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		7,302			ER+	≥1day vs <1 serving/month	0.97 (0.90 - 1.04) Ptrend:0.18	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		7,302				Per 1 serving day	0.97 (0.94 - 1.00)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		250			HER2 +	≥1day vs <1 serving/month	0.85 (0.58 - 1.26) Ptrend:0.63	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		250				Per 1 serving day	1.03 (0.90 - 1.18)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		2,673			Luminal A	≥1day vs <1 serving/month	0.90 (0.80 - 1.01) Ptrend:0.02	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		2,673				Per 1 serving day	0.94 (0.90 - 0.98)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,147			Luminal B	≥1day vs <1 serving/month	1.12 (0.94 - 1.33) Ptrend:0.19	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
		1,147				Per 1 serving day	1.03 (0.97 - 1.10)	✓			✓	✓	✓	✓ E *	✓	✓	✓	✓	
Ishitani 2008 USA (18852405)[75]	Women's Health Study Prospective Cohort Age:55 years F	1,179 / 38,432 10 years	self-reported/death certificate/ medical records	FFQ, **Artificially sweetened caffeinated cola**: Low-calorie caffeinated cola	Incidence / Mortality, Invasive breast cancer	≥2 vs 0 cans/day	0.88 (0.68 - 1.13) Ptrend:0.16	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
		1,165		**Artificially sweetened decaffeinated cola**: Low-calorie decaffeinated cola			1.30 (0.99 - 1.71) Ptrend:0.25	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Endometrial cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	1,693 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Uterus/Endometrium	2+ drinks/day vs never	1.01 (0.85 - 1.21) Ptrend:0.878	✓		✓	✓	✓		✓ *		✓	✓	✓	
		1,693				Per 1 drinks day	0.99 (0.95 - 1.05)	✓		✓	✓	✓		✓ *		✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	175 / 32,289 18 years	NHS Central Registry	FFQ, **ASB**: Low calorie/diet soft drinks	Incidence, Endometrial Cancer	Per 161 g/day	1.00 (0.60 - 1.66)	✓		✓	✓		✓	✓ E	D	✓	✓	✓	
		86			Postmenopausal	Per 161 g/day	1.27 (1.00 - 1.61)	✓		✓	✓		✓		D	✓		✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	167 / 27,413 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Endometrial Cancer,	≥1/day vs < 1serving/month	0.81 (0.42 - 1.55) Ptrend:0.17	✓		✓	✓	✓	✓	✓ *				✓	
		130				Linear model	0.92 (0.52 - 1.65)	✓		✓	✓	✓	✓	✓ *				✓	
Inoue-Choi 2013 USA (24273064)[74]	Iowa Women's Health Study Prospective Cohort Age:61.6 years F Not reported Postmenopausal	506 / 23,039 24 years	State Health Registry, National Death Index	FFQ, **ASB**: sugar-free beverages	Incidence, type 1 endometrial cancer	2.8-64.1 vs 0 servings/week	0.77 (0.59 - 1.01) Ptrend:0.31	✓		✓	✓	✓	✓	✓	D	✓	✓		
		86			Incidence, Type 2 endometrial cancer	2.8-64.1 vs 0 servings/week	0.89 (0.48 - 1.68) Ptrend:0.95	✓		✓	✓	✓	✓	✓	D	✓	✓		
Ovarian cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort F Mainly white Postmenopausal	3,225 / 518,464 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Ovarian cancer	2+ drinks/day vs never	1.01 (0.89 - 1.15) Ptrend:0.284	✓		✓	✓	✓		✓ *		✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		3,225				Per 1 drink day	1.00 (0.97 - 1.04)	✓		✓	✓	✓		✓ *		✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	251 / 32,289 18 years	NHS Central Registry	FFQ, **ASB**: Low calorie/diet soft drinks	Incidence, Ovarian cancer	Per 161 g/day	1.01 (0.65 - 1.56)	✓		✓	✓		✓	✓ E *		✓	✓	✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	130 / 21,492 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Ovarian cancer	>/=1/day vs <1 serving/month	1.37 (0.72 - 2.61) Ptrend:0.17	✓		✓	✓	✓	✓	✓ *				✓	
		130				Linear model	1.51 (0.84 - 2.73)	✓		✓	✓	✓	✓	✓ *				✓	
Prostate cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	9,381 / 416,313 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Prostate cancer	2+ drinks/day vs never drinks/day	0.98 (0.89 - 1.08) Ptrend:0.258	✓		✓	✓	✓		✓ *				✓	
		9,381				Per 1 drinks day	0.99 (0.96 - 1.02)	✓		✓	✓	✓		✓ *				✓	
Mullee 2019 Denmark,France, Germany,Greece ,Italy,Netherlands ,Norway,Spain,S weden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	907 / 130,662 16.4 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, **ASB**: Artificially Sweetened Soft Drinks	Mortality, Prostate cancer	≥1 glass/day vs <1 glass/month	1.05 (0.64 - 1.75)	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Malik 2019 USA (30882235)[109]	HPFS Prospective Cohort M Mostly white Health professionals	/ 37,716 28 years	Physician confirmation	FFQ, **ASB**: Caffeinated, noncaffeinated, and noncarbonated low-calorie or diet beverages.	Mortality, Prostate cancer	≥2/d vs < 1 serving/month	1.01 (0.67 - 1.52) Ptrend:0.92	✓		✓	✓	✓	✓	✓ E *				✓	
		/ 118,363 28 years				Per 1 serving day	1.02 (0.91-1.14)	✓		✓	✓	✓	✓	✓ E *				✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	291 / 21,533 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **ASB**: Beverages containing non-nutritive sweeteners, such as diet soft drinks, sugar-free syrups, and diet milk-based beverages.	Incidence, Prostate cancer	Per 10 ml day	0.58 (0.28 - 1.18)	✓		✓	✓	✓	✓	✓ E	D			✓	
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	433 / 14,101 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Aggressive prostate cancer	≥1/day vs <1 serving/month	0.81 (0.49 - 1.33) Ptrend:0.66	✓		✓	✓	✓	✓	✓ *				✓	
		433				Linear model	0.91 (0.60 - 1.38)	✓		✓	✓	✓	✓	✓ *				✓	
Kidney cancer																			
Ringel 2023 USA (36601047)[144]	Women's Health Initiative Prospective Cohort Age:66.6 years F Mixed Postmenopausal	327 / 80,388	Physician confirmation	Self-administered Questionnaire, **ASB**:	Incidence, Kidney cancer	>/1d vs Never or <1/wk	1.14 (0.80 - 1.62)	✓		✓		✓		✓				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Hodge 2018 Australia (29463332)[70]	Melbourne Collaborative Cohort Study Prospective Cohort M/F Not reported Excluded participants with diabetes at baseline	146 / 35,593 23 years	cancer registry/death records/National Death Index	Self-administered Questionnaire, **ASB**: Artificially Sweetened Soft Drinks	Incidence, Kidney cancer	≥1/day vs <1 serving/month	0.92 (0.46 - 1.84) Ptrend:0.33	✓	✓	✓	✓	✓	✓	✓ *				✓	
		146				Linear model	1.51 (0.84 - 2.73)	✓	✓	✓	✓	✓	✓	✓ *				✓	
Heath 2021 multi-national (33849969)[66]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	589 / 389,220 15 years	population registries or active follow up	Semi-quantitative FFQ, **ASB**: Diet / artificially sweetened soft drinks	Incidence, Renal cell carcinoma	Per 100 g day	1.02 (0.96 - 1.08)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		265			Mortality, Renal cell carcinoma	Per 100 g day	1.06 (0.99 - 1.14)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		142	population registries or active follow up		Male	Per 100 g day	1.04 (0.93 - 1.15)	✓		✓	✓	✓	✓	✓ E *				✓	
		123			Female	Per 100 g day	1.08 (0.98 - 1.19)	✓		✓	✓	✓	✓	✓ E *				✓	
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,129 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Kidney cancer	2+ drinks/day vs never	0.95 (0.82 - 1.10) Ptrend:0.468	✓		✓	✓	✓		✓ *				✓	
		3,129				Per 1 drink day	0.99 (0.95 - 1.03)	✓		✓	✓	✓		✓ *				✓	
Lee 2006 USA (16775182)[98]	Nurses' Health Study and Health Professionals Follow-up Study Pooled Analysis Cohorts Range:30-75 years M/F	248 / 136,587	Self-report, medical records reviewed by physician, national death index, death report by family members in follow up questionnaires	Validated FFQ, **Carbonated ASB**: artificially sweetened soda	Incidence, Renal cell cancer	Per 1 serving day	0.97 (0.82-1.15)	✓		✓	✓	✓		✓ E	D		✓		
Bladder cancer																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,419 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Bladder cancer	2+ drinks/day vs never	1.02 (0.88 - 1.18) Ptrend:0.922	✓		✓	✓	✓		✓ *				✓	
		3,419 / 934,777 27.7 years				Per 1 drink day	0.99 (0.95 - 1.03)	✓		✓	✓	✓		✓ *				✓	
Ringel 2023 USA (36601047)[144]	Women's Health Initiative Prospective Cohort Age:66.6 years F Mixed Postmenopausal	448 / 80,388	Physician confirmation	Self-administered Questionnaire, **ASB**:	Incidence, Bladder cancer	>/1d vs Never or <1/wk	0.75 (0.53 - 1.06)	✓		✓				✓				✓	
Brain cancer																			

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	3,402 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas	Mortality, Brain cancer	2+ drinks/day vs never	0.97 (0.84 - 1.11) Ptrend:0.737	✓		✓	✓	✓		✓ *				✓	
		3402				Per 1 drink day	0.98 (0.95 - 1.02)	✓		✓	✓	✓		✓ *				✓	
Thyroid cancer																			
Zamora-Ros 2023 multi-national (35907037)[180]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51.1 years M/F	495 / 450,064 13.9 years	Cancer and mortality registries, pathology registries, active follow up, health insurance records	Semi-quantitative FFQ, **ASB**: Diet / artificially sweetened soft drinks.	Incidence, Thyroid cancer	43 - 3389.5 vs 0 ml/day	1.16 (0.80 - 1.69) Ptrend:0.26	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		495				Per 100 ml day	1.00 (0.91 - 1.11)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		469			Incidence, Papillary thyroid cancer	43 - 3389.5 vs 0 ml/day	1.51 (1.04 - 2.19) Ptrend:0.16	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		469				Per 100 ml day	1.05 (0.95 - 1.15)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		86			Incidence, Follicular thyroid cancer	43 - 3389.5 vs 0 ml/day	0.38 (0.11 - 1.30) Ptrend:0.3	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
		86				Per 100 ml day	1.00 (0.91 - 1.11)	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Haematological cancers																			
McCullough 2022 USA (36107009)[113]	Cancer Prevention Study II Prospective Cohort M/F Mainly white	6,319 / 934,777 27.7 years	self-report & death certificates	Questionnaire, **ASB**: Diet soda or diet iced teas.	Mortality, Leukaemia	2+ drinks/day vs never	0.97 (0.87 - 1.07) Ptrend:0.444	✓		✓	✓	✓		✓ *				✓	
		6,319				Per 1 drinks day	0.99 (0.96 - 1.02)	✓		✓	✓	✓		✓ *				✓	
		3,511			Mortality, Multiple Myeloma	2+ drinks/day vs never	1.03 (0.90 - 1.17) Ptrend:0.707	✓		✓	✓	✓		✓ *				✓	
		3,511				Per 1 drinks day	1.02 (0.98 - 1.06)	✓		✓	✓	✓		✓ *				✓	
		6,600			Mortality, Non-Hodgkin Lymphoma	2+ drinks/day vs never	1.01 (0.92 - 1.12) Ptrend:0.870	✓		✓	✓	✓		✓ *				✓	
		6,600				Per 1 drinks day	1.00 (0.98 - 1.03)	✓		✓	✓	✓		✓ *				✓	
Schernhammer 2012 USA (23097267)[150]	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts M/F Not reported Health professionals	186 / 47,810 22 years	medical records, cancer registries, national death index	Semi-quantitative FFQ, **Carbonated ASB**: diet soda	Incidence, Leukaemia, Male	≥1 serving/day vs 0	1.47 (0.92 - 2.35) Ptrend:0.13	✓		✓	✓	✓	✓	✓ E *				✓	
		153 / 77,218			Incidence, Leukaemia, Female	≥1 serving/day vs 0	1.36 (0.80 - 2.31) Ptrend:0.20	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		131 / 47,810			Incidence, Multiple Myeloma, Male	≥1 serving/day vs 0	2.02 (1.20 - 3.40) Ptrend:0.01	✓		✓	✓	✓	✓	✓ E *				✓	
		154 / 77,218			Incidence, Multiple Myeloma, Female	≥1 serving/day vs 0	0.79 (0.45 - 1.36) Ptrend:0.79	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
		571 / 47,810			Incidence, Non-Hodgkin Lymphoma, Male	≥1 serving/day vs 0	1.31 (1.01 - 1.72) Ptrend:0.11	✓		✓	✓	✓	✓	✓ E *				✓	
		753 / 77,218			Incidence, Non-Hodgkin Lymphoma, Female	≥1 serving/day vs 0	1.00 (0.78 - 1.26) Ptrend:0.999	✓		✓	✓	✓	✓	✓ E *		✓	✓	✓	
McCullough 2014 USA (25342696)[114]	Cancer Prevention Study II Prospective Cohort Age:69 years M/F	1,196 / 100,442 10 years	medical records and cancer registries	FFQ, **Carbonated ASB**: Artificially sweetened carbonated beverage	Incidence, Non-Hodgkin Lymphoma	>1 vs 0 cans/week	0.92 (0.73 - 1.17) Ptrend:0.14	✓	✓	✓		✓		✓ E *	D				
		1,196			Incidence, Non-Hodgkin Lymphoma	Per 1 can day	0.99 (0.95-1.03)	✓	✓	✓		✓		✓ E *	D				
Podoltsev 2020 (31904114) [140]	NIH- AARP Diet and Health Study Prospective Cohort Age:62.8 years M/F Mostly white Retired	490 / 490,049 15.5 years	Cancer registries, pathology registries, active follow up, health insurance records	Questionnaire, **Caffeinated diet soft drinks**	Incidence, Myelo-proliferative neoplasms	Yes vs no	1.01 (0.81 – 1.27) Ptrend: 0.98	✓	✓									✓	
		190 / 490,049			Incidence, Polycythemia vera	Yes vs no	0.96 (0.67 – 1.38) Ptrend: 0.82	✓	✓									✓	
		146 / 490,049			Incidence, Essential thrombo-cythemia	Yes vs no	1.01 (0.67 – 1.51) Ptrend: 0.97	✓	✓									✓	
		490 / 490,049		Questionnaire, **Decaffeinated diet soft drinks**	Incidence, Myelo-proliferative neoplasms	Yes vs no	0.95 (0.78 – 1.16) Ptrend: 0.62	✓	✓									✓	
		190 / 490,049			Incidence, Polycythemia vera	Yes vs no	0.91 (0.65 – 1.26) Ptrend: 0.56	✓	✓									✓	
		146 / 490,049			Incidence, Essential thrombo-cythemia	Yes vs no	0.99 (0.69 – 1.42) Ptrend: 0.77	✓	✓									✓	

Age: age; **Alc**: alcohol; **Diet**: dietary factors, energy intake (E), or * adjustment for other soft drinks not under investigation; **Med**: medical-related factors (e.g. infections, diseases in the breast, digestive tract, gallbladder, liver, or pancreas, cancer screening, precancerous conditions, or pre-existing skin cancer) or diabetes (D); **Mens**: menstrual characteristics (e.g. age at menarche, menopausal status/duration, age at menopause, or type of menopause); **Obe**: obesity (adiposity measures); **Oth**: others (e.g. family history/genetic factor, race/ethnicity, ancestry, socioeconomic factors, or marriage); **Phy**: physical activity; **Repr**: reproductive or hormonal factors (e.g. parity, age at first/last birth, postmenopausal hormone use, or oral contraceptive use); **Sex**: sex; **Skin**: skin-related factors (e.g. UV light/sun exposure, sunburns, time spent outdoors, sunscreen use, indoor tanning, moles, fair skin, red/blond hair, blue/green eyes, or freckles); **Smo**: smoking.

Supplementary Table 13. Descriptive table of the included observational studies of juices and cancer incidence and mortality.

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mouth, pharynx, and larynx																			
Freedman 2008 USA (18092323)[59]	NIH- AARP Diet and Health Study Prospective Cohort Prospective Cohort Range:50-71 years M/F	787 / 490,802 4.5 years	Cancer registry	FFQ, **Fruit juices**: orange and grapefruit juice, and other fruit juices and drinks	Incidence, Head and Neck cancer	Median intake 5.8 vs 1.5 serving /day /1000 Calories	0.94 (0.76 - 1.17) Ptrend:0.930	✓	✓	✓	✓	✓	✓	✓ E				✓	
		787 / 490,802 4.5 years				Per serving /1000 Calories	1.03 (0.93 - 1.15)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		319 / 490,802 4.5 years			Incidence, oral cavity cancer	Median intake 5.8 vs 1.5 serving /day /1000 Calories	1.10 (0.78 - 1.53) Ptrend:0.556	✓	✓	✓	✓	✓	✓	✓ E				✓	
		319 / 490,802 4.5 years				Per serving /1000 Calories	1.06 (0.90 - 1.25)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		142 / 490,802 4.5 years			Incidence, Oro-hypopharynx cancer	Median intake 5.8 vs 1.5 serving /day /1000 Calories	1.05 (0.63 - 1.74) Ptrend:0.809	✓	✓	✓	✓	✓	✓	✓ E				✓	
		142 / 490,802 4.5 years				Per serving /1000 Calories	1.12 (0.88 - 1.43)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		279 / 490,802 4.5 years			Incidence, laryngeal cancer	Median intake 5.8 vs 1.5 serving /day /1000 Calories	0.85 (0.59 - 1.22) Ptrend:0.742	✓	✓	✓	✓	✓	✓	✓ E				✓	
		279 / 490,802 4.5 years				Per serving /1000 Calories	1.00 (0.82 - 1.21)	✓	✓	✓	✓	✓	✓	✓ E				✓	
Kjaerheim 1998 Norway (9486469)[90]	Norwegian Men UADT Prospective Cohort M	63 / 10,900 25 years	population survey	FFQ, **Fruit juices**: lemonade	Incidence, mouth, tongue, pharynx, larynx, esophagus	6+ times/month vs < monthly	0.90 (0.50 - 1.60) Ptrend:>0.5	✓		✓	✓								
Oesophageal																			
Freedman 2007 USA (17691111)[58]	NIH- AARP Diet and Health Study Prospective Cohort Age:63 years M/F Mainly white Retired	103 / 490,802 5 years	linkage to state cancer registries	Validated FFQ, **Fruit juices**: orange and grapefruit juice, and other fruit juices and drinks	Incidence, Oesophageal squamous cell carcinoma	1.37 vs 0 servings /day /1000 kcal	0.83 (0.45 - 1.52) Ptrend:0.863	✓	✓	✓	✓	✓	✓	✓ E				✓	
		213 / 490,802 5 years			Incidence, Oesophageal adenocarcinoma		0.85 (0.55 - 1.33) Ptrend:0.766	✓	✓	✓	✓	✓	✓	✓ E				✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	138 / 105,500 15 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fresh fruit juice	Mortality, Oesophageal cancer, male	≥3 vs <1 times/week	0.95 (0.61 - 1.49)	✓											

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		21 / 105,500 15 years			Mortality, Oesophageal cancer, female		0.84 (0.27 - 2.62)	✓										
Stomach																		
Freedman 2008 USA (18166992)[60]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Mainly white Retired	394 / 490,802 4.5 years	linkage with 11 state cancer registry databases	Validated FFQ, **Fruit juices**: orange and grapefruit juice, and other fruit juices and drinks	Incidence, Stomach cancer	Per daily serving /1000 Calories	0.97 (0.83 - 1.13)	✓	✓	✓	✓	✓	✓	✓ E				✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	678 / 105,500 15 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fresh fruit juice in summer season	Mortality, Stomach cancer, male	≥3 vs <1 times/week	1.15 (0.93 - 1.42)	✓										
		327 / 105,500 15 years			Mortality, Stomach cancer, female		1.28 (0.95 - 1.74)	✓										
Botterweck 1998 Netherlands (9801014)[43]	The Netherlands Cohort study Case Cohort Range:55-69 years M/F	282 / 120,852 6.3 years	Cancer registry	FFQ, **Citrus juices**: Orange/grapefruit juice (processed)	Incidence, Stomach cancer	Per 25 g day	0.92 (0.82 - 1.03)	✓	✓	✓				✓				✓	
Khairan 2023 Japan (36167978)[84]	The Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-59 years M/F Japanese	676 / 39,353 16.7 years	medical and population cancer registries, death certificates	Questionnaire & FFQ, **Pure orange juice**	Incidence, Gastric cancer, female	182.9-4621.8 vs 0-64.7 ml/day	1.04 (0.87 - 1.24) Ptrend:0.80	✓		✓	✓	✓	✓	✓ E				✓	
		1,465 / 35,102 16.7 years			Incidence, Gastric cancer, males	265.8-3757.6 vs 0-108.3 ml/day	0.97 (0.86 - 1.10) Ptrend:0.66	✓		✓	✓	✓	✓	✓ E				✓	
Colorectal																		
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	1,466 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **Fruit juices**	Incidence, Colorectal cancer	Per 1 SD day	1.01 (0.96 - 1.06)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Kim 2022 USA (36443779)[87]	The Multiethnic cohort study Prospective Cohort M/F Multi-ethnic	2,582 / 79,952 19.2 years	cancer registries	Quantitative FFQ, **Fruit juices**	Incidence, Colorectal cancer, Male	Per 1 SD	0.96 (0.92 - 1.00)	✓		✓	✓	✓	✓	✓ E	✓			✓	
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort Prospective Cohort Age:55.4 years M/F	68 / 3,184	medical examinations	Semi-quantitative FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice and other juice.	Incidence, Colorectal cancer	>7.0 vs <1.9 serving/week	1.66 (0.88 - 3.12)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Kunzmann 2016 USA (26559156)[93]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Age:63 years M/F Mostly white Screening Program	733 / 57,774 12.1 years	Medical records, pathology reports, National Death Index	FFQ, **Fruit juices**	Incidence, Colorectal cancer	>0.43 vs <0.15 FPED cup equivalents /1000 kcal	0.98 (0.82 - 1.18) Ptrend:0.79	✓	✓	✓	✓	✓		✓ E	✓			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Hur 2021 USA (33958435)[72]	Nurses' Health Study II Prospective Cohort F nurses	109 / 95,464 24 years	Medical records and National Death Index	Semi-quantitative FFQ, **Fruit juices**: Fruit juice included apple juice, orange juice, grapefruit juice, prune juice, and other fruit juices	Incidence, Early-onset colorectal cancer	≥2 servings/day vs <1 serving/week	1.13 (0.15 - 8.60) Ptrend:0.63			✓	✓	✓	✓	✓ *	✓	✓	✓	✓	
						Per 1 serving day	1.17 (0.72 - 1.90)			✓	✓	✓	✓	✓ *	✓	✓	✓	✓	
Jin 2023 UK (38004195)[78]	UK Biobank Prospective Cohort Age:55.87 years M/F Mainly white	842 / 118,210 12.8 years	hospital records, cancer registry, death registry	24 Hour Diet Recall, **Fruit juices**	Incidence, Colon cancer	Per 1 SD day	1.03 (0.97 - 1.11)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
		359 / 118,210 12.8 years			Incidence, Rectal cancer		0.95 (0.85 - 1.06)	✓	✓	✓		✓	✓	✓ E	✓ D			✓	
Voorrips 2000 Netherlands (11117618)[165]	The Netherlands Cohort study Case Cohort Range:55-69 years M/F	313 / 1,525 6.3 years	Cancer registry	Semi-quantitative FFQ, **Citrus juice** Orange / grapefruit juice (processed)	Incidence, Colon cancer, male	Per 25 g day	1.00	✓			✓			✓				✓	
		274 / 1,598			Incidence, Colon cancer, female		0.99	✓			✓			✓				✓	
		201 / 1,525			Incidence, Rectal cancer, male		0.87	✓			✓			✓				✓	
		122 / 1,598			Incidence, Rectal cancer, female		1.07	✓			✓			✓				✓	
		313 / 1,525		Semi-quantitative FFQ, **Other fruit juice**	Incidence, Colon cancer, male	Per 25 g day	1.04	✓			✓			✓				✓	
		274 / 1,598			Incidence, Colon cancer, female		1.00	✓			✓			✓				✓	
		201 / 1,525			Incidence, Rectal cancer, male		0.93	✓			✓			✓				✓	
		122 / 1,598			Incidence, Rectal cancer, female		0.87	✓			✓			✓				✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F	166 / 101,257 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, Pure **fruit juices**: 100% fruit juices	Incidence, Colorectal cancer	Per 100 ml day	1.06 (0.76 - 1.49)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort M/F	247 / 2,633 15 years	Cancer registry and national death index	Self-administered Questionnaire, Pure **fruit juices**:	Incidence, Colorectal cancer	>6.2 vs ≤1.7 cups/week	1.16 (0.81 - 1.67) Ptrend:0.548	✓		✓	✓	✓	✓	✓				✓	
		192 / 2,633 15 years			Incidence, Colon cancer		1.15 (0.76 - 1.73) Ptrend:0.528	✓		✓	✓	✓	✓	✓				✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	190 / 105,500 15 years	municipal resident registration records, death certificates	FFQ, Pure **fruit juices**: fresh fruit juice (in summer season)	Mortality, Colon cancer, male	≥3 vs <1 times/week	1.03 (0.69 - 1.54)	✓											

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		189 / 105,500 15 years			Mortality, Colon cancer, female		0.92 (0.65 - 1.30)	✓											
		150 / 105,500 15 years			Mortality, Rectal cancer, male		0.69 (0.43 - 1.11)	✓											
		72 / 105,500 15 years			Mortality, Rectal cancer, female		0.86 (0.44 - 1.67)	✓											
Papadimitriou 2022 multi-national (33901663)[136]	European Prospective Investigation into Cancer and nutrition, and Netherlands Cohort Study on Diet and Cancer Prospective Cohort M/F	5,069 / 394,288 14.1 years	population-based cancer registries, insurance records, active follow up	FFQ-Semi-quantitative, **Fruit and vegetable juices**	Incidence, Colorectal cancer, EPIC	Per 1 SD day	1.00 (0.96 - 1.03)	✓	✓	✓		✓	✓	✓ E	D			✓	
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	4,403 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **Fruit juices**: Orange or grapefruit juice (not orange drinks or orange soda); tomato or V-8 juice; other fruit juices or fruit drinks.	Incidence, Colorectal cancer	Median intake 108.3 vs 0.1 g/1000 kcal	1.01 (0.91 - 1.11) Ptrend:0.74	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Steinmetz 1994 USA (8296768)[158]	Iowa Women's Health Study Prospective Cohort Age:62 years F 99% white Postmenopausal	212 / 35,216 167447 person-years	Driving license	Semi-quantitative FFQ, **Fruit and vegetable juices**: Apple Juice or cider, Apricot juice, Carrot juice, Celery juice, Grapefruit juice, Mango juice, orange juice, Pineapple juice, Prune juice, Tomato juice, V-8 juice and other fruit juices	Incidence, Colon cancer,	>7.8 vs <1.4 serving/week	1.00 (0.68 - 1.48)	✓						✓ E					
Kanehara 2024 USA (38795743)[81]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Mixed	3,351 / 192,651 19.3 years	cancer registries	Quantitative FFQ, **Fruit juices**: Orange or grapefruit juice (not orange drinks or orange soda); tomato or V-8 juice; other fruit juices or fruit drinks.	Incidence, Colon cancer	Median intake 108.3 vs 0.1 g/1000 kcal	1.08 (0.96 - 1.20) Ptrend:0.36	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
		2,074 / 192,651 19.3 years			Incidence, Proximal colon cancer		1.03 (0.89 - 1.18) Ptrend:0.70	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
		1,173 / 192,651 19.3 years			Incidence, Distal colon cancer		1.24 (1.03 - 1.49) Ptrend:0.12	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
		1,014 / 192,651 19.3 years			Incidence, Rectal cancer		0.79 (0.64 - 0.97) Ptrend:0.02	✓	✓	✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Steinmetz 1994 USA (8296768)[158]	Iowa Women's Health Study Prospective Cohort Age:62 years F 99% white Postmenopausal	86 / 35,216 167447 person-years	Driving license	Semi-quantitative FFQ, **Fruit and vegetable juices**: Apple Juice or cider, Apricot juice, Carrot juice, Celery juice, Grapefruit juice, Mango juice, orange juice, Pineapple juice, Prune juice, Tomato juice, V-8 juice and other fruit juices	Incidence, Proximal colon cancer,	>7.8 vs <1.4 serving/week	0.73 (0.40 - 1.33)	✓						✓ E					
		120 / 35,216			Incidence, Distal colon cancer	>7.8 vs <1.4 serving/week	1.22 (0.71 - 2.10)	✓						✓ E					
Jiang 2023 USA (37637049)[77]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Age:65 years M/F Mostly white	/ 101,680 9.4 years	Medical records + national death index	Self-administered Questionnaire, **Tomato juices**: tomato juice	Incidence, Colorectal cancer	≥ -2.968 vs ≤ -19.516 g/day	1.03 (0.84 - 1.26) Ptrend:0.612	✓	✓	✓	✓	✓		✓ E	✓ D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		/ 101,680 9.4 years				Per g /day	1.02 (0.96 - 1.08)	✓	✓	✓	✓	✓		✓ E	✓ D			✓	
		443 / 101,680 9.4 years			Mortality, Colorectal cancer	≥ -2.968 vs ≤ -19.516 g/day	1.08 (0.79 - 1.47) Ptrend:0.746	✓	✓	✓	✓	✓		✓ E	✓ D			✓	
		443 / 101,680 9.4 years				Per g /day	1.03 (0.94 - 1.13)	✓	✓	✓	✓	✓		✓ E	✓ D			✓	
Liver																			
Kim 2023 USA (37121551)[88]	Multiethnic Cohort Study Prospective Cohort M/F Multi-ethnic	/ 170,321 19.6 years	cancer registry, death certificate and national death index	Quantitative FFQ, **Fruit juices**: fruit juices as a component of the Overall plant-based diet index	Incidence, Hepatocellular carcinoma	Per 1 point increase in the component score of the overall plant-based diet	1.04 (0.99 - 1.10)	✓	✓	✓	✓	✓		✓ E	D			✓	
						Per 1 point increase in the component score of the healthful plant-based diet	0.96 (0.91-1.01)	✓	✓	✓	✓	✓		✓ E	D			✓	
						Per 1 point increase in the component score of the unhealthful plant-based diet	1.04 (0.99-1.09)	✓	✓	✓	✓	✓		✓ E	D			✓	
Zhang 2023 USA (37460062)[183]	Women's Health Initiative Prospective Cohort Age:63.4 years F Mainly white Postmenopausal	176 / 78,356 22.1 years	Self-report adjudicated by physician rv of medical records	Validated FFQ, **Fruit juices**	Incidence, Liver cancer	Per 1 serving day	0.79 (0.60 - 1.04)	✓		✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Jones 2022 USA (35728406)[79]	NIH-AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587 / 553,874	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Citrus juice** Orange / grapefruit juice	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per times /day	0.77 (0.65 - 0.92)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 553,874			Incidence, Liver cancer, no diabetes & >12 yrs follow-up		1.02 (0.82 - 1.27)	✓	✓	✓	✓	✓		✓ E				✓	
Zhao 2023 USA (36811575)[185]	NIH- AARP Diet and Health Study Prospective Cohort M/F Mainly white Retired	947 / 485,403 15.5 years	active follow up and cancer registry	Semi-quantitative FFQ, **Other fruit juice**: all other fruit juices excluding orange/grapefruit juice	Incidence, Liver cancer	Q5 vs Q1	0.97 (0.80 - 1.17) Ptrend:0.99	✓	✓	✓	✓	✓	✓	✓ E	D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Jones 2022 USA (35728406)[79]	NIH-AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	158 / 553,874	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, Other **juices**: Juices excluding citrus and tomato	Incidence, Liver cancer, with diabetes & ≤12 yrs follow-up	Per time day	0.95 (0.56 - 1.61)	✓	✓	✓	✓	✓		✓ E				✓	
		63 / 553,874			Incidence, Liver cancer, with diabetes & >12 yrs follow-up		1.23 (0.69 - 2.20)	✓	✓	✓	✓	✓		✓ E				✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Prospective Cohort Range:40-79 years M/F	412 / 105,500	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juice** Fruit juices in summer season	Mortality, Liver cancer, male	≥3 vs <1 times/week	1.40 (1.05 - 1.85)	✓											
		195 / 105,500			Mortality, Liver cancer, female		0.91 (0.61 - 1.36)	✓											
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	140 / 477,206 11.4 years	cancer registries	Fruit and vegetable **juices**: fruit, citrus and/or vegetable juices (including fresh and commercial juices) and nectars (up to 20% added sugar)	Incidence, HCC	>6 vs <1 glass/week	1.38 (0.80 - 2.38) Ptrend:0.02			✓	✓	✓	✓	✓ E	D			✓	
Jones 2022 USA (35728406)[79]	NIH-AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587 / 553,874	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Vegetable juices**: Tomato/vegetable juice.	Incidence, Liver cancer, no diabetes & ≤12 yrs follow-up	Per time day	1.19 (0.89 - 1.59)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 553,874			Incidence, Liver cancer, no diabetes & >12 yrs follow-up		1.01 (0.58 - 1.77)	✓	✓	✓	✓	✓		✓ E				✓	
Gallbladder/bile ducts																			
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	63 / 105,500 15 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fresh fruit juice in summer season	Mortality, Gallbladder cancer, male	≥3 vs <1 times/week	0.49 (0.21 - 1.18)	✓											
		82 / 105,500 15 years			Mortality, gallbladder cancer, female		1.44 (0.75 - 2.73)	✓											
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	87 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ, **Juices**: fruit, citrus and/or vegetable juices (including fresh and commercial juices) and nectars (up to 20% added sugar)	Incidence, Gallbladder cancer	Per 1 serving week	0.97 (0.91 - 1.04)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	
		54 / 477,206 11.4 years			Incidence, Ampulla of Vater cancer		0.97 (0.88 - 1.08)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	
		95 / 477,206 11.4 years			Incidence, Extrahepatic		1.01 (0.96 - 1.06)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
					bile duct system cancer														
		66 / 477,206 11.4 years			Incidence, Intrahepatic bile duct cancer		1.04 (1.00 - 1.08)			✓	✓	✓	✓	✓ E	D			✓	
Pancreas																			
Bobe 2008 Finland (18349272)[41]	Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study Prospective Cohort Age:57 years M	306 / 27,111 16 years	Cancer registry	, **Fruit juices**: (reference https://doi.org/10.1021/jf00032a015) 100 % tomato juice, orange juice, apple juice and grape juice. Fresh orange juice, lemon juice, grapefruit juice	Incidence, Pancreatic Adenocarcinoma	>121.5 vs 0 g	0.84 (0.60 - 1.17) Ptrend:0.16	✓		✓				✓ E	D				
Vrieling 2009 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (19107929)[167]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Age:51 years M/F	555 / 478,400 8.9 years	cancer registry, record linkage, health insurance rec, pathology and active follow up	Semi-quantitative FFQ, **Fruit juices**: Juices from fresh fruits, hard fruits(apples, pears), stone fruits(peaches, cherries), grapes, berry fruits(strawberries, raspberries), other non-specified fruits(kiwis, bananas)	Incidence, Exocrine cancer of the pancreas	>68 vs 0 g/day	0.79 (0.47 - 1.33) Ptrend:0.12	✓	✓	✓		✓		✓ E	D				
						Per 25 g	0.92 (0.85 - 1.01)	✓	✓	✓		✓		✓ E	D				
Nöthlings 2007 USA (17991664)[131]	Multiethnic Cohort Prospective Cohort Age:60 years M/F Multi-ethnic	434 / 162,150 8 years	Cancer registry and national death index	FFQ, **Fruit juices**	Incidence, Exocrine cancer of the pancreas	≥60 vs <4.7 g/1000 kcal/day	1.08 (0.83 - 1.41) Ptrend:0.56	✓	✓	✓		✓		✓ E				✓	
Zhong 2023 USA (36863825)[188]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort M/F Mostly white	/ 101,748 8.86 years	Annual study update form, medical records, death certificates and family reports.	FFQ, **Fruit juices**: energy adjusted consumption of each food group of plant-based diet index	Incidence, Pancreas cancer	Q4 vs Q1	1.76 (1.29 - 2.40) Ptrend:0.005	✓	✓	✓	✓	✓		✓ *	D			✓	
Shigihara 2014 Japan (24522236)[154]	Ohsaki National Health Insurance (NHI) Cohort Study Prospective Cohort Range:40-79 years	67 / 32,859 11 years	Cancer registry	Self-administered Questionnaire, Pure **fruit juices**: fresh fruit juices	Incidence, Pancreas cancer, male	≥225.3 vs <126.7 g/day	1.34 (0.72 - 2.50) Ptrend:0.33	✓		✓	✓	✓	✓	✓ E	D			✓	
Lin 2006 Japan (17176216)[103]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Age:58 years M/F	300 / 105,438	Death certificate	Dietary Recall, **Pure fruit juices**: Fresh fruit juice	Mortality, Pancreatic cancer, male	Almost every day vs 0 - 2 times/month	0.33 (0.13 - 0.84) Ptrend:0.01	✓		✓								✓	
					Mortality, Pancreatic cancer, female		1.09 (0.62 - 1.90) Ptrend:0.55	✓		✓								✓	
Vrieling 2009 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (19107929)[167]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Age:51 years M/F	555 / 478,400 8.9 years	cancer registry, record linkage, health insurance rec, pathology and active follow up	Semi-quantitative FFQ, **Citrus fruit juice**	Incidence, Exocrine cancer of the pancreas	Per 25 g	0.97 (0.93 - 1.01)	✓	✓	✓		✓		✓ E	D				
							0.94 (0.88 - 1.01) Ptrend:0.10	✓	✓	✓		✓		✓					

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
														E	D				
Yamagiwa 2018 Japan (30255932)[176]	Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-69 years M/F	/ 90,185 16.9 years		FFQ, **Pure apple juice**: 100% apple juice	Incidence, Pancreatic cancer	Median intake 49 vs 0 g/day	0.89 (0.72 - 1.09) Ptrend:0.27	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
				FFQ, **Pure orange juice**: 100% Orange juice			0.94 (0.77 - 1.15) Ptrend:0.616	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Mueller 2010 Singapore (20142243)[125]	Singapore Chinese Health study Prospective Cohort Age:56 years M/F Singapore Chinese	140 / 60,524 10.7 years	Cancer registry and death registry	FFQ, **Fruit and vegetable juices**: orange juice, sugarcane juice, honeydew melon juice, apple juice, watermelon juice, carrot juice, pineapple juice, star fruit juice, lemon juice. Canned grape, tomato, prune , papaya, plum juice and fresh celery juice.	Incidence / Mortality, Pancreatic Adenocarcinoma	≥2 vs <2 servings/week	1.32 (0.75 - 2.30) Ptrend:0.34	✓	✓	✓	✓		✓	✓ E				✓	
Navarrete-Muñoz 2016 multi-national (27510540)[127]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51 years M/F Mostly white generally healthy adults	865 / 477,199 11.6 years	cancer and pathology registry, active follow up, health insurance record, mortality registry and contact of participants or next-of-kin	Semi-quantitative FFQ, **Juices**: Juices (obtained from either 100% fruit and vegetables or concentrates) and nectars (juices with ≤20% added sugar)	Incidence / Mortality, Pancreas cancer	>123.11 vs 0.1 - 8.3 g/day	0.75 (0.56 - 0.98) Ptrend:0.040	✓	✓	✓	✓		✓	✓ *				✓	
						Per 100 g /day	0.91 (0.84 - 0.99)	✓	✓	✓	✓		✓	✓ *				✓	
Yamagiwa 2018 Japan (30255932)[176]	Japan Public Health Center-based Prospective Study Prospective Cohort Range:40-69 years M/F	/ 90,185 16.9 years		FFQ, **Tomatoes juice**: 100% Tomato juice	Incidence, Pancreatic cancer	Median intake 41 vs 0 g/day	0.98 (0.79 - 1.21) Ptrend:0.904	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Lung																			
Ozasa, 2001 Japan (11749690)[134]	Japan Collaborative Cohort Study Prospective Cohort Range:40-70 years M/F	283 / 42,940 7.7 years	Unknown/NA	FFQ - Study-specific, **Fruit juices**:	Mortality, Lung cancer, male	12-16 vs <1-2 times/month	0.90 (0.69 - 1.18)	✓		✓								✓	
		75 / 55,308 7.7 years			Mortality, lung cancer, female		0.95 (0.56 - 1.63)	✓		✓								✓	
Linseisen 2007 France, Italy, Spain, UK, Netherlands, Greece, Germany, Sweden, Denmark, Norway (17487840)[104]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Range:25-70 years M/F	938 / 478,590 6.4 years	cancer registries, health insurance records, pathology rec, active follow up, death certificate	FFQ, Dietary Questionnaires, Food Record, **Citrus fruit juice**:	Incidence, Lung cancer	Mean intake 106.6 vs 12.9 g/da	0.82 (0.65 - 1.03)			✓	✓	✓	✓	✓ E				✓	
						Per 100 g	1.00 (0.87 - 1.14)			✓	✓	✓	✓	✓ E				✓	
Smith-Warner 2003 multi-national (14601062)[155]	Pooling Project (n=8 cohorts) Prospective Cohort M/F	2,839 / 280,419 16 years	Self-report, medical record, cancer registries and death registries	FFQ, **Citrus juice**: Orange & grapefruit juice.	Incidence, Lung cancer	≥1/2 serving/day vs 0 serving/week	0.82 (0.71 - 0.94) Ptrend:0.01			✓	✓	✓		✓ E				✓	
Voorrips, 2000 Netherlands (10710193)[166]	Netherlands Cohort Study on Diet and Cancer Case Cohort	963 / 120,852 3.2 years	Area residency lists	FFQ - Study-specific, Other **fruit juices**: Fruit juices excluding citrus	Incidence, Lung cancer,	20 vs 0 g/day	0.90 (0.70 - 1.20)	✓	✓	✓				✓				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	Range:55-69 years M/F																	
Feskanich, 2000 USA (11078758)[55]	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts Range:30-75 years M/F	519 / 77,283 12 years	By post	FFQ - Study-specific, **Grapefruit juice**: Grapefruit juice	Incidence, Lung cancer, female	Per 30 servings /month	0.61 (0.31 - 1.01)	✓		✓				✓ E					
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	274 / 47,778 12 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fresh fruit juice (in summer season)	Incidence, Lung cancer, male	Per 30 servings/ month		✓		✓				✓ E					
		772 / 105,500 15 years			Mortality, Lung cancer, male	≥3 vs <1 times/week	0.87 (0.72 - 1.07)	✓											
		229 / 105,500 15 years			Mortality, Lung cancer, female		1.01 (0.70 - 1.46)	✓											
Gnagnarella 2013 Italy (23956193)[65]	Continuous Observation of Smoking Subjects Study (COSMOS) Prospective Cohort Age:57 years	178 / 4,336 5.7 years	screening examinations	FFQ, **Fruit and vegetable juices**: Fruit and vegetable juices (no detailed information)	Incidence, Lung cancer	62.46 vs 0 g/1000 kcal/day	0.96 (0.66 - 1.39) Ptrend:0.7452	✓	✓	✓				✓ E					
Linseisen 2007 France, Italy, Spain, UK, Netherlands, Greece, Germany, Sweden, Denmark, Norway (17487840)[104]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Range:25-70 years M/F	1,126 / 478,590 6.4 years	cancer registries, health insurance records, pathology rec, active follow up, death certificate	FFQ, Dietary Questionnaires, Food Record, **Fruit and vegetable juices**: Total juices (juices from fruits, vegetables and citrus fruits) -->fruits: hard fruits (apples, pears) and fruits containing stones -->vegetables: tomato, pepper, courgette, pumpkin, eggplant, French bean, leafy vegetables, root vegetables, cabbages and onions and garlic -->citrus fruits	Incidence, Lung cancer	Mean intake 182.2 vs 21.5 g/day	0.89 (0.72 - 1.10)			✓	✓	✓	✓	✓ E				✓	
						Per 100 g	0.97 (0.88 - 1.07)			✓	✓	✓	✓	✓ E				✓	
Skin																			
Mahamat-Saleh 2020 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (32710289)[107]	European Prospective Investigation into Cancer and nutrition Prospective Cohort M/F	5,604 / 270,112 13.7 years	cancer and mortality registries, health insurance & pathology records, active follow up	Dietary Questionnaire, **Citrus fruit juice**:	Incidence, Basal Cell Carcinoma	Mean intake 117.7 vs 0.01 g/day	1.10 (1.01 - 1.19) Ptrend:0.008	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Melough 2021 USA (32791010)[115]	NIH- AARP Diet and Health Study Prospective Cohort Age:62 years M/F	/ 388,467 15.5 years	cancer registries	FFQ, Citrus **juice**: citrus juice as orange juice or grapefruit juice	Incidence, Cutaneous malignant melanoma	1+ cups/day vs none	1.02 (0.87 - 1.19) Ptrend:0.9	✓	✓	✓	✓	✓	✓					✓	✓
Mahamat-Saleh 2020 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spai	European Prospective Investigation into Cancer and nutrition Prospective Cohort M/F	1,371 / 270,112 13.7 years	cancer and mortality registries, health insurance &	Dietary Questionnaire, **Citrus fruit juice**:	Incidence, Melanoma	Mean intake 117.7 vs 0.01 g/day	0.92 (0.78 - 1.08) Ptrend:0.31	✓	✓	✓	✓	✓	✓	✓ E *				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
n,Sweden,UK (32710289)[107]			pathology records, active follow up																
Marley 2021 UK (33782946)[110]	UK Biobank Prospective Cohort Age:56.2 years M/F White	1592 / 198,964	ICD codes via national registries	24 Hour Recall Frequency Questionnaire, **Citrus fruit juice**: (orange juice, grapefruit juice)	Incidence, Melanoma	>1 serving vs none	1.43 (1.05 - 1.90) Ptrend:0.093		✓	✓	✓	✓	✓	✓ E	✓			✓	✓
Melough 2020 USA (31335211)[116]	Women's Health Initiative Observational Study Prospective Cohort Age:63.4 years F	956 / 56,205 15.7 years	Self-report adjudicated by physician rv of medical records	FFQ, **Citrus fruit juice**:	Incidence, Melanoma	medium serving size 1+ /day vs <1/week	1.13 (0.96 - 1.32) Ptrend:0.11	✓			✓	✓	✓		✓			✓	✓
Marley 2022 UK (34282681)[111]	Postmenopausal UK Biobank Prospective Cohort Range:40-69 years M/F	9,570 / 197,372	national cancer registers	24 Hour Recall Frequency Questionnaire, **Citrus fruit juice**: orange and grapefruit juice	Incidence, non-Melanoma skin cancer	>1 serving vs none	1.01 (0.87 - 1.16) Ptrend:0.74	✓	✓	✓	✓	✓	✓	✓ E				✓	✓
Sakaki 2021 USA (33946526)[148]	Women's Health Initiative Observational Prospective Cohort Age:63 years F White non-Hispanic Postmenopausal	8642 / 49,007 ~25 years	Self-report	FFQ, **Citrus fruit juice**: orange and grapefruit	Incidence, non-Melanoma skin cancer	≥1 serving /day vs <1 serving/week	1.08 (1.02 - 1.13) Ptrend:0.007	✓		✓	✓	✓	✓	✓ E			✓	✓	✓
Mahamat-Saleh 2020 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (32710289)[107]	European Prospective Investigation into Cancer and nutrition Prospective Cohort M/F	8,448 / 270,112 13.7 years	cancer and mortality registries, health insurance & pathology records, active follow up	Dietary Questionnaire, **Citrus fruit juice**:	Incidence, Skin cancer	Mean intake 117.7 vs 0.01 g/day	1.08 (1.02 - 1.16) Ptrend:0.004	✓	✓	✓	✓	✓	✓	✓				✓	
		1,165 / 270,112 13.7 years			Incidence, Squamous cell carcinoma		1.23 (1.05 - 1.44) Ptrend:0.004	✓	✓	✓	✓	✓	✓	✓ E				✓	
Wu 2015 USA (26224304)[170]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort Range:30-75 years M/F Health professionals	9,033 / 41,530 25 years	Self-report verified by medical record	FFQ, **Grapefruit juice**: Grapefruit juice	Incidence, Basal Cell Carcinoma, male	≥3 vs never servings/week	1.02 (0.94 - 1.12) Ptrend:0.85	✓		✓	✓	✓		✓				✓	✓
		11,807 / 63,759 25 years			Incidence, Basal Cell Carcinoma, female		1.02 (0.95 - 1.10) Ptrend:0.86	✓		✓	✓	✓		✓		✓		✓	✓
Marley 2021 UK (33782946)[110]	UK Biobank Prospective Cohort Age:56.2 years M/F White	9,570 / 198,964	ICD codes via national registries	24 Hour Recall Frequency Questionnaire, Grapefruit juice	Incidence, Melanoma	>1 serving vs None	1.96 (0.48 - 5.23) Ptrend:0.6		✓	✓	✓	✓	✓	✓ E	✓			✓	✓
Wu 2015 USA (26124488)[171]	Nurses' Health Study + Health Professionals Follow-up Study Pooled Analysis Cohorts M/F	817 / 41,530	self-report verified by pathology reports and medical records	Validated FFQ, **Grapefruit juice**: Grapefruit juice	Incidence, Melanoma, male	≥ 2 vs never serving/week	1.03 (0.82 - 1.28) Ptrend:0.86	✓		✓	✓	✓	✓	✓ E				✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		1,023 / 63,759			Incidence, melanoma, female		0.96 (0.79 - 1.16) Ptrend:0.58	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	✓
Wu 2015 USA (26224304)[170]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort Range:30-75 years M/F Health professionals	1,540 / 41,530 25 years	Self-report verified by medical record	FFQ, **Grapefruit juice**: Grapefruit juice	Incidence, Squamous cell carcinoma, male	≥3 vs Never servings/week	1.03 (0.84 - 1.27) Ptrend:0.46	✓		✓	✓	✓		✓				✓	✓
		2,004 / 63,759 25 years			Incidence, Squamous cell carcinoma, female		1.17 (0.98 - 1.39) Ptrend:0.71	✓		✓	✓	✓		✓		✓		✓	✓
		2,758 / 105,289 25 years			Incidence, SCC on head, neck and extremities	≥2 vs Never servings/week	1.02 (0.91 - 1.15) Ptrend:0.89	✓		✓	✓	✓		✓		✓		✓	✓
		483 / 105,289 25 years			Incidence, SCC on truncal sites		0.74 (0.54 - 1.02) Ptrend:0.18	✓		✓	✓	✓		✓		✓		✓	✓
		9,033 / 41,530 25 years		FFQ, **Orange juice**:	Incidence, Basal Cell Carcinoma, male	≥1 servings/day vs <1 servings/week	1.09 (1.02 - 1.16) Ptrend:0.002	✓		✓	✓	✓		✓				✓	✓
		11,807 / 63,759 25 years			Incidence, Basal Cell Carcinoma, female		1.16 (1.10 - 1.24) Ptrend:<0.0001	✓		✓	✓	✓		✓		✓		✓	✓
Wu 2015 USA (26124488)[171]	Health Professionals Follow-up Study Pooled Analysis Cohorts M/F	817 / 41,530	self-report verified by pathology reports and medical records	Validated FFQ, **Orange juice**: Orange juice	Incidence, melanoma, male	≥ 2 vs never serving/week	1.25 (1.02 - 1.53) Ptrend:0.04	✓		✓	✓	✓	✓	✓ E				✓	✓
Feskanich, 2003 USA (12778065)[54]	The Nurses' Health Study Cohort Prospective Cohort Range:25-77 years F White	503 / 162,078	self-report verified by pathology reports and medical records	FFQ, **Citrus fruit juice**: Orange juice	Incidence, Melanoma	≥1/day vs Never	1.61 (0.92 - 2.84) Ptrend:0.008	✓				✓		✓ E		✓	✓	✓	✓
Marley 2021 UK (33782946)[110]	UK Biobank Prospective Cohort Age:56.2 years M/F White	1592 / 198,964	ICD codes via national registries	24 Hour Recall Frequency Questionnaire, **Orange juice**:	Incidence, Melanoma	>1 serving vs None	1.54 (1.10 - 2.10) Ptrend:0.021		✓	✓	✓	✓	✓	✓ E	✓			✓	✓
Marley 2022 UK (34282681)[111]	UK Biobank Prospective Cohort Range:40-69 years M/F	9,389 / 197,372	national cancer registers	24 Hour Recall Frequency Questionnaire, **Orange juice**:	Incidence, non-Melanoma skin cancer	>1 serving vs None	1.06 (0.90 - 1.24) Ptrend:0.91	✓	✓	✓	✓	✓	✓	✓ E				✓	✓
Wu 2015 USA (26224304)[170]	Nurses' Health Study + Health Professionals Follow-up Study Prospective Cohort Range:30-75 years M/F Health professionals	1,540 / 41,530 25 years	Self-report verified by medical record	FFQ, **Orange juice**:	Incidence, Squamous cel carcinoma, male	≥1 servings/day vs <1 servings/week	1.15 (0.97 - 1.35) Ptrend:0.26	✓		✓	✓	✓		✓				✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		2,004 / 63,759 25 years			Incidence, Squamous cell carcinoma, female		1.20 (1.03 - 1.39) Ptrend:0.02	✓		✓	✓	✓		✓		✓		✓	✓
		2,758 / 105,289 25 years			Incidence, SCC on head, neck and extremities	≥5 vs <1 servings/week	1.13 (1.01 - 1.26) Ptrend:0.03	✓		✓	✓	✓		✓		✓		✓	✓
		483 / 105,289 25 years			Incidence, SCC on truncal sites		1.02 (0.64 - 1.64) Ptrend:0.73	✓		✓	✓	✓		✓		✓		✓	✓
Breast (female)																			
Masala 2012 Italy (22215387)[112]	European Prospective Investigation into Cancer and nutrition cohort, Italy Prospective Cohort Range:36-64 years F	1,072 / 31,510 11.25 years	Cancer registry	FFQ, **Fruit juices**:	Incidence, Breast cancer	>39 vs <0.8 g/day	1.06 (0.91 - 1.24) Ptrend:0.44			✓	✓	✓	✓	✓ E		✓	✓	✓	
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort Prospective Cohort Age:55.4 years F	124 / 1,689	medical examinations	Semi-quantitative FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice and other juice.	Incidence, Breast cancer	>7 vs <1.5 servings/week	1.03 (0.67 - 1.62)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Sonestedt 2008 Sweden (18711147)[156]	Malmo Diet and Cancer, 1991 Prospective Cohort Range:46-75 years F	544 / 15,773 10.3 years	Cancer registry	7-day Food Record & FFQ, **Fruit juices**:	Incidence, Invasive breast cancer	Median intake 200 vs 0 g/day	1.12 (0.89 - 1.41) Ptrend:0.23	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
Hirvonen 2006 France (16406814)[69]	SU.VI.MAX study, 1994 Prospective Cohort Range:35-60 years F participants of a RCT	95 / 4,396 6.6 years	medical records	24h Recall, **Fruit juices**:	Incidence, Breast cancer,	≥150 vs 0 ml/day	1.29 (0.80 - 2.09) Ptrend:0.32	✓		✓						✓	✓	✓	
Farvid 2019 USA (29978479)[52]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	10,882 / 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Fruit juices**: Apple juice/cider, orange juice, grapefruit juice, other fruit juices, prune juice, tomato juice	Incidence, Invasive breast cancer	>1.5 servings/day vs ≤1 serving/week	1.03 (0.96 - 1.10)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
						Per 2 servings day	1.03 (0.97 - 1.09)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	1,346 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices (during adolescence)	Incidence, Invasive breast cancer	Median intake 2.1 vs 0.1 serving/day	1.02 (0.86 - 1.21) Ptrend:0.85	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving day	1.01 (0.93 - 1.09)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
		3,233 / 90,476 22 years		Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices. (during early adulthood)		Median intake 2 vs 0 serving/day	1.11 (0.99 - 1.25) Ptrend:0.13	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving day	1.04 (0.99 - 1.10)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Farvid 2019 USA (29978479)[52]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	7,563 / 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Fruit juices**: Apple juice/cider, orange juice, grapefruit juice, other fruit juices, prune juice, tomato juice	Incidence, Invasive breast cancer, postmenopausal	>1.5 servings/day vs ≤1 serving/week	1.05 (0.96 - 1.15)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Key 2019 UK (30412247)[83]	Million Women Study Prospective Cohort F Mostly white	23,886 / 691,571 11.9 person-years	UK NHS databases on cancer registrations and deaths	FFQ, **Fruit juices**:	Incidence, Breast cancer, postmenopausal	≥7.0 vs 0-0.99 glasses/week	1.03 (1.01 - 1.06) Ptrend:1.52	✓		✓	✓	✓	✓	✓ E		✓	✓	✓	
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	1,168 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices (during early adulthood)	Incidence, Postmenopausal breast cancer;	Median intake 2 vs 0 serving/day	1.08 (0.89 - 1.30) Ptrend:0.68	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving /day	1.02 (0.93 - 1.11)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
		640 / 90,476 22 years		Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices (during adolescence)		Median intake 2.1 vs 0.1 serving/day	1.02 (0.79 - 1.32) Ptrend:0.44	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving /day	1.04 (0.94 - 1.17)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
Farvid 2019 USA (29978479)[52]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	2,364 / 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Fruit juices**: Apple juice/cider, orange juice, grapefruit juice, other fruit juices, prune juice, tomato juice	Incidence, Invasive breast cancer, premenopausal	>1.5 servings/day vs ≤1 serving/week	1.00 (0.86 - 1.16)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	575 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices (during adolescence)	Incidence, Premenopausal breast cancer;	Median intake 2.2 vs 0.1 serving/day	1.06 (0.80 - 1.41) Ptrend:1.00	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving /day	1.00 (0.89 - 1.12)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
		1,718 / 90,476 22 years		Validated FFQ, **Fruit juices**: apple juice/cider, orange juice, grapefruit juice, other fruit juices (during early adulthood)		Median intake 2.1 vs 0 serving/day	1.12 (0.95 - 1.32) Ptrend:0.21	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
						Per serving /day	1.04 (0.98 - 1.12)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
Fung 2011 USA (21832271)[63]	Nurse's Health Study Prospective Cohort Range:30-55 years F Postmenopausal	827 / 86,621 26 years	self-reported/death certificate/pathology reports	FFQ, **Juices**: Fruit juice	Incidence, Breast cancer ER-	2.9 vs 0.1 serving/day	0.95 (0.76 - 1.19) Ptrend:0.43	✓		✓	✓	✓	✓	✓ E	✓		✓	✓	
Sonestedt 2008 Sweden (18711147)[156]	Malmo Diet and Cancer, 1991 Prospective Cohort Range:46-75 years F	392 / 15,773 10.3 years	Cancer registry	7-day Food Record & FFQ, **Fruit juices**:	Incidence, Breast cancer ERα+	Per 1 category	1.05 (0.97 - 1.14)	✓											

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		58 / 15,773 10.3 years			Incidence, Breast cancer ERα-		1.03 (0.83 - 1.29)	✓											
		182 / 15,773 10.3 years			Incidence, Breast cancer ERβ+		1.08 (0.95 - 1.22)	✓											
		188 / 15,773 10.3 years			Incidence, Breast cancer ERβ-		0.97 (0.65 - 1.43)	✓											
		159 / 15,773 10.3 years			Incidence, Breast cancer ERα+/ERβ+		1.07 (0.94 - 1.22)	✓											
		155 / 15,773 10.3 years			Incidence, Breast cancer ERα+/ERβ-		1.01 (0.88 - 1.15)	✓											
Stolzenberg-Solomon, 2006 USA (16600944)[160]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial , 1993 Prospective Cohort Range:55-74 years F Postmenopausal	91 / 31,411 4.94 years	Cancer screening programme	FFQ, **Citrus fruit juice**: Orange &/or grapefruit juice	Incidence, Breast cancer, non-vitamins users	>180.4 vs 0 and <5.61 g/day	0.86 (0.43 - 1.72) Ptrend:0.79	✓						✓ E			✓	✓
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	3,235 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Grapefruit juice**: Grapefruit juice (Early adulthood)	Incidence, Invasive breast cancer;	Per 2 serving /week	1.01 (0.98 - 1.05)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓
Kim 2008 USA (18026192)[86]	Nurses' Health Study Cohort 1984 Prospective Cohort Range:30-55 years F	4,315 / 77,050	medical records	Semi-quantitative FFQ, **Grapefruit juice**: Grapefruit juice	Incidence, Breast cancer	≥1/2 vs 0 glasses/day	0.95 (0.80 - 1.13) Ptrend:0.52	✓				✓	✓	✓ E	✓	✓	✓	✓
		3,570 / 77,050			Incidence, Breast cancer, postmenopausal		1.02 (0.85 - 1.22) Ptrend:0.95	✓				✓	✓	✓ E	✓	✓	✓	✓
Farvid 2019 USA (29978479)[52]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	10,911 / 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Orange juice**: orange juice	Incidence, Breast cancer	Per 2 servings week	1.01 (1.00 - 1.01)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
					Incidence, Breast cancer ER+		1.00 (0.99 - 1.01)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
					Incidence, Breast cancer ER-		1.01 (0.99 - 1.03)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	3,235 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Orange juice**: Orange juice (Adolescent)	Incidence, Invasive breast cancer;	Per 2 serving week	0.99 (0.96 - 1.01)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓
				Validated FFQ, **Orange juice**: Orange juice (Early adulthood)			1.01 (1.00 - 1.02)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Fung 2013 USA (23532538)[62]	Nurses' Health Study Prospective Cohort Range:30-55 years F Postmenopausal	792 / 75,929 24 years	questionnaire, medical records or pathology reports, death certificate, physician, family member	FFQ, **Orange juice**:	Incidence, Breast cancer ER-	Per 2 servings /week	1.02 (0.98 - 1.07)	✓		✓	✓	✓	✓	✓ E	✓		✓		
Michels 2006 USA (16094624)[121]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts F	582 / 238,378 17 years	Self-report verified by medical record	Semi-quantitative FFQ, **Orange juice**: (at preschool age)	Incidence, Invasive breast cancer	Per 1 serving day	0.85 (0.65 - 1.10)	✓				✓				✓	✓	✓	
Frazier 2003 USA (12631400)[57]	Nurses' Health Study Cohort 1976-1996 Nested Case Control Range:40-65 years F Multi-ethnic Registered nurses	/ 121,700 10 years	Through health org. (screening, health insurance)	FFQ, **Orange juice**: orange juice (adolescent)	Incidence, Breast cancer,	Per 1 glasses day	0.97 (0.82 - 1.14)	✓			✓	✓		✓	✓	✓	✓	✓	
Farvid 2019 USA (29978479)[52]	Nurses' Health Study and Nurses' Health Study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	10,911 / 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Apple juices**: apple juice	Incidence, Breast cancer	Per 2 servings week	1.01 (0.98 - 1.03)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
					Incidence, Breast cancer ER+		0.98 (0.95 - 1.02)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
					Incidence, Breast cancer ER-		0.99 (0.92 - 1.06)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓	
Farvid 2016 USA (27170029)[51]	Nurses' Health study Prospective Cohort Age:36 years F Mostly white nurses	3,235 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Apple juices**: Apple juice (Early adulthood)	Incidence, Invasive breast cancer;	Per 2 serving week	1.01 (0.98 - 1.04)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
				Validated FFQ, **Fruit juices**: Apple juice (Adolescent)			0.99 (0.93 - 1.05)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	870 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **Pure fruit juices**: 100 % fruit juice: orange/grapefruit juice, apple/grape juice and other juices	Incidence, Breast cancer	>6.2 vs ≤1.5 cups/week	1.12 (0.90 - 1.40) Ptrend:0.496	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F women	693 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **Pure fruit juices**: 100% fruit juices	Incidence, Breast cancer	Per 100 ml day	1.15 (0.98 - 1.36)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Age:49 years F	29 / 60,982 15 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fresh fruit juice (in summer season)	Mortality, Breast cancer	≥3 vs <1 times/week	1.41 (0.80 - 2.51)	✓											
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	397 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **Pure fruit juices**:	Incidence, Breast cancer,	>6.2 vs ≤1.5 cups/week	1.23 (0.89 - 1.69) Ptrend:0.573	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				100 % fruit juice: orange/grapefruit juice, apple/grape juice and other juices	postmenopausal														
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F women	410 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **Pure fruit juices**: sugary drinks - 100% fruit juices	Incidence, Postmenopausal breast cancer	Per 100 ml day	1.04 (0.83 - 1.30)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	473 / 2,976 15 years	Cancer registry and national death index	Self-administered Questionnaire, **Pure fruit juices**: 100 % fruit juice: orange/grapefruit juice, apple/grape juice and other juices	Incidence, Breast cancer, premenopausal	>6.2 vs ≤1.5 cups/week	1.04 (0.76 - 1.43) Ptrend:0.685	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F women	283 / 79,724 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **Pure fruit juices**: sugary drinks - 100% fruit juices	Incidence, Premenopausal breast cancer	Per 100 ml day	1.10 (0.86 - 1.41)	✓		✓	✓	✓	✓	✓ E	D	✓	✓	✓
Farvid 2016 USA (27170029)[51]	Nurses' Health study II Prospective Cohort Age:36 years F Mostly white nurses	3,235 / 90,476 22 years	self-report verified by pathology report	Validated FFQ, **Other fruit juices**: Fruit juice excluding citrus and apple juices (Adolescent)	Incidence, Invasive breast cancer;	Per 2 serving week	1.03 (1.00 - 1.05)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓
				Validated FFQ, **Fruit juices**: Fruit juice excluding citrus and apple juices (Early adulthood)			1.01 (0.98 - 1.03)	✓		✓	✓	✓		✓ E	✓	✓	✓	✓
Farvid 2019 USA (29978479)[52]	Nurses' Health study and Nurses' Health study II Pooled Analysis Cohorts Range:27-59 years F Registered nurses	/ 182,145 23.7 years	biennial follow-up questionnaires and medical records	FFQ, **Other fruit juice**: Fruit juice excluding orange and apple juices	Incidence, Breast cancer	Per 2 servings week	0.99 (0.98 - 1.01)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
					Incidence, Breast cancer ER+		0.99 (0.97 - 1.01)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
					Incidence, Breast cancer ER-		1.01 (0.98 - 1.05)	✓		✓	✓	✓	✓	✓ E	✓	✓	✓	✓
van Gils 2005 France, Italy, Spain, UK, Netherlands, Germany, Sweden, Denmark (15644545)[164]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Range:25-70 years	3,659 / 285,526 5.4 years		Diet Questionnaire, **Fruit and vegetable juices**:	Incidence, Breast cancer	>120 vs 0 g/day	1.05 (0.92 - 1.20) Ptrend:0.51			✓	✓	✓	✓	✓ E		✓	✓	
Olsen, 2003 Denmark (12840204)[133]	Diet, Cancer and Health, 1993 Prospective Cohort Age:57 years F Postmenopausal	425 / 23,798 4.7 years	By Mail	FFQ, **Fruit and vegetable juices**:	Incidence, Breast cancer, postmenopausal	Per 100 g day	1.00 (0.87 - 1.16)	✓			✓	✓		✓	✓		✓	✓
		91 / 23,798 4.7 years			Incidence, Breast cancer ER-,		0.67 (0.42 - 1.08)	✓			✓	✓		✓	✓		✓	✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
					postmenopausal														
		303 / 23,798 4.7 years			Incidence, Breast cancer ER+, postmenopausal		1.04 (0.89 - 1.22)	✓			✓	✓		✓	✓		✓	✓
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	1,625 / 32,289 18 years	NHS Central Registry	FFQ, Pure fruit and vegetable **juice**: 99% CI; Orange juice, Other – pure juices (reference PMID **29712719** supplementary)	Incidence, Breast cancer	Per 145 g day	0.94 (0.83 - 1.08)	✓		✓	✓		✓	✓ E		✓	✓	✓
.	.	.	.	.	. Incidence, Breast cancer, postmenopausal	.	.0.99 (0.90 – 1.09)	✓		✓	✓		✓	✓ E		✓	✓	✓
					Incidence, Breast cancer, premenopausal		0.89 (0.72 – 1.10)	✓		✓	✓		✓	✓ E		✓	✓	✓
Sesso 2005 USA (15894655)[153]	Women's Health Study, 1993 Prospective Cohort Health professionals	1,057 / 38,447 9.9 years	Through health org. (screening, health insurance)	FFQ-Semi-quantitative, **Tomato juice**	Incidence, Breast cancer	≥2 serving/wk vs none serving/month	0.81 (0.59 - 1.11) Ptrend:0.37	✓			✓	✓	✓	✓ E		✓	✓	✓
Endometrial																		
Inoue-Choi 2013 USA (24273064)[74]	Iowa Women's Health Study Prospective Cohort Age:61.6 years F Postmenopausal	395 / 23,039 24 years	State Health Registry, National Death Index	FFQ, **Fruit juices**	Incidence, Type 1 endometrial cancer	8.4-63 vs 0-0.6 servings/week	1.16 (0.87 - 1.56) Ptrend:0.14	✓		✓	✓	✓	✓	✓	D	✓	✓	
		86 / 23,039 24 years			Incidence, Type 2 endometrial cancer	8.4-63 vs 0-0.6 servings/week	0.97 (0.50 - 1.88) Ptrend:0.99	✓		✓	✓	✓	✓	✓	D	✓	✓	
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	169 / 2,351 15 years	Cancer registry and national death index	Self-administered Questionnaire, **Pure fruit juices**: 100 % fruit juice: orange/grapefruit juice, apple/grape juice and other juices	Incidence, Endometrial Cancer	>5.6 vs ≤2.5 cups/week	1.50 (1.00 - 1.72) Ptrend:0.048	✓		✓	✓	✓	✓	✓		✓	✓	✓
		125 / 2,351 15 years			Incidence, Type 1 endometrial cancer		1.63 (1.03 - 2.60) Ptrend:0.040	✓		✓	✓	✓	✓	✓		✓	✓	✓
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years F	93 / 60,982 15 years	municipal resident registration records, death certificates	FFQ, **Pure fruit juices**: Fresh fruit juice in summer season	Mortality, Uterine cervical cancer	≥3 vs <1 times/week	0.84 (0.31 - 2.23)	✓										
Merritt 2015 multi-national (25662427)[117]	The European Prospective Investigation into Cancer and Nutrition study and the Nurses Health studies I & II Pooled Analysis Cohorts F	1,303 / 301,107	EPIC: population-based cancer registries, active follow up, mortality data from cancer or mortality registries; NHS/NHS II: questionnaire, medical records, pathology	Semi-quantitative FFQ, **Fruit and vegetable juices**	Incidence, Endometrial Cancer, EPIC	Median intake 148.5 vs 0 g/day	1.07 (0.91 - 1.26) Ptrend:0.35	✓		✓		✓		✓ E		✓	✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
			reports, national death index																
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	86 / 32,289 18 years	NHS Central Registry	FFQ, Pure fruit and vegetable **juice**: 99% CI; Orange juice, Other – pure juices (reference PMID **29712719** supplementary)	Incidence, Endometrial Cancer	Per 145 g day	0.89 (0.60 - 1.33)	✓		✓	✓		✓	✓ E	D	✓	✓	✓
Ovary																		
Koushik 2005 (16172226)[91]	Pooling Project (n=12 cohorts) Pooled Analysis Cohorts Range:27-93 years F	2,095 / 560,441 22 years	Self-report, medical record, cancer registries and death registries	Self-administered Questionnaire, **Fruit juices**	Incidence, Epithelial ovarian cancer	Per 190 g day	0.99 (0.92 - 1.06)	✓		✓		✓	✓	✓ E		✓	✓	
Sakauchi 2007 Japan (17571946)[149]	JACC Japan Prospective Cohort Range:40-79 years F	44 / 64,327 13.3 years	Death certificates from local public health centres in the study areas	Self-administered Questionnaire, **Fruit juices**:	Mortality, Ovarian cancer	≥3-4 times/week vs seldom	0.93 (0.39 - 2.22) Ptrend:0.95	✓				✓	✓			✓	✓	✓
Arthur 2021 Canada (33220638)[38]	Canadian Study of Diet, Lifestyle and Health Case Cohort F	98 / 2,554 15 years	Cancer registry and national death index	Self-administered Questionnaire, **Pure fruit juices**: 100 % fruit juice: orange/grapefruit juice, apple/grape juice and other juices	Incidence, Ovarian cancer	>5.6 vs ≤2.4 cups/week	1.48 (0.87 - 2.54) Ptrend:0.145	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
		72 / 2,554 15 years			Incidence, Epithelial ovarian cancer		1.32 (0.70 - 2.49) Ptrend:0.352	✓		✓	✓	✓	✓	✓		✓	✓	✓
Mommers, 2005 Netherlands (16104037)[124]	The Netherlands Cohort study Case Cohort F	/ 62,573 11.3 years	By post	Semi-quantitative FFQ, **Other fruit juices**: other fruit juice (juices from grapes, bananas, apples, pears, strawberries) excluding citrus juice	Incidence, Invasive epithelial ovarian cancer	Per 25 g /day	1.08 (0.98 - 1.18)	✓		✓				✓			✓	
Merritt 2016 multi-national (26607939)[118]	European Prospective Investigation into Cancer and Nutrition study and the Netherlands Cohort study Pooled Analysis Cohorts F	1,095 / 325,004	population cancer registries or active follow up	Semi-quantitative FFQ, **Fruit and vegetable juices**	Incidence, Epithelial ovarian cancer	Median intake 149.4 vs 0 g/day	1.06 (0.89 - 1.27) Ptrend:0.94							✓ E		✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	251 / 32,289 18 years	NHS Central Registry	FFQ, ~Pure fruit and vegetable **juice**: 99% CI; Orange juice, Other – pure juices (reference PMID **29712719** supplementary)	Incidence, Ovarian cancer	Per 145 g day	0.94 (0.68 - 1.31)	✓		✓	✓		✓	✓ E		✓	✓	✓
Prostate																		
Lan 2021 USA (34383904)[94]	NIH- AARP Diet and Health Study Prospective Cohort Age:61.8 years M adolescents	760 / 150,671 1729896 person-years	State Health Registry, National Death Index	FFQ, **Fruit juices**:	Mortality, Prostate cancer	≥ 3 times/week vs ≤ 11 times/year	0.80 (0.66 - 0.98) Ptrend:0.025	✓		✓	✓	✓	✓	✓ E	✓ D			✓
		/ 150,671 1729896 person-years			Incidence, Prostate cancer		1.04 (1.00 - 1.09) Ptrend:0.04	✓		✓	✓	✓	✓	✓ E	✓ D			✓
Makarem 2018 USA (29674390)[108]	Framingham Offspring Cohort, Prospective Cohort Range:26-84 years M/F men	157 / 3,184	cancer registry and pathology reports	FFQ, **Fruit juices**: Includes apple juice/cider, orange juice, grapefruit juice and other juice Additional adjustment for BMI, waist circumference, chronic diseases (CVD	Incidence, Prostate cancer	>7 vs <2 serving/week	1.58 (1.04 - 2.41)	✓		✓				✓ E				

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments											
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				and diabetes), education, physical activity, antioxidant use, percentage energy from fat and fruit and vegetable intake did not alter these findings															
Stram 2006 USA (17006725)[161]	Hawaii-Los Angeles Multiethnic Cohort Study Prospective Cohort Range:45-75 years M Multi-ethnic	3,922 / 82,486 8 years	SEER registry and death files	FFQ, **Fruit juices**: Fruit juice alone (orange/grapefruit juice, other juice)	Incidence / Mortality, Total prostate cancer	64.8 vs - 2.5 g/1000 kcal	1.09 (0.98 - 1.20) Ptrend:0.107	✓				✓							✓
Drake 2012 Sweden (23134882)[47]	Malmo Diet and Cancer, 1991 Prospective Cohort Range:45-73 years M	549 / 8,128 15	linkage of personal identification numbers with the Swedish Cancer Register	FFQ, **Fruit juices**:	Incidence, Prostate cancer	200 vs 0 g/day	0.99 (0.81 - 1.22) Ptrend:0.625	✓		✓	✓	✓	✓	✓ E					✓
					Incidence, Low-risk prostate cancer		1.12 (0.87 - 1.44) Ptrend:0.532	✓		✓	✓	✓	✓	✓ E					✓
					Incidence, High-risk prostate cancer		0.75 (0.52 - 1.09) Ptrend:0.067	✓		✓	✓	✓	✓	✓ E					✓
					Incidence, Symptomatic prostate cancer		1.14 (0.85 - 1.52) Ptrend:0.784	✓		✓	✓	✓	✓	✓ E					✓
Kirsh 2007 USA (17652276)[89]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Range:55-74 years Mostly white M	1,338 / 29,361 4.2 years	death certificate, patient records, follow-up visits, pathology reports	FFQ, **Fruit juices**: apple, orange, or other	Incidence / Mortality, Total prostate cancer	Median intake 3.4 vs 0.1 servings/day	1.23 (1.02 - 1.48) Ptrend:0.08	✓		✓		✓	✓	✓ E	✓ D				✓
					Incidence / Mortality, Aggressive prostate cancer		1.29 (0.95 - 1.76) Ptrend:0.49	✓		✓		✓	✓	✓ E	✓ D				✓
					Incidence / Mortality, Extraprostatic prostate cancer		1.32 (0.79 - 2.21) Ptrend:0.39	✓		✓		✓	✓	✓ E	✓ D				✓
Stram 2006 USA (17006725)[161]	Hawaii-Los Angeles Multiethnic Cohort Study Prospective Cohort Range:45-75 years M Multi-ethnic	666 / 82,486 8 years	SEER registry and death files	FFQ, **Fruit juices**: Fruit juice alone (orange/grapefruit juice, other juice)	Incidence / Mortality, High grade disease	64.8 vs - 2.5 g/1000 kcal	1.03 (0.87 - 1.21) Ptrend:0.321	✓				✓							✓
Lan 2021 USA (34383904)[94]	NIH- AARP Diet and Health Study Prospective Cohort Age:61.8 years adolescents	14,238 / 150,671 1729896 person-years	State Health Registry, National Death Index	, **Fruit juices**:	Incidence, Nonadvanced prostate cancer	≥ 3 times/week vs ≤ 11 times/year	1.07 (1.02 - 1.12) Ptrend:0.002	✓		✓	✓	✓	✓	✓ E	✓ D				✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		5,913 / 150,671 1729896 person-years			Incidence, Advanced prostate cancer		0.89 (0.79 - 1.00) Ptrend:0.019	✓		✓	✓	✓	✓	✓ E	✓ D			✓	
Chazelas 2019 France (31292122)[44]	NutriNet-Santé study Prospective Cohort Age:42.2 years M/F men	291 / 21,533 5.1 years	self-report, medical records reviewed by physicians, health insurance database, mortality registry	24 Hour Diet Recall, **Pure fruit juices**: sugary drinks - 100% fruit juices	Incidence, Prostate cancer	Per 100 ml day	0.98 (0.78 - 1.22)	✓		✓	✓	✓	✓	✓ E	D			✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	152 / 44,518 15 years	municipal resident registration records, death certificates	FFQ, **Pure fruit juices**: fresh fruit juice (in summer season)	Mortality, Prostate cancer	≥3 vs <1 times/week	1.01 (0.63 - 1.61)	✓											
Petimar 2017 multi-national (28446545)[139]	Pooling Project (n=15 cohorts) Pooled Analysis Cohorts Range:18-97 years M Mixed	52,680 / 842,149 22 years	various (follow up questionnaires, medical records, cancer registries and/or biopsy)	FFQ, **Fruit and vegetable juices**:	Incidence, Prostate cancer	≥250 vs <25 g/day	1.03 (0.99 - 1.07) Ptrend:0.26	✓		✓	✓	✓	✓	✓ E	D			✓	
		38,475			Incidence, Localised prostate cancer		1.03 (0.99 - 1.06) Ptrend:0.08	✓		✓	✓	✓	✓	✓ E	D			✓	
		4,934			Incidence, Advanced prostate cancer		1.09 (0.95 - 1.25) Ptrend:0.31	✓		✓	✓	✓	✓	✓ E	D			✓	
		3,115			Incidence, Advanced restricted prostate cancer		1.14 (0.97 - 1.33) Ptrend:0.06	✓		✓	✓	✓	✓	✓ E	D			✓	
		37,556			Incidence, Low grade prostate cancer		1.01 (0.96 - 1.05) Ptrend:0.75	✓		✓	✓	✓	✓	✓ E	D			✓	
		9,753			Incidence, High grade prostate cancer		1.08 (0.96 - 1.22) Ptrend:0.88	✓		✓	✓	✓	✓	✓ E	D			✓	
		3,205			Mortality, Prostate cancer		1.01 (0.86 - 1.19) Ptrend:0.75	✓		✓	✓	✓	✓	✓ E	D			✓	
		52,680 / 842,149 22 years		FFQ, **Vegetable juices**:	Incidence, Prostate cancer	Per 237 g day	1.02 (1.00 – 1.05)	✓		✓	✓	✓	✓	✓ E	D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		38,475			Incidence, Localised prostate cancer		1.01 (1.00 – 1.030	✓		✓	✓	✓	✓	✓ E	D			✓	
		4,934			Incidence, Advanced prostate cancer		1.03 (0.98 – 1.09)	✓		✓	✓	✓	✓	✓ E	D			✓	
		3,115			Incidence, Advanced restricted prostate cancer		1.05 (0.94 – 1.17)	✓		✓	✓	✓	✓	✓ E	D			✓	
		37,556			Incidence, Low grade prostate cancer		1.00 (0.98 – 1.01)	✓		✓	✓	✓	✓	✓ E	D			✓	
		9,753			Incidence, High grade prostate cancer		1.02 (0.98 – 1.05)	✓		✓	✓	✓	✓	✓ E	D			✓	
		3,205			Mortality, Prostate cancer		1.03 (0.93 – 1.14)	✓		✓	✓	✓	✓	✓ E	D			✓	
		52,680 / 842,149 22 years		FFQ, **Citrus juices**:	Incidence, Prostate cancer	Per 186 g day	1.01 (1.00 – 1.02)	✓		✓	✓	✓	✓	✓ E	D			✓	
		38,475			Incidence, Localised prostate cancer		1.02 (1.01 – 1.04)	✓		✓	✓	✓	✓	✓ E	D			✓	
		4,934			Incidence, Advanced prostate cancer		1.00 (0.94 – 1.06)	✓		✓	✓	✓	✓	✓ E	D			✓	
		3,115			Incidence, Advanced restricted prostate cancer		1.05 (0.98 – 1.13)	✓		✓	✓	✓	✓	✓ E	D			✓	
		37,556			Incidence, Low grade prostate cancer		1.00 (0.99 – 1.02)	✓		✓	✓	✓	✓	✓ E	D			✓	
		9,753			Incidence, High grade prostate cancer		1.01 (0.98 – 1.04)	✓		✓	✓	✓	✓	✓ E	D			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		3,205			Mortality, Prostate cancer		0.98 (0.91 – 1.06)	✓		✓	✓	✓	✓	✓ E	D			✓	
Fraser 2020 USA (32100191)[56]	Adventist Health Study 2 Prospective Cohort Range:30-104 years M	1,226 / 27,934 7.9 years	biennial follow-up questionnaires, cancer registry records, medical records or death certificate data	FFQ, **Tomatoes juice**: Tomato-based vegetable juice	Incidence, prostate cancer	5-6/week vs never/rarely	0.88 (0.56 - 1.38) Ptrend:0.36			✓				✓ E	✓			✓	
Schuurman, 1998 Netherlands (9718219)[152]	The Netherlands Cohort study Case Cohort Range:55-69 years M	610 / 58,279 6.3 years	municipal population registries	FFQ, **Tomatoes juice**:	Incidence, prostate cancer	Per 25 g day	1.12 (0.96 - 1.29)	✓						✓				✓	
Kidney																			
Allen 2011 UK (21407222)[36]	The Million Women Study, 1996 Prospective Cohort Range:50-64 years F	588 / 779,369 5.2 years	National Health Service central registers	FFQ, **Fruit juices**	Incidence, Renal cell carcinoma	≥2 vs 0 or<1 drinks/day	1.01 (0.76 - 1.36)			✓		✓						✓	
						Per 1 drinks day	0.96 (0.84 - 1.08)			✓		✓						✓	
Lee 2006 USA (16775182)[98]	Nurses' Health Study and Health Professionals Follow-up Study Pooled Analysis Cohorts Range:30-75 years M/F	248 / 136,587	Self-report, medical records reviewed by physician, national death index, death report by family members in follow up questionnaires	Validated FFQ, **Fruit juices**:	Incidence, Renal cell cancer	Per 1 serving day	1.06 (0.88 - 1.28)	✓		✓	✓	✓		✓ E	D		✓		
Rashidkhani, 2005 Sweden (15455348)[142]	Swedish Mammography Cohort Prospective Cohort Range:40-76 years F	122 / 61,000 13.4 years	Health screening program	FFQ, **Fruit juices**:	Incidence, Renal cell adenocarcinoma	≥2–3 vs 0 servings/week	1.46 (0.94 - 2.26) Ptrend:0.26	✓				✓							
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Prospective Cohort Range:40-79 years Mixed	41 / 105,500 15 years	municipal resident registration records, death certificates	Validated FFQ, **Pure fruit juices**: Fruit / fresh juices in summer season	Mortality, Kidney cancer, male	≥3 vs <1 times/week	0.87 (0.36 - 2.12)	✓											
		15 / 105,500 15 years			Mortality, Kidney cancer, female		2.01 (0.39 - 10.30)	✓											
Lee 2007 (17583573)[26]	Pooling Project (n=13 cohorts) Pooled Analysis Cohorts M/F mainly Caucasian	769 / 244,483 20 years	Self-report, medical record, cancer registries and death registries	FFQ and dietary history, **Fruit and vegetable juices**:	Incidence, Renal cancer, male	≥1serving (186 g) /day vs non-drinker	1.09 (0.68 - 1.74) Ptrend:0.40	✓		✓	✓	✓		✓ E					
						Per 1 serving /day	1.09 (0.94 - 1.25)	✓		✓	✓	✓		✓ E					
		709 / 530,469 20 years			Incidence, Renal cancer, female	≥1serving (186g) /day vs non-drinker	1.09 (0.78 - 1.53) Ptrend:0.68	✓		✓	✓	✓		✓ E			✓		
						Per 1 serving day	1.00 (0.89 - 1.13)	✓		✓	✓	✓		✓ E			✓		

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Heath 2021 multi-national (33849969[66]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	888 / 389,220 15 years	population registries or active follow up	Diet Questionnaire, **Fruit and vegetable juices**: fruit and vegetable juices and nectars	Incidence, Renal cell carcinoma	Per 100 g day	1.03 (0.97 - 1.09)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		356 / 389,220 15 years			Mortality, Renal cell carcinoma		1.06 (0.97 - 1.16)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
		198			Mortality, renal cell carcinoma, male		0.93 (0.79 - 1.09)	✓		✓	✓	✓	✓	✓ E *				✓	
		158			Mortality, renal cell carcinoma, female		1.17 (1.05 - 1.29)	✓		✓	✓	✓	✓	✓ E *				✓	
Bladder																			
Park 2013 USA (23739308)[138]	Multiethnic Cohort Prospective Cohort Range:45-75 years M/F Multi-ethnic	429 / 83,694 12.5 years	cancer registry/death records/National Death Index	FFQ, **Fruit juices**	Incidence, Invasive bladder cancer, male	≥59.7 vs <4.7 g/1000 kcal /day	0.94 (0.72 - 1.24) Ptrend:0.67	✓		✓				✓ E				✓	
		152 / 102,191 12.5 years			Incidence, Invasive bladder cancer, female		0.81 (0.51 - 1.30) Ptrend:0.14	✓		✓				✓ E				✓	
Iso 2007 Japan (18260705)[76]	Japan Collaborative Cohort study for Evaluation of Cancer Risk Prospective Cohort Range:40-79 years M/F	81 / 105,500 15 years	municipal resident registration records, death certificates	FFQ, **Pure fruit juices**: Fresh fruit juice in summer season	Mortality, Urothelial cancer, male	≥3 vs <1 times/week	0.44 (0.21 - 0.90)	✓											
		38 / 105,500 15 years			Mortality, Urothelial cancer, female		0.42 (0.15 - 1.17)	✓											
Michaud, 1999 USA (10203279)[120]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M	/ 47,909	Ongoing or prior study and convenience sampling	FFQ, **Fruit juices**: apple or cider	Incidence / Mortality, bladder cancer		Not significant	✓						✓ E				✓	
Zeegers, 2001 Netherlands (11700259)[181]	The Netherlands Cohort study Nested Case Control Range:55-69 years M/F	/ 120,852 6.3 years	Population registry	FFQ, **Citrus fruit juice**: orange/grapefruit juice	Incidence, Cancer of bladder, urethra, renal pelvis, ureter,	Per 25 g day	1.00 (0.93 - 1.08)	✓	✓	✓				✓					
Michaud, 1999 USA (10203279)[120]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M	/ 47,909	Ongoing or prior study and convenience sampling	FFQ, **Orange juice**: orange	Incidence / Mortality, Bladder cancer		Not significant	✓						✓ E				✓	
				FFQ, **Grapefruit juice**: grapefruit juice			Not significant	✓						✓ E				✓	
				FFQ, **Other fruit juices**: Fruit juices excluding citrus and apple juices			Not significant	✓						✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mills, 1991 USA (2000840)[123]	Adventist Health Study Prospective Cohort M/F non-Hispanic white Seventh-day Adventists	46 / 34,198	Census	FFQ, **Sweetened fruit juice**: Sweetened real fruit juice	Incidence, Bladder cancer	≥1 vs Never times/week	0.31 (0.09 - 1.00) Ptrend:0.02	✓	✓	✓									
Ros 2011 multi-national (20715171)[147]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Range:25-70 years M/F	513 / 233,236 9.3 years	cancer registries, health insurance records, pathology rec & active follow up	Validated FFQ, **Fruit and vegetable juices**	Incidence, Urothelial cancer	(≥79 women; ≥72 men) vs <8 ml/day	1.32 (1.05 - 1.66) Ptrend:0.02	✓	✓	✓				✓ E					
						Per 100 ml day	1.10 (1.04 - 1.17)	✓	✓	✓				✓ E					
		210 / 233,236 9.3 years			Incidence, High-risk urothelial cell carcinomas	(≥79 women; ≥72 men) vs <8 ml/day	1.21 (0.85 - 1.71) Ptrend:0.22	✓	✓	✓				✓ E					
						Per 100 ml day	1.07 (0.98 - 1.17)	✓	✓	✓				✓ E					
		271 / 233,236 9.3 years			Incidence, Low-risk urothelial cell carcinomas	(≥79 women; ≥72 men) vs <8 ml/day	1.53 (1.12 - 2.09) Ptrend:0.01	✓	✓	✓				✓ E					
						Per 100 ml day	1.19 (1.06 - 1.34)	✓	✓	✓				✓ E					
Michaud, 1999 USA (10203279)[120]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M	/ 47,909	Ongoing or prior study and convenience sampling	FFQ, **Tomatoes juice**:	Incidence / Mortality, bladder cancer		Not significant	✓						✓ E				✓	
Xu 2021 USA (34244460)[175]	Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Prospective Cohort Range:55-74 years M/F	774 / 101,683 12.5 years	Questionnaire, medical + death records	Dietary History Questionnaire, **Tomatoes juice**:	Incidence, bladder cancer	≥18.54 vs 0 g/day	1.04 (0.83 - 1.29) Ptrend:0.773	✓	✓	✓	✓	✓		✓ E				✓	
						Per 1 SD day	0.99 (0.92 - 1.07)	✓	✓	✓	✓	✓		✓ E				✓	
Brain and Spinal cord																			
Kuan 2019 multi-national (30690490)[92]	Million Women Study + NIH-AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Pooled Analysis Cohorts Age:60.6 years M/F	969 / 692,176 15.4 million person-years	cancer registry + admission records	24h Recall + FFQ-Semi-quantitative, **Fruit juices**:	Incidence, Glioma, Million Women Study	Per 100 g	1.00 (0.81 - 1.25)			✓	✓	✓	✓				✓	✓	
		690 / 277,906 15.4 million person-years			Incidence, Glioma, NIH-AARP,male		0.98 (0.94 - 1.02)	✓		✓	✓	✓	✓					✓	
		315 / 192,874 15.4 million person-years			Incidence, Glioma, NIH-AARP, female		1.02 (0.95 - 1.09)	✓		✓	✓	✓	✓				✓	✓	
		82 / 47,196 15.4 million			Incidence, Glioma, PLCO		1.07 (0.95 - 1.21)	✓		✓	✓	✓						✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments											
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		person-years			male														
		53 / 51,952 15.4 million person-years			Incidence, Glioma, PLCO female		0.98 (0.79 - 1.21)	✓		✓	✓	✓					✓	✓	
		728 / 1,262,104 15.4 million person-years			Incidence, Glioma, <5 years of follow-up		0.96 (0.90 - 1.02)	✓	✓	✓	✓	✓	✓				✓	✓	
		1,381 / 1,262,104 15.4 million person-years			Incidence, Glioma, ≥5 years of follow-up		1.02 (0.98 - 1.06)	✓	✓	✓	✓	✓	✓				✓	✓	
Thyroid																			
Xiao 2014 USA (24686895)[174]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Mostly white	586 / 491,840 9 years	Cancer registry and national death index	FFQ, **Citrus juice;** Orange / grapefruit juice	Incidence, Thyroid cancer	Median intake 0.51 - 7.26 vs 0 - 0.02 serving /day /1000 calories	1.55 (1.18 - 2.03) Ptrend:0.004		✓	✓	✓	✓		✓ E	✓			✓	
		170 / 491,840 9 years			Incidence, Papillary thyroid cancer, male		1.39 (0.86 - 2.27) Ptrend:0.33		✓	✓	✓	✓		✓ E	✓			✓	
		247 / 491,840 9 years			Incidence, Papillary thyroid cancer, female		1.79 (1.17 - 2.75) Ptrend:0.01		✓	✓	✓	✓		✓ E	✓			✓	
Zamora-Ros 2017 France, Italy, Spain, UK, Netherlands, Greece, Germany, Sweden, Denmark (28688112)[179]	European Prospective Investigation into Cancer and Nutrition study Prospective Cohort Range:35-70 years M/F European origin	748 / 476,108 14 years	cancer and mortality registries, health insurance & pathology records, active follow up	Questionnaire And FFQ, **Fruit juices**: citrus fruit juices, non-citrus fruit juices, vegetable juices and fruit nectars	Incidence, Thyroid cancer, differentiated	>94 vs <1 g/day	1.23 (0.98 - 1.53) Ptrend:0.06	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 50 g /day	1.02 (0.99 - 1.06)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		601 / 476,108 14 years	cancer and mortality registries, health insurance & pathology records, active follow up		Incidence, Papillary thyroid cancer	>94 vs <1 g/day	1.69 (0.92 - 3.08) Ptrend:0.91	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 50 g day	1.02 (0.94 - 1.11)	✓	✓	✓	✓	✓	✓	✓ E				✓	
		109 / 476,108 14 years	cancer and mortality registries, health insurance & pathology records, active follow up		Incidence, Follicular thyroid cancer	>94 vs <1 g/day	1.12 (0.88 - 1.43) Ptrend:0.35	✓	✓	✓	✓	✓	✓	✓ E				✓	
						Per 50 g day	1.02 (0.98 - 1.06)	✓	✓	✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments											
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Lymphoid and hematopoietic																			
Podoltsev 2020 USA (32868318)[141]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F	472 / 463,049 15.5 years	population based cancer registries and mortality registries	FFQ, **Fruit juices**:	Incidence, myeloproliferative neoplasms	≥0.91 vs ≤0.22 cups/day	1.10 (0.87 - 1.38) Ptrend:0.43	✓	✓			✓		✓ E					✓
		182 / 463,049 15.5 years			Incidence, Polycythemia vera		1.74 (1.17 - 2.58) Ptrend:0.01	✓	✓			✓		✓ E					✓
					Incidence, Essential thrombocythemia		0.96 (0.64 - 1.43) Ptrend:0.79	✓	✓			✓		✓ E					✓
Thompson 2010 USA (19685491)[162]	Iowa Women's Health Study Prospective Cohort Age:62 years F Mostly white	415 / 35,159 20 years	Cancer registry, death certificates, National Death Index	Semi-quantitative FFQ, **Juices**: apple juice/cider	Incidence, Non-Hodgkin Lymphoma	>2 vs 0 serving/month	0.65 (0.47 - 0.90)	✓						✓ E					

Age: age; **Alc**: alcohol; **Diet**: dietary factors and energy intake (E), or * adjustment for other soft drinks not under investigation; **Med**: medical-related factors (e.g. infections, diseases in the breast, digestive tract, gallbladder, liver, or pancreas, cancer screening, precancerous conditions, or pre-existing skin cancer) or diabetes (D); **Mens**: menstrual characteristics (e.g. age at menarche, menopausal status/duration, age at menopause, or type of menopause); **Obe**: obesity (adiposity measures); **Oth**: others (e.g. family history/genetic factor, race/ethnicity, ancestry, socioeconomic factors, or marriage); **Phy**: physical activity; **Repr**: reproductive or hormonal factors (e.g. parity, age at first/last birth, postmenopausal hormone use, or oral contraceptive use); **Sex**: sex; **Skin**: skin-related factors (e.g. UV light/sun exposure, sunburns, time spent outdoors, sunscreen use, indoor tanning, moles, fair skin, red/blond hair,

Supplementary Table 14. Descriptive table of the included observational studies of soft drinks and cancer incidence and mortality.

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Mouth, pharynx larynx																			
Ren 2010 USA (20395127)[143]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Mixed Retired	392 / 481,563 6 years	linkage of the cohort with database to state cancer registries	FFQ, **Carbonated soft drinks**	Incidence, Oral cavity cancer	≥1 can/day vs none	0.77 (0.54 - 1.09) Ptrend:0.31	✓	✓	✓	✓	✓	✓	✓ E				✓	
		178 / 481,563 6 years			Incidence, Pharynx cancer		0.76 (0.46 - 1.25) Ptrend:0.20	✓	✓	✓	✓	✓	✓	✓ E				✓	
		307 / 481,563 6 years			Incidence, Larynx cancer		0.82 (0.55 - 1.23) Ptrend:0.35	✓	✓	✓	✓	✓	✓	✓ E				✓	
Oesophageal																			
Ren 2010 USA (20395127)[143]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Mixed Retired	123 / 481,563 6 years	linkage of the cohort with database to state cancer registries	FFQ, **Carbonated soft drinks**	Incidence, Oesophageal squamous cell carcinoma	≥1 can/day vs none	0.85 (0.46 - 1.56) Ptrend:0.55	✓	✓	✓	✓	✓	✓	✓ E				✓	
		305 / 481,563 6 years			Incidence, Oesophageal adenocarcinoma		1.11 (0.66 - 1.85) Ptrend:0.73	✓	✓	✓	✓	✓	✓	✓ E				✓	
Stomach																			
Ren 2010 USA (20395127)[143]	NIH- AARP Diet and Health Study Prospective Cohort Range:50-71 years M/F Mixed Retired	231 / 481,563 6 years	linkage of the cohort with database to state cancer registries	FFQ, **Carbonated soft drinks**	Incidence, Cardia cancer	≥1 can/day vs none	0.89 (0.55 - 1.45) Ptrend:0.75	✓	✓	✓	✓	✓	✓	✓ E				✓	
		224 / 481,563 6 years			Incidence, non-Cardia cancer		0.75 (0.45 - 1.24) Ptrend:0.30	✓	✓	✓	✓	✓	✓	✓ E				✓	
Colorectal																			
Papadimitriou 2022 multi-national (33901663)[136]	European Prospective Investigation into Cancer and nutrition and Netherlands Cohort Study Prospective Cohort M/F	5,069 / 394,288 14.1 years	population-based cancer registries, insurance records, active follow up	FFQ-Semi-quantitative, **Soft drinks**	Incidence, Colorectal cancer, EPIC	Per 1 SD day	1.04 (1.02 - 1.07)	✓	✓	✓		✓	✓	✓ E	D			✓	
		7,496 / 394,288 14.1 years			Incidence, Colorectal cancer, NLCS		0.96 (0.91 - 1.02)	✓		✓		✓	✓	✓ E	D			✓	
Agnoli 2013 Italy (22821300)[35]	European Prospective Investigation into Cancer and nutrition cohort, Italy Prospective Cohort M/F	435 / 45,275 11.28 years	Cancer registry and hospital records	Semi-quantitative FFQ, **Soft drinks**	Incidence, Colorectal cancer	14.3 - 3000 vs 0 g/day	0.98 (0.78 - 1.22) Ptrend:0.937	✓	✓	✓		✓	✓	✓ *				✓	
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,S	European Prospective Investigation into Cancer and nutrition Prospective Cohort	2,095 / 451,743 16.4 years	active follow up, cancer registry,	FFQ-Semi-quantitative, **Soft drinks**:	Mortality, Colorectal cancer	≥1 vs <1 glasses/month	1.25 (1.07 - 1.47) Ptrend:0.004	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
weden,UK (31479109)[126]	Age:50.8 years M/F		death certificate and National death index	Carbonated/soft/ isotonic drinks and diluted syrups														
Khan, 2004 Japan (15075007)[85]	Japan, Hokkaido Cohort Study Prospective Cohort Age:58 years M/F	15 / 1,524 13.8 years	Area residency lists	Dietary History Questionnaire, **Soft drinks**: Carbonated drink/Juice	Mortality, Colorectal cancer, male	Everyday + several times/weeks vs never + several times/years	0.60 (0.20 - 2.10)	✓		✓								
		14 / 1,634 14.8 years			Mortality, Colorectal cancer, female		0.80 (0.20 - 3.00)	✓		✓								✓
Papadimitriou 2022 multi-national (33901663)[136]	European Prospective Investigation into Cancer and nutrition and Netherlands Cohort Prospective Cohort M/F	3,143 / 394,288 14.1 years	population-based cancer registries, insurance records, active follow up	FFQ-Semi-quantitative, **Soft drinks**	Incidence, Colon cancer, EPIC	Per 1 SD day	1.04 (1.01 - 1.07)	✓	✓	✓		✓	✓	✓ E	D			✓
		2,612 / 394,288 14.1 years			Incidence, Colon cancer, NLCS		0.97 (0.92 - 1.02)	✓	✓	✓		✓	✓	✓ E	D			✓
		1,495 / 394,288 14.1 years			Incidence, Proximal colon cancer, EPIC		1.02 (0.97 - 1.07)	✓	✓	✓		✓	✓	✓ E	D			✓
		1,348 / 394,288 14.1 years			Incidence, Proximal colon cancer, NLCS		0.97 (0.90 - 1.06)	✓		✓		✓	✓	✓ E	D			✓
		1,435 / 394,288 14.1 years			Incidence, Distal colon cancer, EPIC		1.06 (1.01 - 1.11)	✓	✓	✓		✓	✓	✓ E	D			✓
		1,187 / 394,288 14.1 years			Incidence, Distal colon cancer, NLCS		0.98 (0.90 - 1.06)	✓	✓	✓		✓	✓	✓ E	D			✓
		1,715 / 394,288 14.1 years			Incidence, Rectal cancer, EPIC		1.04 (1.00 - 1.09)	✓	✓	✓		✓	✓	✓ E	D			✓
		801 / 394,288 14.1 years			Incidence, Rectal cancer, NLCS		0.96 (0.87 - 1.06)	✓	✓	✓		✓	✓	✓ E	D			✓
Khan, 2004 Japan (15075007)[85]	Japan, Hokkaido Cohort Study Prospective Cohort Age:57 years M/F	14 / 1,634 14.8 years	Area residency lists	Questionnaire, **Cola**	Mortality, Colorectal cancer, female	Everyday + several times/weeks vs never + several	2.20 (0.30 - 17.80)	✓		✓								✓

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
						times/year or month													
Liver																			
Zhang 2023 USA (37460062)[183]	Women's Health Initiative Prospective Cohort Age:63.4 years F Mainly white Postmenopausal	176 / 78,356 22.1 years	Self-report adjudicated by physician review of medical records	Validated FFQ, **Soft drinks**: Low- and high-energy soft drinks	Incidence, Liver cancer	Per 1 serving day	1.04 (0.77 - 1.40)	✓		✓	✓	✓	✓	✓ E	✓ D		✓	✓	
Jones 2022 USA (35728406)[79]	NIH- AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587 / 553,874 ≤12 years follow-up	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Soft drinks**: Soda and fruit punch	Incidence, Liver cancer	Per 1 time day	1.05 (0.97 - 1.14)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 553,874 >12 years follow-up					0.92 (0.79 - 1.06)	✓	✓	✓	✓	✓		✓ E				✓	
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	121 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Incidence, HCC	Per 1 serving week	1.18 (1.04 - 1.34)			✓	✓	✓	✓	✓ E	D			✓	
Jones 2022 USA (35728406)[79]	NIH- AARP Diet and Health Study + Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Pooled Analysis Cohorts M/F Mainly white	587 / 553,874 ≥12 years follow-up	NIH-AARP: cancer reg, PLCO: self-report + medical record/cancer reg	Questionnaire, **Carbonated soft drinks**: Regular soda.	Incidence, Liver cancer	Per 1 time day	1.07 (0.98 - 1.17)	✓	✓	✓	✓	✓		✓ E				✓	
		252 / 553,874 >12 years follow-up					0.92 (0.79 - 1.08)	✓	✓	✓	✓	✓		✓ E				✓	
Gallbladder/ bile ducts																			
Larsson 2016 Sweden (27281756)[96]	Swedish Mammography Cohort and the Cohort of Swedish Men Pooled Analysis Cohorts Range:45-83 years M/F Swedish	71 / 70,832 13.4 years	Swedish Cancer Registry & record linkage with Swedish Cause-of-Death Registry	FFQ, **Soft drinks**: Sweetened beverages	Incidence, Gallbladder cancer	≥2 vs 0 serving/day	2.24 (1.02 - 4.89) Ptrend:0.02	✓	✓	✓		✓		✓ E					
				FFQ, **Soft drinks**: Soft drinks (sugar-sweetened and artificially sweetened) and juice drinks		Per 1 serving day	1.24 (1.05 - 1.47)	✓	✓	✓		✓		✓ E					
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	87 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups. Further classification of soft drinks into sugar sweetened and artificially sweetened was possible for participants in all centers except three: Italy (North and Ragusa), Sweden	Incidence, Gallbladder cancer	Per 1 serving /week	0.89 (0.79 - 1.01)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Larsson 2016 Sweden (27281756)[96]	Swedish Mammography Cohort and the Cohort of Swedish Men Pooled Analysis Cohorts Range:45-83 years M/F Swedish	127 / 70,832 13.4 years	Swedish Cancer Registry & record linkage with Swedish Cause-of-Death Registry	FFQ, **Soft drinks**: Soft drinks (sugar-sweetened and artificially sweetened) and juice drinks	Incidence, Extrahepatic biliary tract cancer	≥2 vs 0 serving/day	1.79 (1.02 - 3.13) Ptrend:0.05	✓	✓	✓		✓		✓ E					
						Per 1 serving day	1.14 (0.99 - 1.30)	✓	✓	✓		✓		✓ E					
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	236 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups. Further classification of soft drinks into sugar sweetened and artificially sweetened was possible for participants in all centres except three: Italy (North and Ragusa), Sweden	Incidence, Extrahepatic bile duct system cancer	Per 1 serving week	0.96 (0.90 - 1.00)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	
Larsson 2016 Sweden (27281756)[96]	Swedish Mammography Cohort and the Cohort of Swedish Men Pooled Analysis Cohorts Range:45-83 years M/F Swedish	21 / 70,832 13.4 years	Swedish Cancer Registry & record linkage with Swedish Cause-of-Death Registry	FFQ, **Soft drinks**: Soft drinks (sugar-sweetened and artificially sweetened) and juice drinks	Incidence, Intrahepatic biliary tract cancer	≥2 vs 0 serving/day	1.69 (0.41 - 7.03) Ptrend:0.37	✓	✓	✓		✓		✓ E					
						Per 1 serving day	1.10 (0.75 - 1.61)	✓	✓	✓		✓		✓ E					
Stepien 2016 multi-national (25528243)[159]	European Prospective Investigation into Cancer and nutrition cohort Prospective Cohort Mainly white	66 / 477,206 11.4 years	cancer registries	Semi-quantitative FFQ, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Incidence, Intrahepatic bile duct cancer	Per 1 serving week	0.97 (0.90 - 1.06)			✓	✓	✓	✓	✓ E	D			✓	
		54 / 477,206 11.4 years			Incidence, Ampulla of Vater cancer		1.02 (0.95 - 1.10)	✓	✓	✓	✓	✓	✓	✓ E	✓			✓	
Pancreas																			
Navarrete-Muñoz 2016 multi-national (27510540)[127]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51 years M/F Mostly white	865 / 477,199 11.6 years	cancer and pathology registry, active follow up, health insurance record, mortality registry and contact of participants or next-of-kin	Diet Questionnaire, **Soft drinks**: Carbonated/soft/isotonic drinks and diluted syrups and juices (obtained from either 100% fruit and vegetables or concentrates) and nectars (juices with 20% added sugar).	Incidence / Mortality, Pancreatic cancer	>246.3 vs 0.1 - 24.6 g/day	0.96 (0.75 - 1.21) Ptrend:0.41	✓	✓	✓	✓		✓					✓	
						Per 100 g day	1.00 (0.97 - 1.04)	✓	✓	✓	✓		✓					✓	
Khan 2004 Japan (15075007)[85]	Hokkaido Cohort, Japan Prospective Cohort Age:58 years M/F	12 / 1,524 13.8 years	Multiple methods	FFQ, **Soft drinks**: Carbonated drink/Juice	Mortality, Pancreatic cancer, male	Everyday + several times/weeks vs never + several times/ month or year	0.20 (0.00 - 1.80)	✓		✓									
		13 / 1,634 14.8 years			Mortality, Pancreatic cancer, female		0.20 (0.00 - 1.80)	✓		✓								✓	
Bao 2008 USA (18689380)[39]		1,014 / 487,922 7.2 years	Cancer registry and national death index	Dietary Recall, **Soft drinks**	Incidence / Mortality, Pancreatic	Median intake 816.9 vs 0 g/day	1.17 (0.91 - 1.49) Ptrend:0.35	✓	✓	✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
	NIH- AARP Diet and Health Study Prospective Cohort Age:62 years M/F Mostly white Retired				Adenocarcinoma														
Zhong 2023 USA (36094042)[189]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Age:66.1 years M/F Non-Hispanic white			Dietary History Questionnaire, **Soft drinks**: Regular or diet soft drinks, either caffeinated or decaffeinated.	Incidence, Pancreatic cancer	>3.7 vs <0.9 serving/day	1.02 (0.75 - 1.37) Ptrend:0.991	✓	✓	✓	✓	✓		✓ E	D			✓	
Zhang 2020 USA (32716590)[184]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Range:55-74 years M/F	307 / 95,962 8.87 years	Self-report, medical records and National Death Index	Diet History Questionnaire, **Soft drinks**: Fruit/vegetable drinks and soft drinks	Mortality, Pancreatic cancer	> 250 vs 0 g/day	0.70 (0.45 - 1.08) Ptrend:0.1010	✓	✓	✓	✓	✓	✓	✓ E *	D			✓	
Larsson 2006 Sweden 17093171[90]	Cohort of Swedish men and Swedish Mammography Cohort Pooled Analysis Cohorts Age:61 years M/F European origin	131 / 77,797 7.2 years	Cancer registry	Dietary Recall, **Soft drinks**: Carbonated soft drinks and non-carbonated sweetened drinks	Incidence, Pancreatic cancer	Median intake 2.1 vs 0 servings/day	1.93 (1.18 - 3.14) Ptrend:0.02	✓	✓	✓	✓	✓		✓ E				✓	
Mueller 2010 Singapore (20142243)[125]	Singapore Chinese Health study Prospective Cohort Age:56 years M/F Singapore Chinese	140 / 60,524 10.7 years	Cancer registry and death registry	Semi-quantitative FFQ, **Carbonated soft drinks**: Coca-Cola and 7-Up	Incidence / Mortality, Pancreatic Adenocarcinoma	≥2 vs 0 servings/week	1.86 (1.11 - 3.13) Ptrend:0.02	✓	✓	✓	✓		✓	✓ E				✓	
Lung																			
Heath 2022 multi-national (35830197)[67]	European Prospective Investigation into Cancer and nutrition Prospective Cohort M/F	2,420 / 327,790	Cancer and mortality registries, pathology registries, active follow up, health insurance records	Questionnaire & FFQ, **Soft drinks**	Incidence, Lung cancer	Per 1 SD day	0.99 (0.96 - 1.03)	✓	✓	✓		✓	✓	✓ E	D			✓	
Gnagnarella 2013 Italy (23956193)[65]	COSMOS (Continuous Observation of Smoking Subjects) Prospective Cohort Age:57 years	178 / 4,336 5.7 years	screening examinations	FFQ, **Soft drinks**	Incidence, Lung cancer	≥2 drinks/day vs never	0.98 (0.49 - 1.96) Ptrend:0.3299	✓	✓	✓				✓ E					
You 2022 USA (36424907)[177]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Range:55-74 years M/F Mainly white Screening Program	1,517 / 154,897 8.9 years	chest radiography, follow-up, cancer & death registry, physician	FFQ, **Soft drinks** No intake of soft drinks, soda, and pop	Incidence, Lung cancer	Intake vs no intake	0.79 (0.64 - 0.97)	✓	✓	✓	✓	✓	✓	✓ E				✓	
					Incidence, Lung cancer, male	Intake vs no intake	0.96 (0.72 – 1.28)	✓	✓	✓	✓	✓	✓	✓ E				✓	
					Incidence, Lung cancer, female	Intake vs no intake	0.62 (0.45 – 0.87)	✓	✓	✓	✓	✓	✓	✓ E				✓	

Supplementary Materials

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Khan, 2004 Japan (15075007)[85]	Japan, Hokkaido Cohort Study Prospective Cohort Age:58 years M/F	41 / 1,524 13.8 years	Area residency lists	Dietary History Questionnaire, **Soft drinks**: Carbonated drink/Juice	Mortality, Lung cancer, male	Everyday + several times/weeks vs never + several times/months + several times/year	1.10 (0.50 - 2.10)	✓		✓									
		10 / 1,634 14.8 years		Dietary History Questionnaire, **Soft drinks**: Carbonated drink/juice	Mortality, Lung cancer, female		1.80 (0.50 - 6.60)	✓		✓									
		41 / 3,158 13.8 years		Dietary History Questionnaire, **Cola**	Mortality, Lung cancer, male		0.50 (0.10 - 2.20)	✓		✓									
Skin																			
Ibiebele 2007 Australia (17490979)[73]	Nambour Skin Cancer Study Prospective Cohort Range:20-69 years M/F Mixed	161 / 1,360 11 years	Histopathology	FFQ, **Soft drinks**: Coke, Pepsi, other soft drinks, cordial, low-calorie colas, other low-calorie soft drinks	Incidence, Squamous cell cancer	T3 vs T1	1.22 (0.64 - 2.32)	✓	✓	✓				✓ E	✓				✓
Oh 2019 Singapore (30731173)[132]	Singapore Chinese Health study Prospective Cohort Range:45-74 years M/F Chinese	609 / 61,321 18.3 years	Cancer registry, birth and death registry	Semi-quantitative FFQ, **Carbonated soft drinks**: Soda	Incidence, non-Melanoma skin cancer	≥3 vs <1 times/week	0.92 (0.58 - 1.46) Ptrend:0.89	✓	✓	✓	✓	✓	✓	✓	D			✓	
Breast (female)																			
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	1,625 / 32,289 18 years	NHS Central Registry	FFQ, **Soft drinks**	Incidence, Breast cancer	Per 111 g day	1.00 (0.84 – 1.19)	✓		✓	✓		✓	✓ E		✓	✓	✓	
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	1,402 / 321,081 16.4 years	active follow up, cancer registry, death certificate and National death index	, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Mortality, Breast cancer	≥1 vs <1 glasses/month	1.13 (0.92 - 1.39) Ptrend:0.2	✓	✓	✓	✓	✓	✓	✓ E *		✓	✓	✓	
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	1,030 / 32,289 18 years	NHS Central Registry	FFQ, **Soft drinks**	Incidence, Breast cancer, postmenopausal	Per 111g day	1.03 (0.9 – 1.19)	✓		✓	✓		✓			✓		✓	
		291 / 32,289 18 years			Incidence, Breast cancer, premenopausal	Per 111g day	1.04 (0.87 – 1.23)	✓		✓	✓		✓			✓		✓	
Heath 2020 multi-national (31931881)[68]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	10,979 / 272,098 15 years	population registries or active follow up	Diet Questionnaire, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups	Incidence, Breast cancer	Per SD increase	-.0045 (-0.0265 – 0.0174)	✓	✓	✓	✓	✓	✓	✓ E	D			✓	
Endometrial																			

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
Dunneram 2018 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	86 / 32,289 18 years	NHS Central Registry	FFQ, **Soft drinks**	Incidence, Endometrial Cancer	Per 111g day	0.76 (0.36 – 1.6)	✓		✓	✓		✓	✓ E	D	✓	✓	✓	
Merritt 2015 multi-national (25662427)[117]	European Prospective Investigation into Cancer and nutrition and the Nurses Health studies I & II Pooled Analysis Cohorts F	1,303 / 301,107	EPIC: population-based cancer registries, active follow-up, mortality data from cancer or mortality registries; NHS/NHS II: questionnaire, medical records, pathology reports, national death index	Semi-quantitative FFQ, **Soft drinks**: Carbonated drinks	Incidence, Endometrial Cancer, EPIC	Median intake 152.4 vs 0 g/day	0.99 (0.84 - 1.16) Ptrend:0.81	✓		✓		✓		✓ E		✓	✓		
Friberg 2011 Sweden (21765006)[61]	Swedish Mammography Cohort Prospective Cohort Range:40-74 years F	729 / 61,226 1123934 person-years	linkage to Swedish cancer registry	FFQ, **Soft drinks**: carbonated and noncarbonated drinks	Incidence, Endometrial Adenocarcinoma, Baseline diet	Yes (median intake 0.07 servings/week) vs no	1.02 (0.87 - 1.18)	✓				✓		✓ E	D				
		304 / 61,226 1123934 person-years			Incidence, Endometrial Adenocarcinoma, 1997 diet		1.15 (0.91 - 1.46)	✓				✓		✓ E	D				
Ovarian																			
Dunneram 2019 UK (30526696)[49]	UK Women Cohort Study Prospective Cohort Age:54.1 years F	251 / 32,289 18 years	NHS Central Registry	FFQ, **Soft drinks**	Incidence, Ovarian cancer	Per 111g day	1.07 (0.74 - 1.54)	✓		✓	✓		✓	✓ E		✓	✓	✓	
Merritt 2016 multi-national (26607939)[118]	European Prospective Investigation into Cancer and nutrition cohort and the Netherlands Cohort study Pooled Analysis Cohorts F	1,095 / 325,004	population cancer registries or active follow-up	FFQ, **Carbonated soft drinks**: Soda	Incidence, Epithelial ovarian cancer	≥ 61.4 vs 0 g/day	1.15 (0.97 - 1.36) Ptrend:0.21							✓ E		✓	✓		
Tworoger 2008 USA (18213613)[163]	Nurses' Health Study Prospective Cohort Range:30-55 years F Registered nurses	507 / 80,253	Self-report verified by medical record	FFQ, **Cola**: Caffeinated soda	Incidence, Ovarian cancer	≥1 vs 0 cup/week	0.80 (0.59 - 1.13) Ptrend:0.81	✓		✓		✓					✓		
Prostate																			
Papadimitriou 2020 (31705265) [137]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51.6 years M/F	5916/ 122,998 14 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Incidence, Prostate cancer	Per SD increase	0.98 (0.95 – 1.01)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
					Incidence, Localised prostate cancer	Per SD increase	0.97 (0.93 – 1.02)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
					Incidence, Advanced	Per SD increase	0.97 (0.91 – 1.03)	✓	✓	✓	✓	✓	✓	✓ E				✓	

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
					prostate cancer									*					
					Incidence, Low grade prostate cancer	Per SD increase	0.98 (0.94 – 1.03)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
					Incidence, High grade prostate cancer	Per SD increase	0.97 (0.89 – 1.07)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
					Incidence, Aggressive prostate cancer	Per SD increase	0.95 (0.90 – 1.00)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Mullee 2019 Denmark,France,Germany,Greece,Italy,Netherlands,Norway,Spain,Sweden,UK (31479109)[126]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:50.8 years M/F	907 / 130,662 16.4 years	active follow up, cancer registry, death certificate and National death index	Semi-quantitative FFQ, Soft drinks: Carbonated/soft/ isotonic drinks and diluted syrups.	Mortality, Prostate cancer	≥1 vs <1 glasses/month	0.97 (0.77 - 1.24) Ptrend:0.8	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Ellison 2000 Canada (10830580)[50]	Nutrition Canada Survey Historical Cohort Range:50-84 years M	201 / 3,400	random sample	FFQ, **Cola**	Incidence / Mortality, Prostate cancer	≥100 vs 0 ml/day	1.29 (0.74 - 2.26)	✓											
Kidney																			
Li 2024 USA (39396995)[102]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Age:65.5 years M/F	410 / 101,668 16.85 years	Medical records and death certificates	FFQ, **Soft drinks**: Regular or diet soft drinks, either caffeinated or decaffeinated.	Incidence, Renal cell carcinoma	Q4 vs Q1	1.52 (1.14 - 2.03) Ptrend:0.004	✓	✓	✓	✓	✓		✓ E	D			✓	
Heath 2021 multi-national (33849969)[66]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	888 / 389,220 15 years	population registries or active follow up	Diet Questionnaire, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Incidence, Renal cell carcinoma	Per 100 g day	1.01 (0.98 - 1.05)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Li 2024 USA (39396995)[102]	Prostate, Lung, Colorectal and Ovarian Cancer Screening trial Prospective Cohort Age:65.5 years M/F	230 / 101,668 16.85 years	Medical records and death certificates	FFQ, **Soft drinks**: Regular or diet soft drinks, either caffeinated or decaffeinated.	Mortality, Renal cell carcinoma	Q4 vs Q1	1.35 (0.93 - 1.96) Ptrend:0.186	✓	✓	✓	✓	✓		✓ E	D			✓	
Heath 2021 multi-national (33849969)[66]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:52 years M/F	356 / 389,220 15 years	population registries or active follow up	Diet Questionnaire, **Soft drinks**: Carbonated/soft/ isotonic drinks and diluted syrups.	Mortality, Renal cell carcinoma	Per 100 g day	1.03 (0.98 - 1.09)	✓	✓	✓	✓	✓	✓	✓ E *				✓	
Allen 2011 UK (21407222)[36]	The Million Women Study, 1996 Prospective Cohort Range:50-64 years F	588 / 779,369 5.2 years	National Health Service central registers	FFQ, **Carbonated soft drinks**: Carbonated drinks	Incidence, Renal cell carcinoma	≥2 vs 0 or<1 drinks/day	1.18 (0.89 - 1.58)			✓		✓						✓	
						Per 1 drinks /day	1.05 (0.95 - 1.17)			✓		✓						✓	
Lee 2007 (17583573)[26]	Pooling Project (n=13 cohorts) Pooled Analysis Cohorts M/F mainly Caucasian	768 / 244,483 20 years	Self-report, medical record, cancer registries and death registries	FFQ and dietary history, **Carbonated soft drinks**: Soda	Incidence, Renal cancer, male	≥3/week vs non-drinker	1.17 (0.83 - 1.64) Ptrend:0.45	✓		✓	✓	✓		✓ E					
						Per 1 serving /day	1.03 (0.97 - 1.09)	✓		✓	✓	✓		✓ E					

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
		698 / 530,469 20 years			Incidence, Renal cancer, female	≥3/week vs non-drinker	1.05 (0.78 - 1.41) Ptrend:0.42	✓		✓	✓	✓		✓ E			✓		
						Per 1 serving day	1.01 (0.95 - 1.07)	✓		✓	✓	✓		✓ E			✓		
Bladder																			
Michaud, 1999 USA (10228189)[119]	Health Professionals Follow-up Study Prospective Cohort Range:40-75 years M	/ 47,909	Ongoing or prior study and convenience sampling	FFQ, **Soft drinks**: cola and non-cola sodas (regular, caffeinated, decaffeinated sodas), punch and lemonade	Incidence / Mortality, Bladder cancer	Per 240 ml day	0.99 (0.90 - 1.08)	✓		✓				✓				✓	
Ros 2011 multi-national (20715171)[147]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Range:25-70 years M/F	513 / 233,236 9.3 years	cancer registries, health insurance records, pathology rec & active follow up	Validated FFQ, **Soft drinks**	Incidence, Urothelial cancer	(≥99 men; ≥20 women) vs (<8 men; <0 women) ml/day	1.03 (0.83 - 1.30) Ptrend:0.36	✓	✓	✓				✓ E					
						Per 100 ml day	1.06 (1.01 - 1.12)	✓	✓	✓				✓ E					
		210 / 233,236 9.3 years			Incidence, High-risk urothelial cell carcinoma	Per 100 ml day	1.02 (0.93 - 1.12)	✓	✓	✓				✓ E					
		271 / 233,236 9.3 years			Incidence, Low-risk urothelial cell carcinoma	Per 100 ml day	1.09 (1.02 - 1.16)	✓	✓	✓				✓ E					
Brain and spinal cord																			
Dubrow 2012 USA (22457000)[48]	NIH- AARP Diet and Health Study Prospective Cohort Age:62.8 years M/F Mostly white Retired	882 / 545,771 10.6 years	state cancer registry	Self-administered Questionnaire, **Carbonated soft drinks**: Soft drinks, soda, or pop, including diet or regular	Incidence, Glioma	>2 cans/day vs none	0.87 (0.65 - 1.15) Ptrend:0.53	✓	✓					✓ E				✓	
		520 / 545,771 10.6 years		Self-administered Questionnaire, **Caffeinated and carbonated soft drinks**: caffeinated soda			1.00 (0.71 - 1.40) Ptrend:0.24	✓	✓					✓ E				✓	
Holick 2010 USA (20056621)[71]	Nurse's Health Study, Nurse's Health Study II, Health Professionals follow-up Study Pooled Analysis Cohorts M/F Health professionals	335 24 years	medical records, pathology reports, death records and cancer registries	FFQ, **Caffeinated and carbonated soft drinks**: Caffeinated carbonated beverages (diet and regular) - Colas	Incidence, Glioma	≥5 cups/week vs none	0.75 (0.51 - 1.11) Ptrend:0.13	✓						✓ E					
Dubrow 2012 USA (22457000)[48]	NIH- AARP Diet and Health Study Prospective Cohort Age:62.8 years M/F Mostly white Retired	416 / 545,771 10.6 years	state cancer registry	Self-administered Questionnaire, **Decaffeinated and carbonated soft drinks**: Decaffeinated soda	Incidence, Glioma	>2 cans/day vs none	0.85 (0.60 - 1.19) Ptrend:0.94	✓	✓					✓ E				✓	
Holick 2010 USA (20056621)[71]	Nurse's Health Study, Nurse's Health Study II, Health Professionals follow-up Study Pooled Analysis Cohorts M/F Health professionals	335 24 years	medical records, pathology reports, death records and cancer registries	FFQ, **Decaffeinated and carbonated soft drinks**: Decaffeinated carbonated beverages	Incidence, Glioma	≥4 cups/week vs None	0.75 (0.49 - 1.17) Ptrend:0.31	✓						✓ E					

Author, Year Country (PMID)	Study name, type Age, sex, ethnicity, characteristics of participants	Cases/ Study size Median follow-up (years)	Case ascertainment	Exposure Assessment, detail	Outcome Sub-population	Comparison	RR (95%CI) Ptrend	Adjustments										
								Age	Sex	Smo	Alc	Obe	Phy	Diet	Med	Mens	Repr	Oth	Skin
				(diet and regular) - lemon-lime, orange, grape, root beer and ginger ale sodas															
Thyroid																			
Zamora-Ros 2023 multi-national (35907037)[180]	European Prospective Investigation into Cancer and nutrition Prospective Cohort Age:51.1 years M/F	712 / 450,064 13.9 years	Cancer and mortality registries, pathology registries, active follow up, health insurance records	Questionnaire, **Soft drinks**: Carbonated/soft/isotonic drinks and diluted syrups - sugary & artificially sweetened beverages combined.	Incidence, Thyroid cancer	107.5 - 4201.7 ml/day vs non consumers	1.17 (0.90 - 1.54) Ptrend:0.13	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml /day	1.05 (1.00 - 1.11)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		573 / 450,064 13.9 years			Incidence, Papillary thyroid cancer	107.6 – 4 to201.7 ml/day vs non consumers	1.32 (0.98 - 1.79) Ptrend:0.025	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml /day	1.07 (1.01 - 1.13)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
		108 / 450,064 13.9 years			Incidence, Follicular thyroid cancer	107.6 – 4 to201.7 ml/day vs non consumers	0.75 (0.37 - 1.53) Ptrend:0.38	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
						Per 100 ml /day	0.92 (0.76 - 1.11)	✓	✓	✓	✓	✓	✓	✓ E		✓	✓	✓	
Lymphoid and hematopoietic																			
Podoltsev 2020 (31904114) [140]	NIH- AARP Diet and Health Study Prospective Cohort Age:62.8 years M/F Mostly white Retired	490 / 490,049 15.5 years	Cancer registries, pathology registries, active follow up, health insurance records	Questionnaire, **Caffeinated soft drinks**	Incidence, Myelo-proliferative neoplasms	Yes vs no	1.07 (0.89 – 1.30) Ptrend: 0.47	✓	✓									✓	
		190 / 490,049			Incidence, Polycythemia vera	Yes vs no	1.10 (0.81 – 1.50) Ptrend: 0.52	✓	✓									✓	
		146 / 490,049			Incidence, Essential thrombo-cythemia	Yes vs no	1.05 (0.73 – 1.50) Ptrend: 0.80	✓	✓									✓	
		490 / 490,049		Questionnaire, **Decaffeinated soft drinks**	Incidence, Myelo-proliferative neoplasms	Yes vs no	0.99 (0.73 – 1.33) Ptrend: 0.93	✓	✓									✓	
		190 / 490,049			Incidence, Polycythemia vera	Yes vs no	1.06 (0.66 – 1.68) Ptrend: 0.81	✓	✓									✓	
		146 / 490,049			Incidence, Essential thrombo-cythemia	Yes vs no	0.92 (0.52 – 1.62) Ptrend: 0.94	✓	✓									✓	

Age: age; **Alc**: alcohol; **Diet**: dietary factors and energy intake (E), or * adjustment for other soft drinks not under investigation; **Med**: medical-related factors (e.g. infections, diseases in the breast, digestive tract, gallbladder, liver, or pancreas, cancer screening, precancerous conditions, or pre-existing skin cancer) or diabetes (D); **Mens**: menstrual characteristics (e.g. age at menarche, menopausal status/duration, age at menopause, or type of menopause); **Obe**: obesity (adiposity measures); **Oth**: others (e.g. family history/genetic factor, race/ethnicity, ancestry, socioeconomic factors, or marriage); **Phy**: physical activity; **Repr**: reproductive or hormonal factors (e.g. parity, age at first/last birth, postmenopausal hormone use, or oral contraceptive use); **Sex**: sex; **Skin**: skin-related factors (e.g. UV light/sun exposure, sunburns, time spent outdoors, sunscreen use, indoor tanning, moles, fair skin, red/blond hair, blue/green eyes, or freckles); **Smo**: smoking.

Supplementary Table 15.List of associations between sugar sweetened beverages and cancer incidence or mortality outcomes with only one available study.

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Sugar sweetened beverages								
Wu 2023 (37810918)[172]	Head and neck	Incidence	PLCO	M/F	279/101755	1.14 (0.82-1.58)	0.087	≥318.19 vs ≤31.95 g/day
McCullough 2022 (36107009)[113]	Larynx, oral cavity, and pharynx	Mortality	CPS II	M/F	1852/934777	1.04 (0.87-1.24)	0.963	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Oesophageal	Mortality	CPS II	M/F	2727/934777	0.87 (0.76-1.03)	0.317	≥2 vs 0 drinks/day
Khairan 2023 (36167978)[84]	Stomach non-cardia	Incidence	JPHC	F	650/39,353	1.01 (0.78-1.32)	0.56	≥278.1 vs 0-0.04 mL/day
Khairan 2023 (36167978)[84]	Stomach non-cardia	Incidence	JPHC	M	650/35,102	1.03 (0.86-1.24)	0.88	≥398.6 vs 0-30.5 mL/day
Acuna 2023 (36789943)[34]	Stomach distal	Incidence	MEC	M/F	N/A/176752	0.99 (0.97-1.01)	N/A	Per 1-point increase in AHEI-2010
Acuna 2023 (36789943)[34]	Stomach distal	Incidence	MEC	M/F	N/A/176752	0.96 (0.90-1.01)	N/A	Per 1-point increase in DASH score
McCullough 2022 (36107009)[113]	Stomach cancer	Mortality	CPS II	M/F	2798/934777	1.08 (0.94-1.25)	0.128	≥2 vs 0 drinks/day
Hur 2021 (33958435)[72]	Early-onset colorectal	Incidence	NHS II	F	109/95464	2.18 (1.10-4.35)	0.03	≥2 servings/day vs ≤0.9 serving/week
McCullough 2022 (36107009)[113]	Small intestine	Mortality	CPS II	M/F	324/934777	1.26 (0.84-1.90)	0.609	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Melanoma	Mortality	CPS II	M/F	2130/934777	0.88 (0.74-1.06)	0.682	≥2 vs 0 drinks/day
Nomura 2016 (27578546)[128]	ER-/PR- breast	Incidence	BWHS	F	205/49103	0.83 (0.44-1.54)	0.37	0 vs >250 g/day
Nomura 2016 (27578546)[128]	ER+/PR+ breast	Incidence	BWHS	F	1827/49103	0.55 (0.32-0.93)	0.07	0 vs >250 g/day
Nomura 2016 (27578546)[128]	ER+ or PR+ breast	Incidence	BWHS	F	881/49103	0.95 (0.40-2.23)	0.98	0 vs >250 g/day
Inoue-Choi 2013 (24273064)[74]	Type II endometrial	Incidence	IWHS	F	185/23039	1.05 (0.53-2.06)	0.63	9.9-72.3 vs 0-1.3 servings/week
McCullough 2022 (36107009)[113]	Endometrial	Mortality	CPS II	F	1693/518,464	1.17 (0.95-1.45)	0.136	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Ovarian	Mortality	CPS II	F	3225/518,464	0.99 (0.84-1.17)	0.761	≥2 vs 0 drinks/day
Hodge 2018 (29463332)[70]	Aggressive prostate	Incidence	MCCS	M	433/14,101	1.08 (0.78-1.50)	0.47	≥1/day vs <1/month
Drake 2012 (23134882)[47]	Low risk prostate	Incidence	MDCS	M	332/8128	1.06 (0.82 – 1.78)	0.661	Q5 vs Q1
Drake 2012 (23134882)[47]	symptomatic prostate	Incidence	MDCS	M	238/8128	1.38 (1.04 – 1.84)	0.066	Q5 vs Q1
McCullough 2022 (36107009)[113]	Bladder	Mortality	CPS II	M/F	3419/ 934777	1.11 (0.97-1.27)	0.050	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Brain cancer	Mortality	CPS II	M/F	3402/934777	0.96 (0.83-1.11)	0.905	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Leukaemia	Mortality	CPS II	M/F	6319/934777	1.04 (0.94-1.15)	0.375	≥2 vs 0 drinks/day
McCullough 2022 (36107009)[113]	Multiple Myeloma	Mortality	CPS II	M/F	3129/934777	0.97 (0.84-1.11)	0.499	≥2 vs 0 drinks/day

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
McCullough 2022 (36107009)[113]	Non-Hodgkin Lymphoma	Mortality	CPS II	M/F	6600/934777	1.16 (1.05-1.28)	0.001	≥2 vs 0 drinks/day
Sugar sweetened beverages without fruit drinks								
Pacheco 2019 (31596902)[135]	Colorectal	Incidence	CTS	F	1318/99798	0.98 (0.65-1.46)	0.730	≥1 serving/day vs rare or never
Zhao 2023 (37552302)[186]	Liver	Incidence	WHI	F	163/98786	1.66 (0.89-3.09)	0.17	≥1 serving/day vs never to ≤3 servings/month
Sweetened bottled water or tea								
Pacheco 2019 (31596902)[135]	Colorectal	Incidence	CTS	F	1318/99798	1.21 (0.91-1.60)	0.29	≥1 serving/day vs rare or never
Caffeinated sugar sweetened cola								
Ishitani 2008 (18852405)[75]	Invasive	Incidence	WHS	F	1181/38432	1.17 (0.87-1.57)	0.40	≥1 can/day vs 0
Decaffeinated sugar sweetened cola								
Ishitani 2008 (18852405)[75]	Invasive breast	Incidence	WHS	F	1170/38432	0.83 (0.62-1.11)	0.15	≥1 can/week vs almost never
Red fruit drinks								
Kjaerheim 1998 9486469)[90]	Oral cavity, larynx, pharynx, and oesophagus	Incidence	Norwegian Men UADT	M	63/10900	0.90 (0.50-1.60)	N/A	>6 vs <1 servings/month
Fruit drinks								
Pacheco 2019 (31596902)[135]	Colorectal	Incidence	CTS	F	1318/99798	0.48 (0.12-1.94)	0.29	≥1 serving/day vs rare or never
Allen 2011 (21407222)[36]	Renal cell	Incidence	MWS	F	588/779369	1.10 (0.84-1.45)	0.50	≥2 vs 0-0.9 drinks/day
Lemonade								
Kjaerheim 1998 9486469)[90]	Oral cavity, larynx, pharynx, and oesophagus	Incidence	Norwegian Men UADT	M	65/10900	1.20 (0.60-2.20)	N/A	>6 vs <1 servings/month
Substitution of SSBs with ASBs								
Hur 2021 (33958435)[72]	Early-onset colorectal	Incidence	NHS II	F	109/95464	0.83 (0.69-0.99)	0.04	Per 1 serving/day
Substitution of SSBs with fruit juice								
Hur 2021 (33958435)[72]	Early-onset colorectal	Incidence	NHS II	F	109/95464	1.02 (0.61-1.69)	0.95	Per 1 serving/day

Abbreviations: AHEI, Alternative Healthy eating Index; DASH, Dietary Approaches to Stop Hypertension; ASBs, artificially sweetened beverages; SSBs, sugar sweetened beverages.

Supplementary Table 16. List of associations between artificially sweetened beverages and cancer incidence or mortality outcomes with only one available study.

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Artificially sweetened beverages								
McCullough 2022 (36107009)[113]	Larynx/oral cavity/pharynx	Mortality	CPS II	M/F	1852/934777	1.13 (0.94-1.37)	0.107	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Oesophageal	Mortality	CPS II	M/F	2727/934777	0.92 (0.78-1.08)	0.155	≥2 servings/day vs never
Hodge 2018 (29463332)[70]	Gastric cardia	Incidence	MCCS	M/F	165/35593	1.03 (0.53-1.98)	0.46	≥1 serving/day vs <0.9 serving/month
McCullough 2022 (36107009)[113]	Stomach	Mortality	CPS II	M/F	2798/934777	1.10 (0.94-1.28)	0.203	≥2 servings/day vs never
Jin 2023 (38004195)[78]	Colon	Incidence	UK Biobank	M/F	842/118210	0.98 (0.91-1.06)	0.588	Per one standard deviation
Jin 2023 (38004195)[78]	Rectal	Incidence	UK Biobank	M/F	842/118210	0.97 (0.86-1.10)	0.670	Per one standard deviation
Hur 2021 (33958435)[72]	Early-onset colorectal	Incidence	NHS II	F	109/95464	0.83 (0.47-1.47)	0.24	≥2 servings/day vs <0.9 serving/week
McCullough 2022 (36107009[113]	Small intestine	Mortality	CPS II	M/F	324/934777	1.28 (0.85-1.93)	0.244	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Gallbladder	Mortality	CPS II	M/F	1024/934777	1.15 (0.90-1.46)	0.105	≥2 servings/day vs never
You 2022 (36424907)[177]	Lung	Incidence	PLCO	F	1517/154897	0.78 (0.61-0.99)	0.043	Intake vs no intake
You 2022 (36424907)[177]	Lung	Incidence	PLCO	M	882/154897	1.08 (0.82-1.42)	0.574	Intake vs no intake
McCullough 2022 (36107009)[113]	Melanoma	Mortality	CPS II	M/F	2130/934777	1.02 (0.86-1.22)	0.841	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Endometrial	Mortality	CPS II	F	1693/518,464	1.01 (0.85-1.21)	0.878	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Ovarian	Mortality	CPS II	F	3225/518,464	1.01 (0.89-1.15)	0.284	≥2 servings/day vs never
Hodge 2018 (29463332)[70]	Aggressive prostate	Incidence	MCCS	M	433/14,101	0.91 (0.60-1.38)	0.66	≥1/day vs <1/month
Ringel 2022 (36601047)[144]	Bladder	Incidence	WHI	F	448/80388	0.75 (0.53-1.06)	N/A	≥1 serving/day vs never or <1/week
McCullough 2022 (36107009)[113]	Bladder	Mortality	CPS II	M/F	3419/934777	1.02 (0.88-1.18)	0.922	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Brain	Mortality	CPS II	M/F	3402/934777	0.97 (0.84-1.11)	0.737	≥2 servings/day vs never
Zamora-Ros 2023 (35907037)[180]	Thyroid	Incidence	EPIC	M/F	495/450064	1.16 (0.80-1.69)	0.26	107.5–4201.7 mL/day vs 0
Zamora-Ros 2023 (35907037)[180]	Papillary thyroid	Incidence	EPIC	M/F	469/450064	1.51 (1.04-2.19)	0.16	107.6 – 4201.7 mL/day vs 0
Zamora-Ros 2023 (35907037)[180]	Follicular thyroid	Incidence	EPIC	M/F	86/450064	0.38 (0.11-1.30)	N/A	107.6 – 4201.7 mL/day vs 0
McCullough 2022 (36107009)[113]	Leukaemia	Mortality	CPS II	M/F	6319/934777	0.97 (0.87-1.07)	0.444	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Multiple Myeloma	Mortality	CPS II	M/F	3511/934777	1.03 (0.90-1.17)	0.707	≥2 servings/day vs never
McCullough 2022 (36107009)[113]	Non-Hodgkin Lymphoma	Mortality	CPS II	M/F	6600/934777	1.01 (0.92-1.12)	0.870	≥2 servings/day vs never

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Artificially sweetened caffeinated cola								
Ishitani 2008 (18852405)[75]	Invasive breast	Incidence	WHS	F	1179/38432	0.88 (0.68-1.13)	0.16	≥2 servings/day vs almost never
Artificially sweetened decaffeinated cola								
Ishitani 2008 (18852405)[75]	Invasive breast	Incidence	WHS	F	1165/38432	1.30 (0.99-1.71)	0.25	≥2 servings/day vs almost never
Caffeinated diet soft drinks								
Podoltsev 2020 (31904114) [140]	Myeloproliferative neoplasms	Incidence	NIH-AARP	M/F	490/463,049	1.01 (0.81 – 1.27)	0.98	Yes vs no
Podoltsev 2020 (31904114) [140]	Polycythemia vera	Incidence	NIH-AARP	M/F	190/463,049	0.96 (0.67 – 1.38)	0.82	Yes vs no
Podoltsev 2020 (31904114) [140]	Essential thrombocythemia	Incidence	NIH-AARP	M/F	146/463,049	1.01 (0.67 – 1.51)	0.97	Yes vs no
Decaffeinated diet soft drinks								
Podoltsev 2020 (31904114) [140]	Myeloproliferative neoplasms	Incidence	NIH-AARP	M/F	490/463,049	0.95 (0.78 – 1.16)	0.62	Yes vs no
Podoltsev 2020 (31904114) [140]	Polycythemia vera	Incidence	NIH-AARP	M/F	190/463,049	0.91 (0.65 – 1.26)	0.56	Yes vs no
Podoltsev 2020 (31904114) [140]	Essential thrombocythemia	Incidence	NIH-AARP	M/F	146/463,049	0.99 (0.69 – 1.42)	0.94	Yes vs no

Supplementary Table 17. List of associations between juices and cancer incidence or mortality outcomes with only one available study.

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Fruit juice								
Freedman 2008 (18092323[59]	Oral squamous cell	Incidence	NIH-AARP	M/F	319/490802	1.10 (0.78-1.53)	0.556	5.2-6.8 vs 1.2-1.8 serving/1000 kcal
Freedman 2008 (18092323)[59]	Oropharynx and hypopharynx squamous cell	Incidence	NIH-AARP	M/F	142/490802	1.05 (0.63-1.74)	0.809	5.2-6.8 vs 1.2-1.8 serving/1000 kcal
Freedman 2007 (17691111)[58]	Oesophageal adenocarcinoma	Incidence	NIH-AARP	M/F	103/490802	0.85 (0.55-1.33)	0.863	1.37 vs 0 servings/1000 kcal
Freedman 2007 (17691111)[58]	Oesophageal squamous cell	Incidence	NIH-AARP	M/F	213/490802	0.83 (0.45-1.52)	0.766	1.37 vs 0 servings/1000 kcal
Freedman 2008 (18166992)[60]	Stomach	Incidence	NIH-AARP	M/F	394/490802	0.97 (0.83-1.13)	N/A	Per 1 serving/100 kcal
Jin 2023 (38004195)[78]	Colon	Incidence	UK Biobank	M/F	842/118210	1.03 (0.97-1.11)	0.875	Per 1 SD/day
Hur 2021 (33958435)[72]	Early-onset colorectal	Incidence	NHS	F	109/95464	1.13 (0.15-8.60)	0.63	≥2 vs ≤0.9 serving/week
Jin 2023 (38004195)[78]	Rectal	Incidence	UK Biobank	M/F	359/118210	0.95 (0.85-1.06)	0.340	Per 1 SD/day
Freedman 2008 (18092323)[59]	Laryngeal squamous cell	Incidence	NIH-AARP	M/F	279/490802	0.85 (0.59-1.22)	0.742	5.2-6.8 vs 1.2-1.8 serving/1000 kcal
Ozasa 2001 (11749690)[134]	Lung cancer	Mortality	JACC	F	75/98248	0.95 (0.56-1.63)	0.87	12-16 times/month vs ≤1-2 times/month
Ozasa 2001 (11749690)[134]	Lung cancer	Mortality	JACC	M	283/98248	0.90 (0.69-1.18)	0.45	12-16 times/month vs ≤1-2 times/month
Fung 2011 (21832271)[63]	ER- breast	Incidence	NHS	F	827/86621	0.95 (0.76-1.19)	0.43	2.9 vs 0.1 serving/day
Sonestedt, 2008 (18711147)[156]	ERα- breast	Incidence	MDCS	F	58/15773	1.03 (0.83-1.29)	N/A	Per 1 category
Sonestedt, 2008 (18711147)[156]	ERα+ breast	Incidence	MDCS	F	392/15773	1.05 (0.97-1.14)	N/A	Per 1 category
Sonestedt, 2008 (18711147)[156]	ERα+/β- breast	Incidence	MDCS	F	155/15773	1.01 (0.88-1.15)	N/A	Per 1 category
Sonestedt, 2008 (18711147)[156]	ERα+/β+ breast	Incidence	MDCS	F	159/15773	1.07 (0.94-1.22)	N/A	Per 1 category
Sonestedt, 2008 (18711147)[156]	ERβ- breast	Incidence	MDCS	F	188/15773	0.97 (0.65-1.43)	N/A	Per 1 category
Sonestedt, 2008 (18711147)[156]	ERβ+ breast	Incidence	MDCS	F	182/15773	1.08 (0.95-1.22)	N/A	Per 1 category
Sakauchi 2007 (17571946)[149]	Ovarian	Mortality	JACC	F	44/64327	0.93 (0.39-2.22)	0.95	≥3-4 times/week vs seldom
Inoue-Choi 2013 (24273064)[74]	Type I endometrial	Incidence	IWHS	F	395/23039	1.16 (0.87-1.56)	0.14	8.4-63 vs ≤0.01 servings/week
Inoue-Choi 2013 (24273064)[74]	Type II endometrial	Incidence	IWHS	F	86/23039	0.97 (0.50-1.88)	0.99	8.4-63 vs ≤0.01 servings/week
Kirsh 2007 (17652276)[89]	Extraporastatic prostate	Incidence	PLCO	M	189/29361	1.32 (0.79-2.21)	0.39	3.4 vs 0.1 servings/day
Drake 2012 (23134882)[47]	Low risk prostate	Incidence	MDCS	M	348/8128	1.12 (0.87-1.44)	0.532	Q 5 vs Q 1

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Drake 2012 (23134882)[47]	Symptomatic prostate	Incidence	MDCS	M	248/8128	1.14 (0.85-1.52)	0.784	Q 5 vs Q 1
Park 2013 (23739308)[138]	Bladder	Incidence	MEC	F	152/185885	0.81 (0.51-1.30)	0.14	≥59.7 vs ≤4.7 g/1000kcal/day
Park 2013 (23739308)[138]	Bladder	Incidence	MEC	M	429/185885	0.94 (0.72-1.24)	0.67	≥59.7 vs ≤4.7 g/1000kcal/day
Sweetened fruit juice								
Mills 1991 2000840[123]	Bladder	Incidence	AHS	M/F	46/34198	0.31 (0.09-1.00)	0.02	≥1 vs 0 times/week
Pure fruit juice								
Iso 2007 (18260705)[76]	Oesophageal	Mortality	JACC	F	21/105500	0.84 (0.27-2.62)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Oesophageal	Mortality	JACC	M	138/105500	0.95 (0.61-1.49)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Stomach	Mortality	JACC	F	327/105550	1.28 (0.95-1.74)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Stomach	Mortality	JACC	M	678/105550	1.15 (0.93-1.42)	N/A	≥3 vs ≤1 times/week
Arthur 2021 (33220638)[38]	Colon	Incidence	CSDLH	M/F	192/2633	1.15 (0.76-1.73)	0.528	≥6.3 vs ≤1.7 cups/week
Iso 2007 (18260705)[76]	Colon	Mortality	JACC	F	189/105550	0.92 (0.65-1.30)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Colon	Mortality	JACC	M	190/105550	1.03 (0.69-1.54)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Rectal	Mortality	JACC	F	72/105550	0.86 (0.44-1.67)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Rectal	Mortality	JACC	M	150/105550	0.69 (0.43-1.11)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Liver	Mortality	JACC	F	195/105550	0.91 (0.61-1.36)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Liver	Mortality	JACC	M	412/105550	1.40 (1.05-1.85)	<0.05	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Gallbladder	Mortality	JACC	F	82/105550	1.44 (0.75-2.73)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Gallbladder	Mortality	JACC	M	63/105550	0.49 (0.21-1.18)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Lung	Mortality	JACC	F	229/105550	1.01 (0.70-1.46)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Lung	Mortality	JACC	M	772/105550	0.87 (0.72-1.07)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Breast	Mortality	JACC	F	93/60982	1.41 (0.80-2.51)	N/A	≥3 vs ≤1 times/week
Arthur 2021 (33220638)[38]	Endometrial	Incidence	CSDLH	F	169/2351	1.50 (1.00-1.72)	0.048	≥5.7 vs ≤2.5 cups/week
Arthur 2021 (33220638)[38]	Type I endometrial	Incidence	CSDLH	F	125/2351	1.63 (1.03-2.60)	0.040	≥5.7 vs ≤2.5 cups/week
Iso 2007 (18260705)[76]	Endometrial	Mortality	JACC	F	29/60982	0.84 (0.31-2.23)	N/A	≥3 vs ≤1 times/week
Arthur 2021 (33220638)[38]	Ovarian	Incidence	CSDLH	F	98/2554	1.48 (0.87-2.54)	0.145	≥5.7 vs ≤2.4 cups/week
Arthur 2021 (33220638)[38]	Epithelial ovarian	Incidence	CSDLH	F	72/2554	1.32 (0.70-2.49)	0.352	≥5.7 vs ≤2.4 cups/week
Chazelas 2019 (31292122)[44]	Prostate	Incidence	NutriNet-Santé	M	291/21,533	0.98 (0.78-1.22)	0.80	Per 100 ml/day

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Iso 2007 (18260705)[76]	Prostate	Mortality	JACC	M	152/44518	1.01 (0.63-1.61)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Kidney	Mortality	JACC	F	15/105550	2.01 (0.39-10.30)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Kidney	Mortality	JACC	M	41/105550	0.87 (0.36-2.12)	N/A	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Bladder	Mortality	JACC	F	38/105550	0.42 (0.15-1.17)	<0.10	≥3 vs ≤1 times/week
Iso 2007 (18260705)[76]	Bladder	Mortality	JACC	M	81/105550	0.44 (0.21-0.90)	<0.05	≥3 vs ≤1 times/week
Citrus juice								
Betterweck 1998 9801014)[43]	Stomach	Incidence	NLCS	M/F	282/120852	0.92 (0.82-1.03)	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Colon	Incidence	NLCS	F	N/A/120852	0.99	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Colon	Incidence	NLCS	M	N/A/120852	1.00	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Rectal	Incidence	NLCS	F	N/A/120852	1.07	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Rectal	Incidence	NLCS	M	N/A/120852	0.87	N/A	Per 25 g/day
Vrieling 2009 (19107929)[167]	Pancreas	Incidence	EPIC	M/F	555/478400	0.91 (0.68-1.22)	0.13	Per 25 g/day
Mahamat-Saleh 2020 (32710289)[107]	Basal cell carcinoma	Incidence	EPIC	M/F	5604/270112	1.10 (1.01-1.19)	0.008	Q 4 vs Q 1
Mahamat-Saleh 2020 (32710289)[107]	Squamous cell carcinoma	Incidence	EPIC	M/F	1165/270112	1.23 (1.05-1.44)	0.004	Q 4 vs Q 1
Stolzenberg-Solomon 2006 (16600944)[160]	Breast	Incidence	PLCO	F	91/31411	0.86 (0.43-1.72)	0.79	≥180.5 vs 0-5.61 g/day
Zeegers 2001 (11700259)[181]	Bladder	Incidence	NLCS	M/F	N/A/350	1.00 (0.93-1.08)	N/A	Per 25 g/day
Xiao 2014 (24686895)[174]	Thyroid	Incidence	NIH-AARP	M/F	586/491840	1.55 (0.97-2.49)	0.02	Q 5 vs Q 1
Xiao 2014 (24686895)[174]	Papillary thyroid	Incidence	NIH-AARP	M	170/491840	1.39 (0.86-2.27)	0.33	Q 5 vs Q 1
Xiao 2014 (24686895)[174]	Papillary thyroid	Incidence	NIH-AARP	F	247/491840	1.79 (1.17-2.75)	0.01	Q 5 vs Q 1
Orange juice								
Marley 2022 (34282681)[111]	Non-melanoma skin	Incidence	UK Biobank	M/F	9389/197372	1.06 (0.90-1.24)	0.91	≥1 serving/day vs none
Michaud 1999 (10203279)[120]	Bladder	Incidence	HPFS	M	N/A/47909	Not significant	N/A	Not reported
Pure orange juice								
Khairan 2023 (36167978)[84]	Stomach	Incidence	JPHC	F	676/39,353	1.04 (0.87-1.24)	0.80	Q3 vs Q1
Khairan 2023 (36167978)[84]	Stomach	Incidence	JPHC	M	1465/35,102	0.97 (0.86-1.10)	0.66	Q3 vs Q1
Yamagiwa 2019 (30255932)[176]	Pancreas	Incidence	JPHC	M/F	577/90185	0.94 (0.77-1.15)	0.616	28-1700 vs ≤0.09 g/day
Grapefruit juice								
Marley 2022 (34282681)[111]	Non-melanoma skin	Incidence	UK Biobank	M/F	9602/197372	0.94 (0.44-1.75)	0.74	≥1 serving/day vs none

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Kim 2008 (18026192)[86]	Postmenopausal breast	Incidence	NHS	F	3570/77050	1.02 (0.85-1.22)	0.95	≥0.5 vs 0 glasses/day
Michaud 1999 (10203279)[120]	Bladder	Incidence	HPFS	M	N/A/47909	Not significant	N/A	Not reported
Other fruit juices (not citrus)								
Voorrips 2000 (11117618)[165]	Colon	Incidence	NLCS	F	N/A/120852	1.00	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Colon	Incidence	NLCS	M	N/A/120852	1.04	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Rectal	Incidence	NLCS	F	N/A/120852	0.87	N/A	Per 25 g/day
Voorrips 2000 (11117618)[165]	Rectal	Incidence	NLCS	M	N/A/120852	0.93	N/A	Per 25 g/day
Zhao 2023 (36811575)[185]	Liver	Incidence	NIH-AARP	M/F	947/485403	0.97 (0.80-1.17)	0.99	Q1 vs Q5
Voorrips 2000 (10710193)[166]	Lung	Incidence	NLCS	M/F	963/120852	0.90 (0.70-1.20)	N/A	20 vs 0 g/day
Mommers 2005 (16104037)[124]	Epithelial ovarian	Incidence	NLCS	F	N/A/62573	1.08 (0.98-1.18)	N/A	Per 25 g/day
Apple juice								
Michaud 1999 (10203279)[120]	Bladder	Incidence	HPFS	M	N/A/47909	Not significant	N/A	Not reported
Yamagiwa 2019 (30255932)[176]	Pancreas	Incidence	JPHC	M/F	N/A/90185	0.89 (0.72-1.09)	0.27	≥6 vs ≤1 glass /week
Other fruit juices (not citrus and apple)								
Farvid 2016 (27170029)[51]	Breast	Incidence	NHS II	F	3235/90476	1.01 (0.98-1.03)	N/A	Per 2 servings/week
Michaud 1999 (10203279)[120]	Bladder	Incidence	HPFS	M	N/A/47909	Not significant	N/A	Not reported
Fruit and vegetable juice								
Kanehara 2024 (38795743)[81]	Rectal	Incidence	MEC	M/F	1014/192651	0.79 (0.64-0.97)	0.02	268.5-492.5 vs 0-1.1 g/1000 kcal
Stepien 2016 (25528243)[159]	Liver	Incidence	EPIC	M/F	140/477206	1.38 (0.80-2.28)	0.02	≥6 vs <1 glass /week
Stepien 2016 (25528243)[159]	Intrahepatic bile duct	Incidence	EPIC	M/F	66/477206	1.04 (1.00-1.08)	N/A	Per 1 serving/week
Olsen 2003 (12840204)[133]	ER- breast	Incidence	DCH	F	91/23798	0.67 (0.42-1.08)	N/A	Per 100 g/day
Olsen 2003 (12840204)[133]	ER+ breast	Incidence	DCH	F	303/23798	1.04 (0.89-1.22)	N/A	Per 100 g/day
Merritt 2015 (25662427)[117]	Endometrial	Incidence	EPIC	F	1303/301107	1.07 (0.91-1.26)	0.35	148.6 vs 0 g/day
Merritt 2016 (26607939)[118]	Epithelial ovarian	Incidence	EPIC	F	1095/325004	1.06 (0.89-1.27)	0.94	149.4 vs 0 g/day
Heath 2021 (33849969)[66]	Kidney	Mortality	EPIC	M/F	356/389220	1.08 (0.99-1.17)	0.11	Per 100 mL/day
Ros 2011 (20715171)[147]	Urothelial	Incidence	EPIC	M/F	513/233236	1.32 (1.05-1.68)	0.02	Q 3 vs Q 1
Ros 2011 (20715171)[147]	High risk urothelial	Incidence	EPIC	F	210/233236	1.21 (0.85-1.71)	0.22	Q 3 vs Q 1
Ros 2011 (20715171)[147]	Low risk urothelial	Incidence	EPIC	F	271/233236	1.53 (1.12-2.09)	0.01	Q 3 vs Q 1

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Zamora-Ros 2018 (28688112)[179]	Thyroid	Incidence	EPIC	M/F	748/476108	1.23 (0.98-1.53)	N/A	≤95 vs ≤0.9 g/day
Zamora-Ros 2018 (28688112)[179]	Papillary thyroid	Incidence	EPIC	M/F	601/476108	1.69 (0.92-3.08)	N/A	≤95 vs ≤0.9 g/day
Zamora-Ros 2018 (28688112)[179]	Follicular thyroid	Incidence	EPIC	M/F	109/476108	1.12 (0.88-1.43)	N/A	≤95 vs ≤0.9 g/day
Pure fruit and vegetable juice								
Dunneram, 2019 (30526696)[49]	Breast	Incidence	UKWCS	F	1625/32289	0.94 (99% CI: 0.83-1.08)	N/A	Per 145 g/day
Dunneram, 2019 (30526696)[49]	Postmenopausal breast	Incidence	UKWCS	F	1030/32289	0.99 (99% CI: 0.90-1.09)	N/A	Per 145 g/day
Dunneram, 2019 (30526696)[49]	Premenopausal breast	Incidence	UKWCS	F	291/32289	0.89 (99% CI: 0.72-1.10)	N/A	Per 145 g/day
Dunneram, 2019 (30526696)[49]	Endometrial	Incidence	UKWCS	F	86/32289	0.89 (99% CI: 0.60-1.33)	N/A	Per 145 g/day
Dunneram, 2019 (30526696)[49]	Ovarian	Incidence	UKWCS	F	251/32289	0.94 (99% CI: 0.68-1.31)	N/A	Per 145 g/day
Tomato juice								
Jiang 2023 (37637049)[77]	Colorectal	Incidence	PLCO	M/F	N/A/101680	1.03 (0.84-1.26)	0.612	≥2.97 vs ≤-19.52 g/day
Jiang 2023 (37637049)[77]	Colorectal	Mortality	PLCO	M/F	443/101680	1.08 (0.79-1.47)	0.746	≥2.97 vs ≤-19.52 g/day
Yamagiwa 2019 (30255932)[176]	Pancreas	Incidence	JPHC	M/F	N/A/90185	0.98 (0.79-1.21)	0.904	1-1981 vs ≤0.09 g/day
Sesso 2005 (15894655)[153]	Breast	Incidence	WHS	F	1057/38447	0.81 90.59-1.11)	0.37	≥8 vs 0 serving/month

Supplementary Table 18. List of associations between soft drinks and cancer incidence or mortality outcomes with only one available study.

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Soft drinks								
Stepien 2016 (25528243)[159]	Ampulla of Vater	Incidence	EPIC	M/F	54/ 477206	0.96 (0.90-1.00)	N/A	1 serving per week
Khan 2004 (15075007)[85]	Lung	Mortality	HGCS	M	N/A/ 3185	1.10 (0.50-2.10)	N/A	Daily or weekly vs monthly or yearly
Khan 2004 (15075007)[85]	Lung	Mortality	HGCS	F	N/A/ 3185	1.80 (0.50-6.60)	N/A	Daily or weekly vs monthly or yearly
Ibiebele 2007 (17490979)[73]	Skin (squamous cell)	Incidence	NSCS	M/F	161/ 1360	1.22 (0.64-2.32)	N/A	Q3 vs Q1
Dunneram, 2019 (30526696)[49]	Postmenopausal Breast	Incidence	UKWCS	F	1030/ 32289	1.03 (99% CI: 0.90-1.19)	N/A	Per 111 g/day
Dunneram, 2019 (30526696)[49]	Premenopausal Breast	Incidence	UKWCS	F	291/ 32289	1.04 (99% CI: 0.87-1.23)	N/A	Per 111 g/day
Mullee 2019 (31479109)[126]	Breast	Mortality	EPIC	F	1402/ 321,081	1.13 (0.92-1.39)	0.20	≥1 glass/day vs <1 glass/month
Dunneram, 2019 (30526696)[49]	Ovarian	Incidence	UKWCS	F	251/ 32289	1.07 (99% CI: 0.74-1.54)	N/A	Per 111 g/day
Papadimitriou, 2020 (31705265) [137]	Prostate	Incidence	EPIC	M	5916/ 122,998	0.98 (0.95 – 1.01)	0.25	Per 1-SD increase
Papadimitriou, 2020 (31705265) [137]	Localised prostate	Incidence	EPIC	M	NR/ 122,998	0.97 (0.93 – 1.02)	0.26	Per 1-SD increase
Papadimitriou, 2020 (31705265) [137]	Advanced prostate	Incidence	EPIC	M	NR/ 122,998	0.97 (0.91 – 1.03)	0.30	Per 1-SD increase
Papadimitriou, 2020 (31705265) [137]	Low-grade prostate	Incidence	EPIC	M	NR/ 122,998	0.98 (0.94 – 1.03)	0.48	Per 1-SD increase
Papadimitriou, 2020 (31705265) [137]	High-grade	Incidence	EPIC	M	NR/ 122,998	0.97 (0.89 – 1.07)	0.57	Per 1-SD increase
Papadimitriou, 2020 (31705265) [137]	Aggressive	Incidence	EPIC	M	NR/ 122,998	0.95 (0.90 – 1.00)	0.007	Per 1-SD increase
Mullee 2019 (31479109)[126]	Prostate	Mortality	EPIC	M	907/ 130,662	0.97 (0.77-1.24)	0.80	≥1 serving/day vs none
Zamora-Ros 2023 (35907037)[180]	Differentiated thyroid	Incidence	EPIC	M/F	712/ 450064	1.05 (1.00-1.11)	N/A	Per 100 mL/day
Zamora-Ros 2023 (35907037)[180]	Papillary thyroid	Incidence	EPIC	M/F	573/ 450064	1.07 (1.01-1.03)	N/A	Per 100 mL/day
Zamora-Ros 2023 (35907037)[180]	Follicular thyroid	Incidence	EPIC	M/F	108/ 450064	0.92 (0.76-1.11)	N/A	Per 100 mL/day
Carbonated soft drinks								
Ren 2010 (20395127)[143]	Larynx	Incidence	NIH-AARP	M/F	307/ 481563	0.82 (0.55-1.23)	0.35	≥1 serving/day versus none
Ren 2010 (20395127)[143]	Pharynx	Incidence	NIH-AARP	M/F	178/ 481563	0.76 (0.46-1.25)	0.20	≥1 serving/day versus none
Ren 2010 (20395127)[143]	Oral cavity	Incidence	NIH-AARP	M/F	392/ 481563	0.77 (0.54-1.09)	0.31	≥1 serving/day versus none
Ren 2010 (20395127)[143]	Stomach cardia	Incidence	NIH-AARP	M/F	231/ 481563	0.89 (0.55-1.45)	0.75	≥1 serving/day versus none
Ren 2010 (20395127)[143]	Stomach non-cardia	Incidence	NIH-AARP	M/F	224/ 481563	0.75 (0.45-1.24)	0.30	≥1 serving/day versus none

Author Year (PMID)	Cancer site	Outcome type	Study name	Sex	Cases / cohort size	RR (95%CI)	p-value for trend/ linear analysis	Comparison
Ren 2010 (20395127)[143]	Oesophageal squamous cell	Incidence	NIH-AARP	M/F	123/ 481563	0.85 (0.46-1.56)	0.55	≥1 serving/day versus none
Ren 2010 (20395127)[143]	Oesophageal adenocarcinoma	Incidence	NIH-AARP	M/F	305/ 481563	1.11 (0.66-1.85)	0.73	≥1 serving/day versus none
Mueller 2010 (20142243)[125]	Pancreas adenocarcinoma	Incidence	SCHS	M/F	140/ 60524	1.86 (1.11-3.13)	0.02	5.11 vs 0 servings/week
Merritt 2016 (26607939)[118]	Epithelial ovarian	Incidence	EPIC and NLCS	F	1095/ 325004	1.15 (0.97-1.36)	0.21	≥61.4 vs 0 g/day
Dubrow 2012 (22457000)[48]	Glioma	Incidence	NIH-AARP	M/F	882/ 545771	0.87 (0.65-1.15)	0.53	>2 cans/day vs none
Cola								
Khan 2004 (15075007)[85]	Colorectal	Mortality	HGCS	F	14/ 3458	2.2 (0.30-17.8)	N/A	Daily or weekly vs monthly or yearly
Khan 2004 (15075007)[85]	Lung	Mortality	HGCS	M	N/A/ 3185	0.50 (0.10-2.20)	N/A	Daily or weekly vs monthly or yearly
Tworoger 2008 (18213613)[163]	Epithelial ovarian	Incidence	NHS	F	507/ 80253	0.80 (0.59-1.13)	0.81	≥1 serving/day vs none
Ellison 2000 (18213613)[50]	Prostate	Incidence	Nutrition Canada Survey	M	201/ 3400	1.29 (0.74-2.26)	N/A	≥100 mL/day vs none
Caffeinated soft drinks								
Podoltsev 2020 (31904114) [140]	Myeloproliferative neoplasms	Incidence	NIH-AARP	M/F	490/463,049	1.07 (0.89 – 1.30)	0.47	Yes vs no
Podoltsev 2020 (31904114) [140]	Polycythemia vera	Incidence	NIH-AARP	M/F	190/463,049	1.10 (0.81 – 1.50)	0.52	Yes vs no
Podoltsev 2020 (31904114) [140]	Essential thrombocythemia	Incidence	NIH-AARP	M/F	146/463,049	1.05 (0.73 – 1.50)	0.80	Yes vs no
Decaffeinated soft drinks								
Podoltsev 2020 (31904114) [140]	Myeloproliferative neoplasms	Incidence	NIH-AARP	M/F	490/463,049	0.99 (0.73 – 1.33)	0.93	Yes vs no
Podoltsev 2020 (31904114) [140]	Polycythemia vera	Incidence	NIH-AARP	M/F	190/463,049	1.06 (0.66 – 1.68)	0.81	Yes vs no
Podoltsev 2020 (31904114) [140]	Essential thrombocythemia	Incidence	NIH-AARP	M/F	146/463,049	0.92 (0.52 – 1.62)	0.77	Yes vs no

Supplementary Table 19. Subgroup analyses of sugar sweetened beverages (per 1 serving [355 mL]/day) and cancer risk.

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Stomach cancer incidence, main analysis	2	0.99 (0.80 - 1.23)	0	
Subgroups				
Females	2	1.05 (0.71 - 1.54)	23%	0.593
Males	2	0.94 (0.83 - 1.06)	0	
Colorectal cancer incidence, main analysis	13	1.07 (1.00 - 1.14)	41%	
Subgroups				
North America	7	1.08 (1.00 - 1.17)	35%	0.018
Europe	2	1.82 (1.04 - 3.16)	0	
East/Southeast Asia	2	0.97 (0.91 - 1.04)	0	
Australia	1	1.17 (0.96 - 1.43)	-	
Follow-up ≤10 years	4	1.37 (0.96 - 1.94)	0	0.164
Follow-up >10 years	9	1.06 (0.99 - 1.13)	50%	
Females	7	1.04 (0.89 - 1.20)	54%	0.241
Males	3	1.09 (0.86 - 1.38)	72%	
SSBs included fruit juices	3	1.24 (0.93 - 1.65)	0	0.812
SSBs excluded fruit juices	3	1.34 (0.77 - 2.34)	0	
Baseline exposure measurement	9	1.03 (0.97 - 1.10)	32%	0.353
Repeated exposure measurements	5	1.13 (0.95 - 1.34)	35%	
Excluded people with diabetes at baseline	2	1.18 (0.99 – 1.40)	0	0.272
Not excluded people with diabetes at baseline	11	1.06 (0.99 – 1.13)	41%	
Moderate bias for confounding	8	1.04 (0.97 – 1.11)	41%	0.112
Serious bias for confounding	5	1.15 (1.03 - 1.29)	24%	
Moderate bias for departure from intended exposure	5	1.15 (0.94 – 1.34)	40%	0.413
Critical bias for departure from intended exposure	8	1.04 (0.97 – 1.10)	31%	
Colorectal cancer mortality, main analysis	4	1.02 (1.00 - 1.04)	0	
Subgroups				
US	3	1.04 (0.97 – 1.11)	35%	0.789
Europe	1	1.07 (0.86 – 1.34)	-	
Baseline exposure measurement	2	1.02 (1.00 - 1.04)	0	0.216

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Repeated exposure measurements	2	1.12 (0.97 – 1.30)	Not reported[1]	
Excluded people with diabetes at baseline	2	1.02 (1.00 – 1.04)	0	0.216
Not excluded people with diabetes at baseline	2	1.12 (0.97 – 1.30)	0	
Moderate bias for confounding	2	1.12 (0.97 – 1.30)	0	0.216
Serious bias for confounding	2	1.02 (1.00 – 1.04)	0	
Moderate bias for departure from intended exposure	2	1.12 (0.97 – 1.30)	0	0.216
Critical bias for departure from intended exposure	2	1.02 (1.00 – 1.04)	0	
Colon cancer incidence, main analysis	6	1.01 (0.97 - 1.05)	0	
Subgroups				
Females	3	1.07 (0.88 - 1.29)	25%	0.365
Males	1	0.96 (0.87 - 1.07)	-	
Proximal colon cancer incidence, main analysis	5	1.03 (0.96 - 1.11)	60%	
Subgroups				
Age <60 years	2	1.22 (0.93 – 1.61)	Not reported[1]	0.45
Age 60-69 years	2	1.27 (1.03 – 1.57)	Not reported[1]	
Age ≥70 years	2	1.09 (0.87 – 1.36)	Not reported[1]	
Females	3	1.02 (0.96 - 1.09)	0	0.314
Males	2	1.12 (0.89 - 1.43)	52%	
Baseline exposure measurement	3	1.00 (0.97 – 1.03)	0	0.084
Repeated exposure measurements	2	1.18 (0.98 – 1.42)	52%	
Critical bias for departure from intended exposure	3	1.00 (0.97 – 1.03)	0	0.084
Moderate bias for departure from intended exposure	2	1.18 (0.98 – 1.42)	52%	
Never smokers	3	1.07 (0.74 - 1.53)	83%	0.972
Ever smokers	3	1.07 (0.95 - 1.22)	0	
Non drinkers	3	1.08 (0.93 - 1.26)	0	0.717
Drinkers	3	1.02 (0.78 - 1.35)	77%	
Low physical activity	3	1.04 (0.75 - 1.46)	83%	0.970
High physical activity	3	1.04 (0.90 - 1.19)	0	
BMI<25 kgm^2	3	1.06 (0.94 - 1.20)	0	0.858
BMI≥25 kg/m^2	3	1.02 (0.67 - 1.56)	85%	
Fruit intake≤1 serving/day	2	1.16 (0.98 – 1.38)	Not reported[1]	0.63

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Fruit intake>1 serving/day	2	1.24 (0.99 – 1.56)	Not reported[1]	
Proximal colon cancer mortality, main analysis	2	1.38 (1.11 - 1.71)	0	
Subgroups				
Age at diagnosis <60 years	2	1.98 (1.32 - 2.97)	Not reported[1]	0.18
Age at diagnosis 60-69 years	2	1.26 (0.85 - 1.86)	Not reported[1]	
Age at diagnosis ≥70 years	2	1.34 (0.96 - 1.87)	Not reported[1]	
Females	2	1.47 (1.07 - 2.02)	Not reported[1]	0.57
Males	2	1.30 (0.97 - 1.75)	Not reported[1]	
BMI<25 kgm^2	2	1.42 (1.06 - 1.89)	Not reported[1]	0.93
BMI≥25 kg/m^2	2	1.39 (1.03 - 1.87)	Not reported[1]	
Never smokers	2	1.53 (1.11 - 2.12)	Not reported[1]	0.44
Ever smokers	2	1.29 (0.97 - 1.72)	Not reported[1]	
Never drinkers	2	1.27 (0.80 - 2.01)	Not reported[1]	0.22
Light drinkers (0.1-14.9 g/day)	2	1.36 (1.03 - 1.80)	Not reported[1]	
Heavy drinkers (≥15 g/day)	2	1.95 (1.19 - 3.21)	Not reported[1]	
Physical activity below median	2	1.60 (1.25 - 2.06)	Not reported[1]	0.18
Physical activity above median	2	1.17 (0.80 - 1.72)	Not reported[11]	
Fruit intake≤1 serving/day	2	1.32 (1.01 – 1.73)	Not reported	0.52
Fruit intake>1 serving/day	2	1.52 (1.08 – 2.14)	Not reported[1]	
Distal colon cancer incidence, main analysis	5	1.03 (0.94 – 1.13)	41%	
Subgroups				
Baseline exposure measurement	3	1.07 (1.00 – 1.14)	0	0.058
Repeated exposure measurements	2	0.88 (0.73 – 1.06)	0	
Critical bias for departure from intended exposure	3	1.07 (1.00 – 1.14)	0	0.058
Moderate bias for departure from intended exposure	2	0.88 (0.73 – 1.06)	0	
Rectal cancer incidence, main analysis	4	0.98 (0.91 – 1.04)	0	
Subgroups				
Baseline exposure measurement	2	0.99 (0.92 – 1.06)	0	0.358
Repeated exposure measurements	2	0.89 (0.72 – 1.10)	0	
Critical bias for departure from intended exposure	2	0.99 (0.92 – 1.06)	0	0.358

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Moderate bias for departure from intended exposure	2	0.89 (0.72 – 1.10)	0	
Colon cancer incidence, main analysis (carbonated sugar sweetened beverages)	10	1.00 (0.91-1.10)	0	
Subgroups				
Follow-up ≤10 years	4	0.98 (0.85 - 1.12)	0	0.495
Follow-up >10 years	6	0.99 (0.83 - 1.18)	30%	
North America	7	0.98 (0.87 - 1.11)	27%	0.727
Europe	3	1.04 (0.76 - 1.44)	0	
Females	9	0.96 (0.85 - 1.09)	Not reported[1]	0.37
Males	4	1.05 (0.91 - 1.21)	Not reported[1]	
Proximal colon	10	1.01 (0.89 - 1.14)	Not reported[1]	0.89
Distal colon	10	1.01 (0.89 - 1.16)	Not reported[1]	
Never smokers	10	0.98 (0.81 - 1.17)	Not reported[1]	0.97
Past smokers	10	1.09 (0.93 - 1.28)	Not reported[1]	
Current smokers	10	1.02 (0.82 - 1.27)	Not reported[1]	
Non-drinkers	10	1.07 (0.93 - 1.21)	Not reported[1]	0.87
Light drinkers (<15 g/day)	10	0.94 (0.81 - 1.09)	Not reported[1]	
Heavy drinkers (≥15 g/day)	10	1.13 (0.90 - 1.44)	Not reported[1]	
Low physical activity	10	0.94 (0.83 - 1.09)	Not reported[1]	0.09
Moderate physical activity	10	0.94 (0.76 - 1.18)	Not reported[1]	
High physical activity	10	1.20 (0.99 - 1.45)	Not reported[1]	
BMI<25 kg/m^2	10	0.94 (0.78 - 1.13)	Not reported[1]	0.40
BMI≥25 kg/m^2	10	1.03 (0.91 - 1.16)	Not reported[1]	
Postmenopausal hormone use: ever	10	1.10 (0.94 - 1.29)	Not reported[1]	0.13
Postmenopausal hormone use: never	10	0.73 (0.50 - 1.08)	Not reported[1]	
Baseline exposure measurement	8	0.93 (0.82 - 1.06)	0	0.105
Repeated exposure measurements	2	1.09 (0.95 - 1.25)	0	
Liver cancer, main analysis	5	1.04 (0.97 - 1.11)	20%	
Subgroups				
Incidence	4	1.08 (0.94 - 1.24)	31%	0.285
Mortality	1	1.02 (0.98 - 1.06)	-	
Adjusted for BMI	2	1.21 (0.80 - 1.85)	83%	0.941

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Not adjusted for BMI	2	1.19 (0.82 - 1.71)	79%	
Excluded people with diabetes at baseline	2	1.29 (0.82 – 2.03)	83%	0.791
Not excluded people with diabetes at baseline	2	1.19 (0.79 – 1.79)	75%	
Pancreatic cancer, main analysis	5	1.04 (0.96 - 1.13)	44%	
Subgroups				
Incidence	4	1.08 (0.95 - 1.22)	45%	0.263
Mortality	1	1.00 (0.98 - 1.03)	0	
BMI<30 kg/m^2	2	1.02 (0.98 - 1.05)	0	0.184
BMI≥30 kg/m^2	2	0.98 (0.94 - 1.02)	0	
Females	2	0.99 (0.95 - 1.04)	0.3%	0.505
Males	2	1.01 (0.98 - 1.04)	0	
Never smokers	2	1.05 (0.82 - 1.34)	0	0.831
Former smokers	1	1.19 (0.85 - 1.67)	-	
Current smokers	2	1.07 (0.86 - 1.34)	0	
Adjusted for BMI	2	1.00 (0.98 – 1.02)	0	0.980
Not adjusted for BMI	2	1.00 (0.98 – 1.03)	0	
Excluded people with diabetes at baseline	1	0.94 (0.80 – 1.10)	0	0.064
Not excluded people with diabetes at baseline	3	1.13 (1.01 – 1.26)	0	
Pancreatic cancer, main analysis (carbonated sugar sweetened beverages)	15	1.13 (1.03 - 1.24)	0	
Subgroups				
Age at diagnosis <69 years	14	1.08 (0.92 - 1.26)	Not reported[1]	0.28
Age at diagnosis ≥69 years	14	1.21 (1.08 - 1.37)	Not reported[1]	
Females	11	1.03 (0.86 - 1.28)	Not reported[1]	0.38
Males	8	1.17 (1.06 - 1.30)	Not reported[1]	
BMI<25 kg/m^2	14	1.26 (1.06 - 1.50)	Not reported[1]	0.21
BMI≥25 kg/m^2	14	1.17 (1.06 - 1.30)	Not reported[1]	
Never smokers	14	1.17 (0.96 - 1.42)	Not reported[1]	0.73
Former smokers	14	1.21 (1.02 - 1.42)	Not reported[1]	
Current smokers	14	1.13 (0.96 - 1.30)	Not reported[1]	
Low physical activity	14	1.13 (0.98 - 1.30)	Not reported[1]	0.98
Moderate physical activity	14	1.28 (1.08 - 1.50)	Not reported[1]	

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
High physical activity	14	1.19 (1.00 - 1.42)	Not reported[1]	
Non-drinkers	14	1.30 (1.10 - 1.52)	Not reported[1]	0.23
Light drinkers (<15 g/day)	14	1.13 (0.98 - 1.28)	Not reported[1]	
Heavy drinkers (≥15 g/day)	14	1.06 (0.86 - 1.33)	Not reported[1]	
Follow-up ≤5 years	14	1.10 (0.96 - 1.28)	Not reported[1]	0.56
Follow-up >5 years	14	1.17 (1.04 - 1.33)	Not reported[1]	
Breast cancer incidence, main analysis	8	1.07 (0.98 - 1.17)	57%	
Subgroups				
North America	5	1.04 (0.97 - 1.10)	42%	0.021
Europe	2	2.07 (1.27 - 3.38)	0	
East/Southeast Asia	1	0.90 (0.48 - 1.68)	-	
Follow-up ≤10 years	4	1.25 (0.77 - 2.05)	60%	0.463
Follow-up >10 years	4	1.04 (0.97 - 1.12)	56%	
With fruit juice	3	1.26 (0.91 - 1.73)	64%	0.507
Without fruit juice	3	1.49 (1.02 - 2.18)	0	
Baseline exposure measurement	5	1.16 (0.98 – 1.38)	10%	0.504
Repeated exposure measurements	4	1.08 (0.97 – 1.21)	78%	
Critical bias for departure from intended exposure	5	1.16 (0.98 – 1.38)	10%	0.504
Moderate bias for departure from intended exposure	4	1.08 (0.97 – 1.21)	78%	
Postmenopausal breast cancer incidence, main analysis	6	1.05 (1.00 – 1.10)	0	
Subgroups				
Baseline exposure measurement	4	1.04 (0.99 – 1.09)	0	0.112
Repeated exposure measurements	2	1.22 (1.01 – 1.47)	0	
Excluded people with diabetes at baseline	2	1.22 (1.01 – 1.47)	0	0.112
Not excluded people with diabetes at baseline	4	1.04 (0.99 – 1.09)	0	
Moderate bias for confounding	5	1.05 (1.00 – 1.10)	0	0.553
Critical bias for confounding	1	1.31 (0.63 – 2.74)	-	
Critical bias for departure from intended exposure	4	1.04 (0.99 – 1.09)	0	0.112
Moderate bias for departure from intended exposure	2	1.22 (1.01 – 1.47)	0	

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Premenopausal breast cancer incidence, main analysis	5	1.25 (0.95 – 1.68)	64%	
Subgroups				
Excluded people with diabetes at baseline	1	1.16 (0.85 – 1.59)	-	0.474
Not excluded people with diabetes at baseline	4	1.45 (0.86 – 2.46)	74%	
Baseline exposure measurement	1	1.16 (0.85 – 1.59)	-	0.474
Repeated exposure measurements	4	1.45 (0.86 – 2.46)	74%	
Breast cancer mortality, main analysis	3	1.05 (0.97 – 1.14)	0	
Subgroups				
US	2	1.04 (0.95 – 1.12)	72%	0.268
Europe	1	1.21 (0.93 – 1.57)	0	
Baseline exposure measurement	2	1.05 (0.98 – 1.23)	50%	0.686
Repeated exposure measurements	1	1.09 (1.00 – 1.18)	-	
Excluded people with diabetes at baseline	2	1.05 (0.98 – 1.23)	50%	0.686
Not excluded people with diabetes at baseline	1	1.09 (1.00 – 1.18)	-	
Critical bias for departure from intended exposure	2	1.05 (0.98 – 1.23)	50%	0.686
Moderate bias for departure from intended exposure	1	1.09 (1.00 – 1.18)	-	
Prostate cancer incidence, main analysis	4	1.17 (0.96 – 1.43)	0	
Subgroups				
Baseline exposure measurement	2	1.18 (0.90 – 1.56)	0.44	0.60
Repeated exposure measurements	1	1.45 (0.71 – 2.96)	-	
Prostate cancer mortality, main analysis	3	0.99 (0.97 – 1.01)	0	
Subgroups				
US	2	0.99 (0.97 – 1.01)	0	0.465
Europe	1	1.11 (0.81 – 1.52)	-	
Baseline exposure measurement	2	0.99 (0.97 – 1.01)	0	0.815
Repeated exposure measurements	1	1.01 (0.86 – 1.19)	-	
Excluded people with diabetes at baseline	2	0.99 (0.97 – 1.01)	0	
Not excluded people with diabetes at baseline	1	1.01 (0.86 – 1.19)	-	
Critical bias for departure from intended exposure	2	0.99 (0.97 – 1.01)	0	

	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Moderate bias for departure from intended exposure	1	1.01 (0.86 – 1.19)	-	
Endometrial cancer incidence, main analysis	3	1.21 (1.03 - 1.42)	0	
Subgroups				
Adjusted for BMI	2	1.30 (1.00 - 1.71)	28%	0.692
Not adjusted for BMI	2	1.23 (1.03 - 1.45)	0	
Kidney cancer incidence, main analysis	4	1.13 (0.95 - 1.35)	49%	
Subgroups				
Females	2	1.19 (0.92 - 1.54)	0	0.231
Males	2	0.99 (0.83 - 1.17)	0	
Excluded people with diabetes at baseline	2	1.07 (0.88 – 1.30)	0	0.451
Not excluded people with diabetes at baseline	2	1.21 (0.95 – 1.53)	59%	
Kidney cancer mortality, main analysis				
Subgroups				
Females	2	1.09 (1.03 - 1.17)	0	0.427
Males	2	1.01 (0.85 - 1.21)	26%	
Non-Hodgkin lymphoma incidence, main analysis	3	1.04 (0.87 – 1.23)	62%	
Subgroups				
Baseline exposure measurement	1	1.00 (0.98 – 1.03)	-	0.742
Repeated exposure measurements	2	1.07 (0.71 – 1.60)	78%	
Critical bias for departure from intended exposure	1	1.00 (0.98 – 1.03)	-	0.742
Moderate bias for departure from intended exposure	2	1.07 (0.71 – 1.60)	78%	

Abbreviations: RR, relative risk; CI: confidence interval; BMI, body mass index.

[1] Based on a pooled analysis.

Supplementary Table 20. Subgroup analyses of artificially sweetened beverages (per 1 serving [355 mL]/day) and cancer risk.

Subgroup	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Colorectal cancer incidence, main analysis				
Subgroups				
US	3	1.02 (0.97 – 1.08)	0	0.378
Australia	1	0.91 (0.71 – 1.17)	-	
Baseline exposure measurement	1	0.91 (0.71 – 1.17)	-	0.378
Repeated exposure measurements	3	1.02 (0.97 – 1.08)	0	
Critical bias for departure from intended exposure	1	0.91 (0.71 – 1.17)	-	0.378
Moderate bias for departure from intended exposure	3	1.02 (0.97 – 1.08)	0	
Pancreatic cancer, main analysis	3	1.05 (1.00 - 1.10)	23%	
Subgroups				
Females	2	1.11 (0.90 – 1.36)	76%	0.360
Males	2	0.90 (0.60 – 1.34)	68%	
Never smokers	2	1.10 (0.97 - 1.24)	0	0.368
Current smokers	2	1.00 (0.86 - 1.17)	0	
BMI<25 kg/m^2	2	1.00 (0.97 - 1.03)	0	0.159
BMI≥25 kg/m^2	2	1.04 (1.01 - 1.07)	0	
BMI≥30 kg/m^2	2	1.01 (0.95 - 1.07)	0	
Pancreatic cancer, main analysis (carbonated artificially sweetened beverages)	2	1.02 (0.64 - 1.61)	0	
Subgroups				
BMI<25 kg/m^2	2	0.98 (0.48 - 1.98)	0	0.999
BMI≥25 kg/m^2	2	0.98 (0.48 - 1.99)	23%	
Breast cancer incidence, main analysis	3	0.99 (0.97 – 1.01)	0	
Subgroups				
US	2	0.91 (0.71 – 1.17)	-	0.378
Europe	1	1.02 (0.97 – 1.08)	0	
Baseline exposure measurement	1	0.91 (0.71 – 1.17)	-	0.378
Repeated exposure measurements	2	1.02 (0.97 – 1.08)	0	

Subgroup	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Breast cancer mortality, main analysis	3	1.01 (0.97 – 1.04)	11%	
Subgroups				
US	2	1.01 (0.98 – 1.04)	0	0.133
Europe	1	0.79 (0.57 – 1.09)	-	
Baseline exposure measurement	2	0.94 (0.76 – 1.17)	56%	0.548
Repeated exposure measurements	1	1.01 (0.95 – 1.08)	-	
Critical bias for departure from intended exposure	2	0.94 (0.76 – 1.17)	56%	0.548
Moderate bias for departure from intended exposure	1	1.01 (0.95 – 1.08)	-	
Endometrial cancer incidence, main analysis	3	0.90 (0.64 – 1.26)	0	
Subgroups				
Excluded people with diabetes at baseline	2	0.88 (0.61 – 1.27)	0	0.793
Not excluded people with diabetes at baseline	1	1.00 (0.43 – 2.35)	-	
Postmenopausal breast cancer incidence, main analysis	4	0.98 (0.95 – 1.01)	0	
Subgroups				
Baseline exposure measurement	2	1.00 (0.84 – 1.18)	0	0.826
Repeated exposure measurements	2	0.98 (0.95 – 1.01)	-	
Prostate cancer mortality, main analysis	3	0.99 (0.96 – 1.02)	0	
Subgroups				
US	2	0.99 (0.96 – 1.02)	0	0.674
Europe	1	1.11 (0.66 – 1.88)	-	
Baseline exposure measurement	2	0.99 (0.96 – 1.02)	0	0.621
Repeated exposure measurements	1	1.02 (0.91 – 1.14)	-	
Excluded people with diabetes at baseline	2	0.99 (0.96 – 1.02)	0	0.621
Not excluded people with diabetes at baseline	1	1.02 (0.91 – 1.14)	-	
Critical bias for departure from intended exposure	2	0.99 (0.96 – 1.02)	0	0.621
Moderate bias for departure from intended exposure	1	1.02 (0.91 – 1.14)	-	
Kidney cancer mortality, main analysis	2	0.97 (0.82 - 1.15)	64%	
Subgroups				

Subgroup	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Females	2	0.96 (0.91 - 1.03)	0	0.362
Males	2	1.08 (0.85 - 1.39)	58%	

Abbreviations: RR, relative risk; CI: confidence interval; BMI, body mass index.

Supplementary Table 21. Subgroup analyses of fruit juice (per 1 serving [177 mL]/day) and cancer risk.

Subgroup	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Breast cancer incidence, main analysis (fruit juice)	6	1.02 (0.99 - 1.05)		
Subgroups				
US	3	1.02 (0.99 - 1.04)	0	0.083
Europe	3	1.17 (1.00 - 1.38)	0	
Baseline exposure measurement	3	1.14 (0.97 – 1.33)	0	0.176
Repeated exposure measurements	3	1.02 (0.99 – 1.05)	0	
Moderate bias for departure from intended exposure	3	1.14 (0.97 – 1.33)	0	0.176
Critical bias for departure from intended exposure	3	1.02 (0.99 – 1.05)	0	
Melanoma incidence, main analysis (citrus juice)	4	1.08 (0.92 - 1.27)	63%	
Subgroups				
US	2	1.36 (0.77 - 2.39)	65%	0.350
Europe	2	1.01 (0.77 - 1.32)	79%	
Glioma incidence, main analysis (fruit juice)	3	0.99 (0.94 - 1.05)	0	
Subgroups				
Females	3	1.03 (0.92 - 1.15)	0	0.841
Males	3	1.01 (0.88 - 1.16)	45%	
Follow-up <5 years	3	0.93 (0.83 - 1.04)	Not reported	Not reported
Follow-up ≥5 years	3	1.04 (0.96 - 1.11)	Not reported	
Kidney cancer incidence, main analysis	4	1.02 (0.87 - 1.20)	44%	
Subgroups				
US	2	1.06 (0.88 – 1.28)	0	0.599
Europe	2	1.39 (0.51 – 3.76)	66%	
Kidney cancer incidence, main analysis (fruit and vegetable juice)	14	1.04 (0.97 - 1.12)	0	
Subgroups				
Females	10	1.04 (0.95 - 1.13)	0	0.672

Males	7	1.07 (0.96 - 1.19)	0

Abbreviations: RR, relative risk; CI: confidence interval.

Supplementary Table 22. Subgroup analyses of soft drinks (per 1 serving [355 mL]/day) and cancer risk.

Subgroup	Studies	RR (95%CI)	I^2 (%)	$P_{heterogeneity}$ between subgroups
Pancreatic cancer, main analysis	5	1.06 (0.97 - 1.17)	0	
Subgroups				
US	2	1.05 (0.95 - 1.15)	68%	0.560
Europe	3	1.17 (0.83 - 1.64)	79%	
Follow-up ≤10 years	4	1.10 (0.97 - 1.25)	75%	0.309
Follow-up >10 years	1	1.00 (0.88 - 1.14)	-	
Liver cancer, main analysis	4	1.15 (0.90 - 1.47)	85%	
Subgroups				
US	3	1.02 (0.95 - 1.09)	0	<0.001
Europe[1]	1	1.44 (1.16 - 1.66)	-	
Kidney cancer incidence, main analysis	14	1.02 (0.99 - 1.06)	0	
Subgroups				
Females	10	1.02 (0.97 - 1.07)	0	0.800
Males	7	1.03 (0.97 - 1.09)	Not reported[2]	

Abbreviations: RR, relative risk; CI: confidence interval.

[1] One large, multi-centre cohort study in several European countries.

[2] Based on a pooled analysis.

Supplementary Table 23. Descriptive table of the included Mendelian randomisation studies of soft drinks and cancer incidence and mortality.

Author, Year, PMID	MR design	Exposure population source (ref of GWAS)	Exposure population ancestry	No. IVs (SNPs)	Cancer population source (ref of GWAS)	Cancer population ancestry	Cancer cases/ controls	Outcome, comparison	Main results OR (95% CI)	Sensitivity analyses
Jin, 2024, 38524848[192]	Two-sample; summary-level data	24-h recall questionnaire Sugar-sweetened beverages UK Biobank GWAS PMID:31046077	European 85,852 males and females	12 SNPs	FinnGen, males and females https://www.finngen.fi/en/access_results	European		Oesophageal	Inverse variance weighted (IVW) method 0.424 (0.004-48.734)	MR-Egger, weighted mode, weighted median
					FinnGen, males and females https://www.finngen.fi/en/access_results	European		Stomach	5.309 (0.234-120.270)	
					GECCO, CORECT, CCFR, males and females PMID:30510241	European		Colorectal	2.488 (0.593-10.435)	
					UK Biobank, males and females https://www.nealelab.is/uk-biobank	European		Liver	0.037 (0.000-1669.357)	
					Kaiser Permanente GERA; UK Biobank, males and females PMID:32887889	European		Pancreatic	0.327 (0.002-45.783)	
					BCAC, females PMID:25751625	European		Breast	1.888 (1.115-3.196)	
					PMID:29059683	European		ER+ breast	1.566 (0.837-2.929)	
					PMID:29059683	European		ER- breast	2.843 (1.090-7.414)	

Author, Year, PMID	MR design	Exposure population source (ref of GWAS)	Exposure population ancestry	No. IVs (SNPs)	Cancer population source (ref of GWAS)	Cancer population ancestry	Cancer cases/ controls	Outcome, comparison	Main results OR (95% CI)	Sensitivity analyses
					ECAC; E2C2; UK Biobank, females PMID: 30093612	European		Endometrial	0.902 (0.253-3.213)	
					OCAC, females PMID:28346442	European		Ovarian	0.835 (0.230-3.035)	
					PRACTICAL, males PMID: 29892016	European		Prostate	1.538 (0.784-3.019)	
					Kaiser Permanente GERA; UK Biobank, males and females PMID:32887889	European		Kidney	7.820 (0.235-260.596)	
					FinnGen, males and females https://www.finngen.fi/en/access_results	European		Thyroid	0.350 (0.018-6.934)	
Jin, 2024, 38524848[192]	Two-sample; summary-level data	24-h recall questionnaire Artificially sweetened beverages UK Biobank GWAS PMID:31046077	European 85,852 males and females	16 SNPs Removed SNPs associated with type 2 diabetes, physical activity, smoking, education, other sources of sugar	FinnGen, males and females https://www.finngen.fi/en/access_results	European	566/287,137	Oesophageal	Inverse variance weighted (IVW) method 0.343 (0.003-36.130)	MR-Egger, weighted mode, weighted median, and lasso method
					FinnGen, males and females https://www.finngen.fi/en/access_results	European	1,307/287,137	Stomach	3.855 (0.050-294.354)	
					GECCO, CORECT, CCFR, males and females	European	11,835/11,856	Colorectal	6.879 (1.551-30.512)	Yes, robust

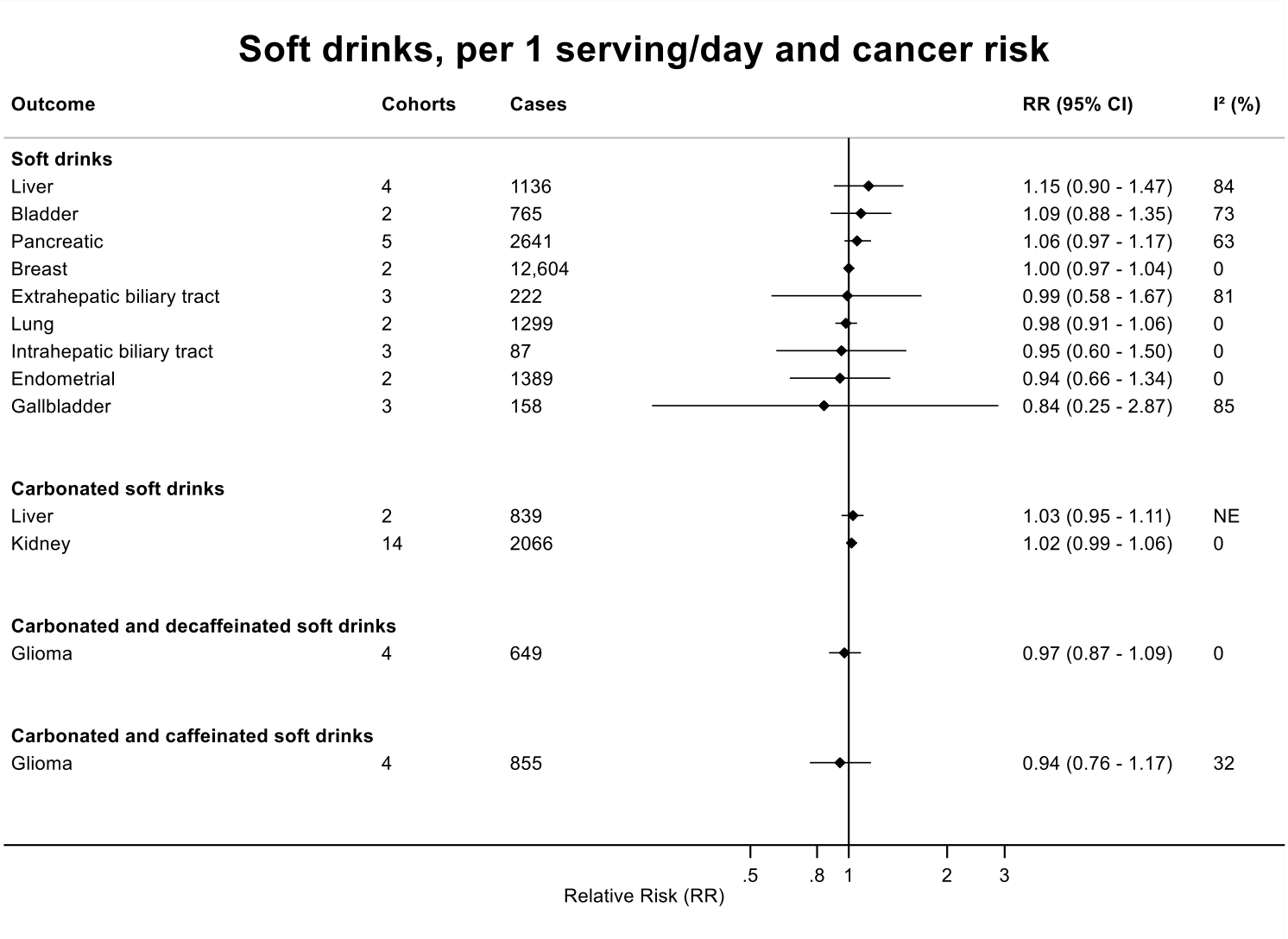
Author, Year, PMID	MR design	Exposure population source (ref of GWAS)	Exposure population ancestry	No. IVs (SNPs)	Cancer population source (ref of GWAS)	Cancer population ancestry	Cancer cases/ controls	Outcome, comparison	Main results OR (95% CI)	Sensitivity analyses
					PMID:30510241					
					UK Biobank, males and females	European	165/456,111	Liver	18.180 (0.002-167795.485)	
					https://www.nealelab.is/uk-biobank					
					Kaiser Permanente GERA; UK Biobank, males and females	European	663/410,350	Pancreatic	2.895 (0.029-285.157)	
					PMID:32887889					
					BCAC, females	European	46,785/42,892	Breast	3.881 (2.023-9.776)	Yes, robust
					PMID:25751625					
					PMID:29059683	European	69,501/105,974	ER+ breast	0.927 (0.469-1.835)	
					PMID:29059683	European	21,468/105,974	ER- breast	1.847 (0.535-6.376)	
					ECAC; E2C2; UK Biobank, females	European	12,906/108,979	Endometrial	0.953 (0.218-324.338)	
					PMID: 30093612					
					OCAC, females	European	25,509/40,941	Ovarian	1.614 (0.332-7.844)	
					PMID:28346442					
					PRACTICAL, males	European	79,148/61,106	Prostate	0.780 (0.380-1.602)	
					PMID: 29892016					
					Kaiser Permanente GERA; UK Biobank, males and females	European	1,338/410,350	Kidney	6.438 (0.128-324.338)	
					PMID:32887889					
					FinnGen, males and females	European	1,783/287,137	Thyroid	1.178 (0.087-16.042)	
					https://www.finngen.fi/en/access_results					

Author, Year, PMID	MR design	Exposure population source (ref of GWAS)	Exposure population ancestry	No. IVs (SNPs)	Cancer population source (ref of GWAS)	Cancer population ancestry	Cancer cases/ controls	Outcome, comparison	Main results OR (95% CI)	Sensitivity analyses
Pan, 2024, 38576413[193]	Two-sample; summary-level data	Artificial sweeteners added to coffee IEU Open GWAS project (https://gwas.mrcieu.ac.uk ukb-b-1338	European 42,348	12	IEU Open GWAS project (https://gwas.mrcieu.ac.uk OCAC ieu-a-1121	European	13,037 /40,941	High grade serous ovarian	Inverse variance weighted method 3.012 (1.602-5.633)	MR-Egger, weighted median, simple mode, weighted mode, leave-one-out
					OCAC ieu-a-1228		14,049 /40,941	High/low grade serous ovarian	2.340 (1.264-4.332)	Yes, robust
					67 cancer outcomes of different grades and histology IEU Open GWAS studies included BCAC, FINNGEN, ILCCO, MRC-IEU, Neale lab, OCAC, PRACTICAL, TRICL, UK Biobank			Head and neck, laryngeal, oral cavity, oesophageal, stomach, colorectal, liver, lung, breast, endometrial, prostate, kidney	ORs and 95% CIs not tabulated. P-values 0.077 to 0.978 except for ovarian and kidney cancers.	Leave-one-out test showed influence from individual SNPs on ovarian and kidney cancer
		Artificial sweeteners added to tea ukb-b-5867		15	Oncoarray oral cavity and oropharyngeal cancer ieu-b-91		613/ 727	Oral cavity and pharyngeal	214.060 (10.560-4339.228)	Yes, robust
					ieu-b-93		1135/ 2329	Oral cavity	17.973 (2.559-126.225)	Yes, robust
					ieu-b-95		340/ 727	Oral cavity	246.792 (6.920-8801.209)	Yes, robust
					ieu-b-98		205/ 727	Oropharyngeal	1992.183 (23.881-166187.626)	Yes, robust
					ukb-d-C3_BRONCHUS_LUNG		1,681/ 359,513	Bronchus and lungs	0.992 (0.987-0.997)	Yes, robust

Author, Year, PMID	MR design	Exposure population source (ref of GWAS)	Exposure population ancestry	No. IVs (SNPs)	Cancer population source (ref of GWAS)	Cancer population ancestry	Cancer cases/ controls	Outcome, comparison	Main results OR (95% CI)	Sensitivity analyses
					71 cancer outcomes of different grades and histology IEU Open GWAS included BCAC, FINNGEN, ILCCO, MRC-IEU, Neale lab, OCAC, PRACTICAL, TRICL, UK Biobank			Head and neck, oral and oropharyngeal, oesophageal, stomach, colorectal, liver, lung, breast, endometrial, ovarian, prostate, kidney	ORs and 95% CIs not tabulated. P-values 0.057 to 0.992 except for lung and oral cavity cancers.	Leave-one-out test showed influence from individual SNPs on lung and oral cavity cancers
Liu, 2023, 36040623[191]	Two-sample; summary-level data	24-h recall questionnaire PMID: 31046077 Sweet beverages (sugar-sweetened beverages, artificially sweetened beverages, pure non-grapefruit juices, flavoured milk, hot chocolate)	European UK Biobank	Excluded IVs correlated with other phenotypes such as BMI. 21	85,852	European UK Biobank and FinnGen GWAS www.gwas.mrcieu.ac.uk	4029	Colon	Inverse variance weighted method 1.002 (0.992-1.012)	MR-Egger, weighted median, leave-one-out, MR Steiger
							2548	Rectal	0.997 (0.987-1.007)	
		Sugar-sweetened beverages		23			4029	Colon	1.013 (1.001-1.026)	Yes, robust. Non-significant results but consistent association in the positive direction in the weighted median MR analysis.
							2548	Rectal	0.994 (0.973-1.015)	

Abbreviations: BMI, body mass index; GWAS, genome wide association studies; IVW, inverse variance weighted; MR, Mendelian randomisation; OR, odds ratio.

Supplementary Figure 1. Summary forest plot of the linear dose-response associations of soft drinks (sugar sweetened and artificially sweetened beverages combined) and cancer incidence.

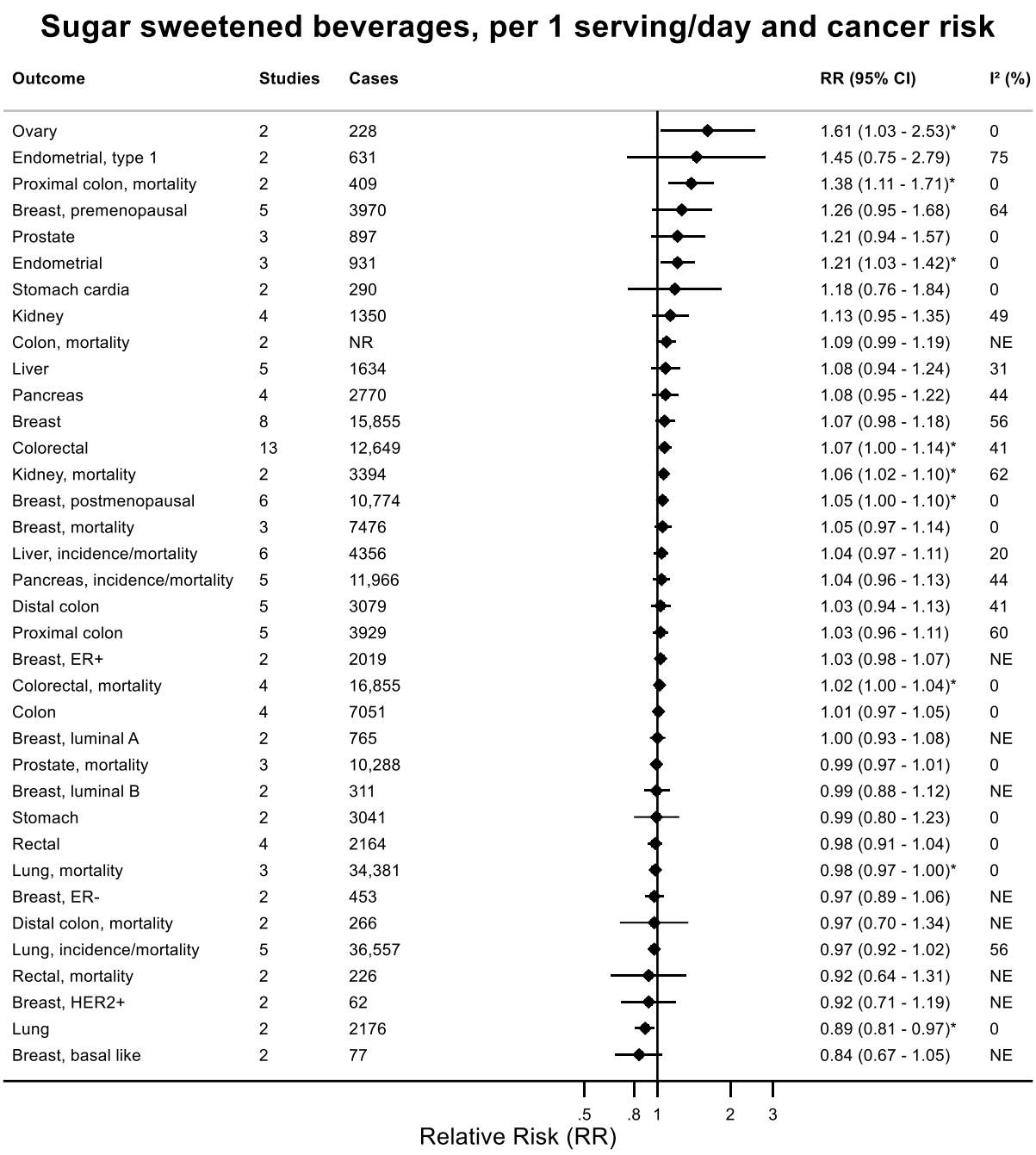


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI). No meta-analysis has been conducted for cancer mortality.

Note: Outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 2. Summary forest plot of the linear dose-response associations of sugar sweetened beverages and cancer incidence and mortality.

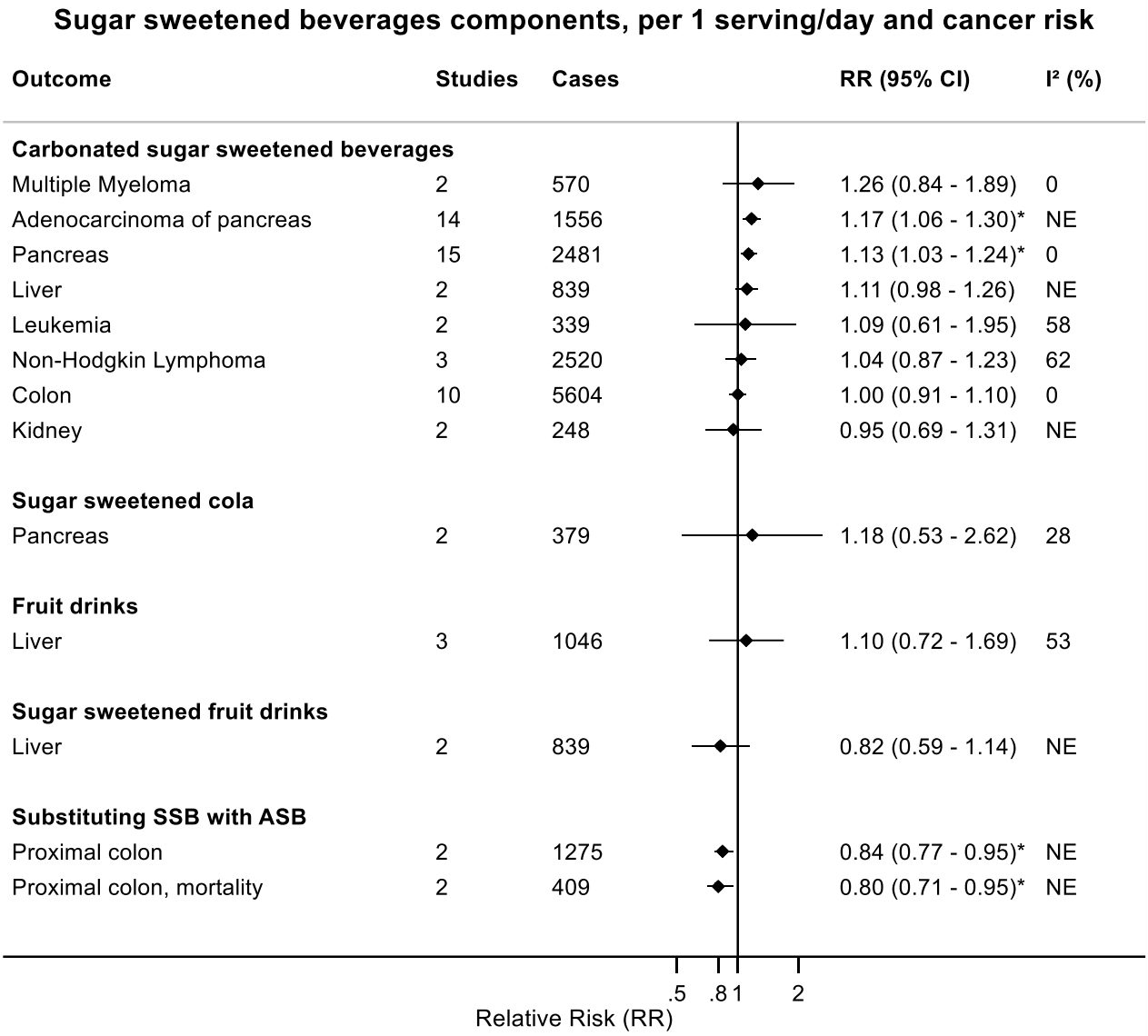


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

Note: outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 3. Summary forest plot of the linear dose-response associations of sugar sweetened beverages components and cancer incidence and mortality.

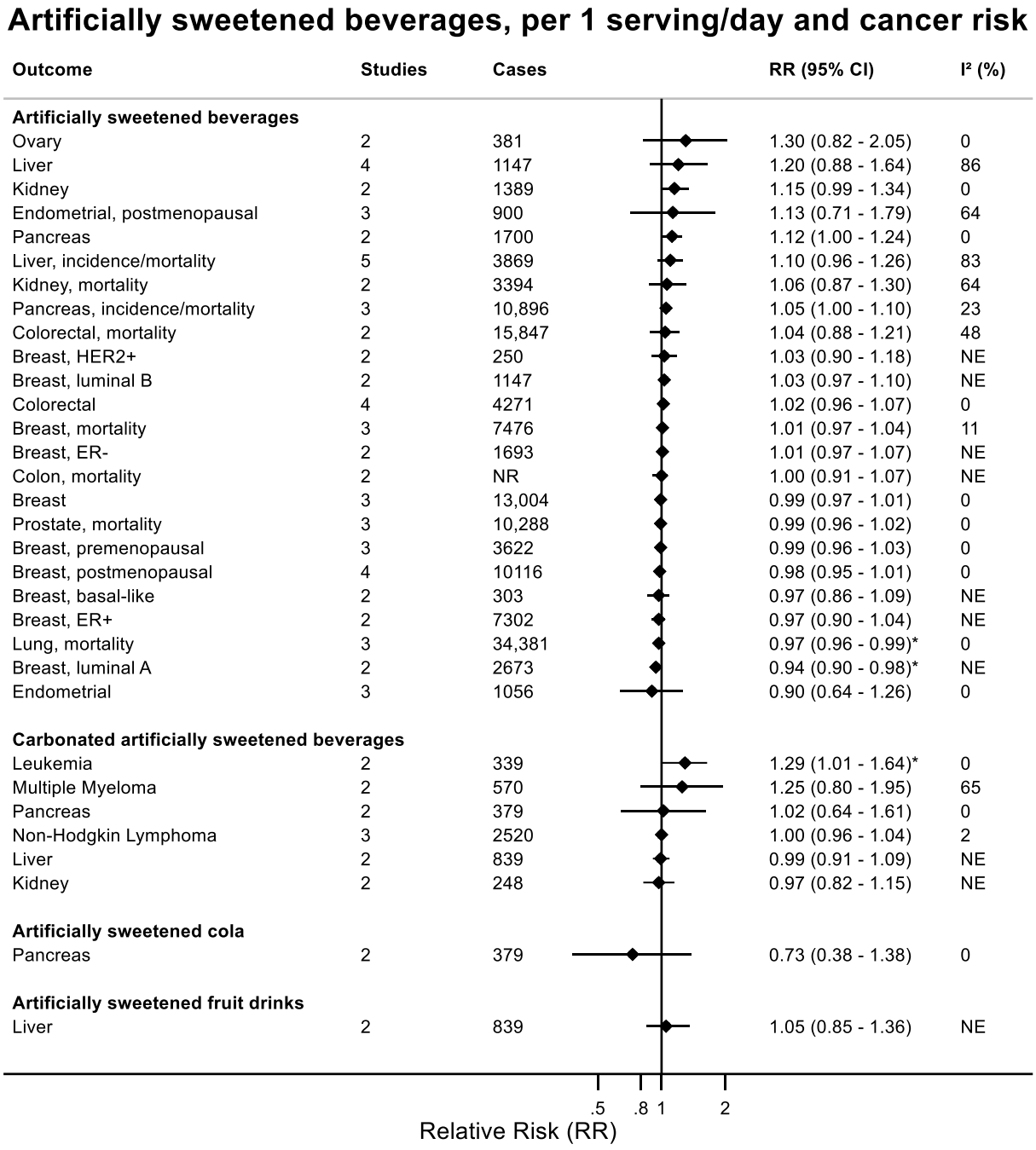


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

Note: Outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 4. Summary forest plot of the linear dose-response associations of artificially sweetened beverages and cancer incidence and mortality.

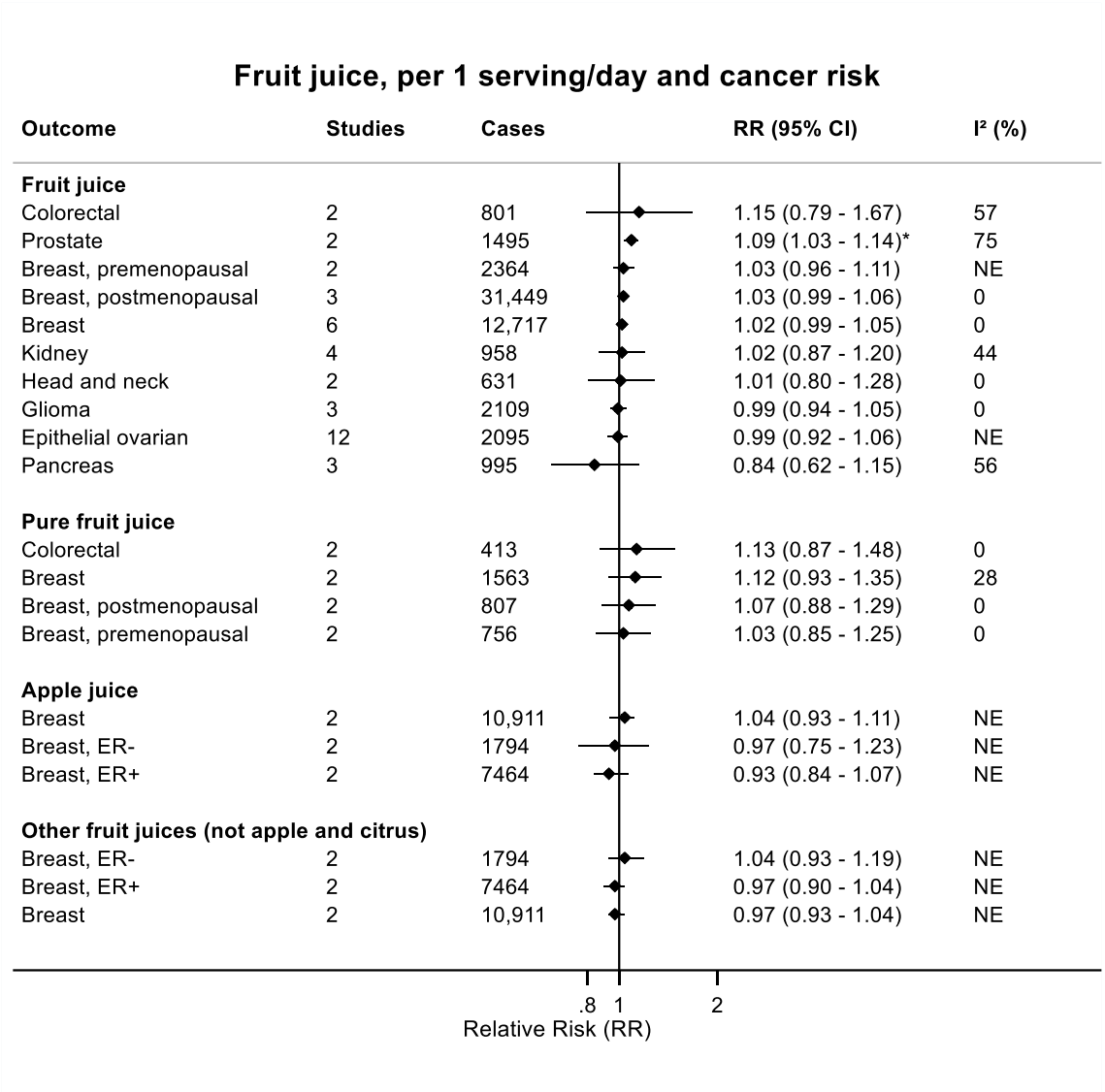


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

Note: Outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 5. Summary forest plot of the linear dose-response associations of fruit juice and cancer incidence.

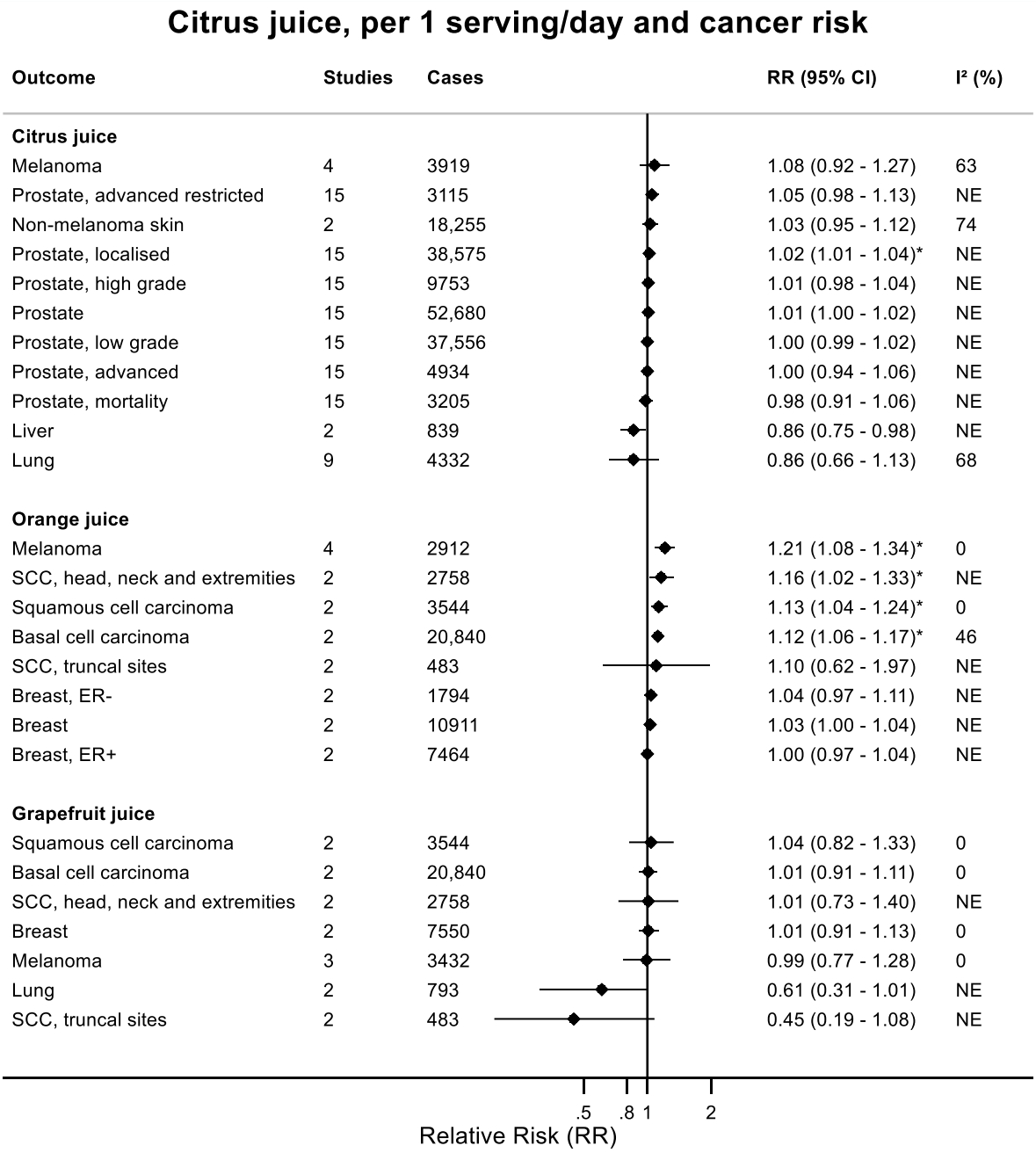


Forest plot shows the summary results across the linear dose-response (per 1 serving[177 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI). No meta-analysis has been conducted for cancer mortality. Outcomes are incidence, unless otherwise stated.

Note: All analyses are based on a random-effects meta-analysis, except for prostate cancer, which is from fixed-effect meta-analysis. The RR and 95%CI for fruit juice consumption and prostate cancer incidence were 1.22 (0.89-1.68) in the random-effect meta-analysis (see Supplementary Figure 243 for additional information).

* P<0.05

Supplementary Figure 6. Summary forest plot of the linear dose-response associations of citrus juice and cancer incidence.

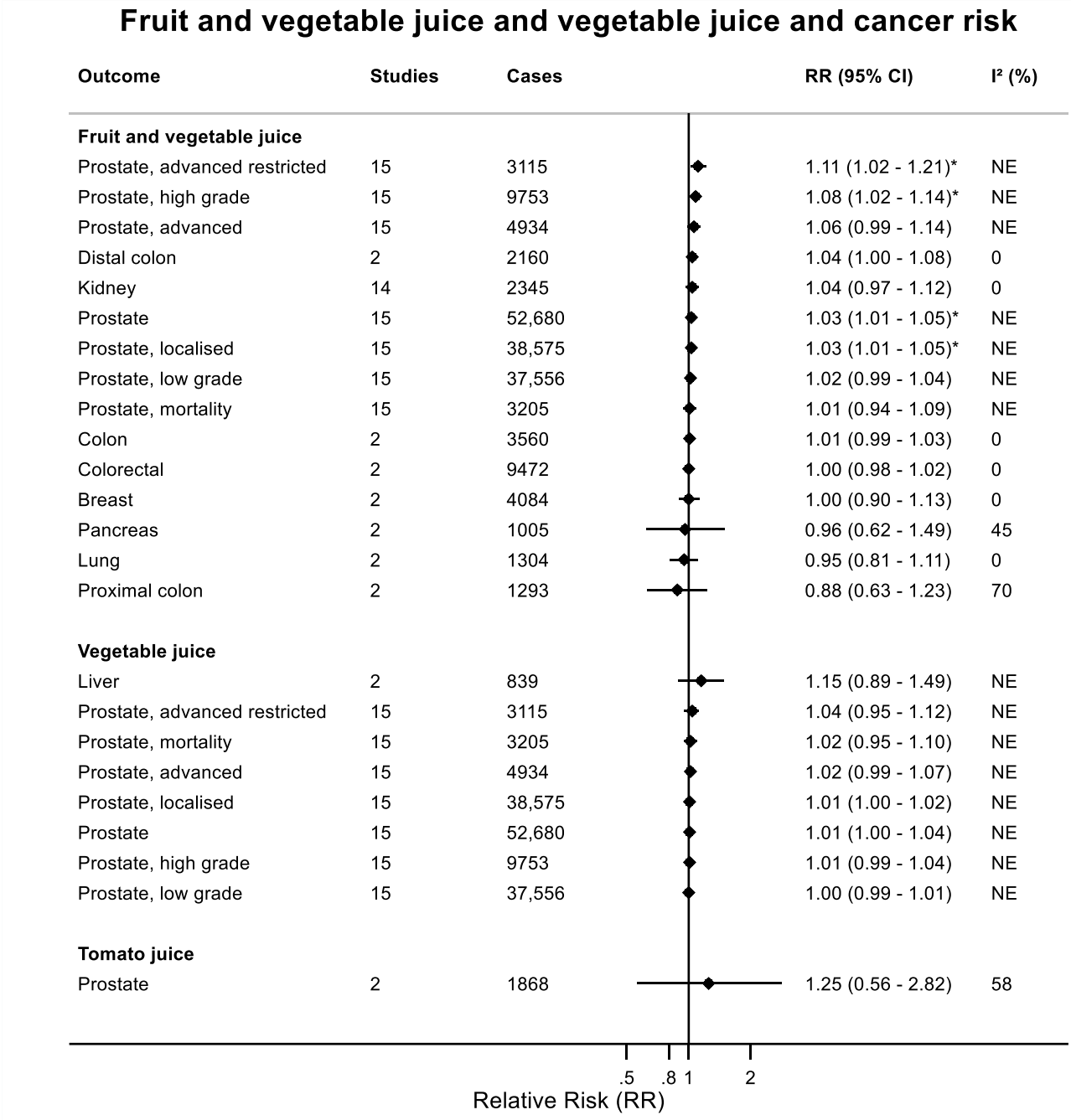


Forest plot shows the summary results across the linear dose-response (per 1 serving[177 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

Note: Outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 7. Summary forest plot of the linear dose-response associations of fruit and vegetable juice and vegetable juice and cancer incidence and mortality.

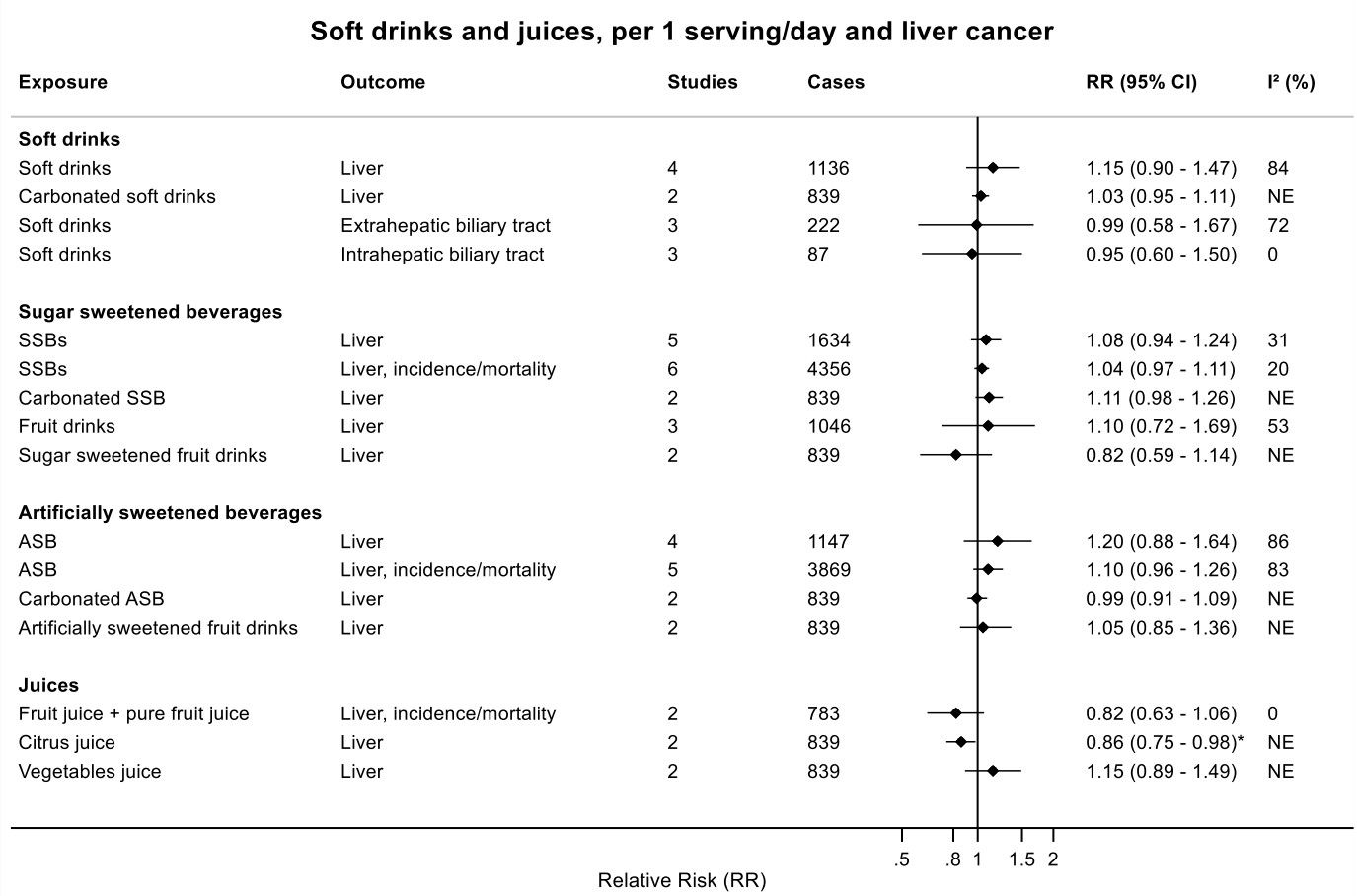


Forest plot shows the summary results across the linear dose-response (per 1 serving[177 mL]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

Note: Outcomes are incidence, unless otherwise stated.

* P<0.05

Supplementary Figure 8. Summary forest plot of the linear dose-response associations of soft drinks and juices and liver cancer risk.

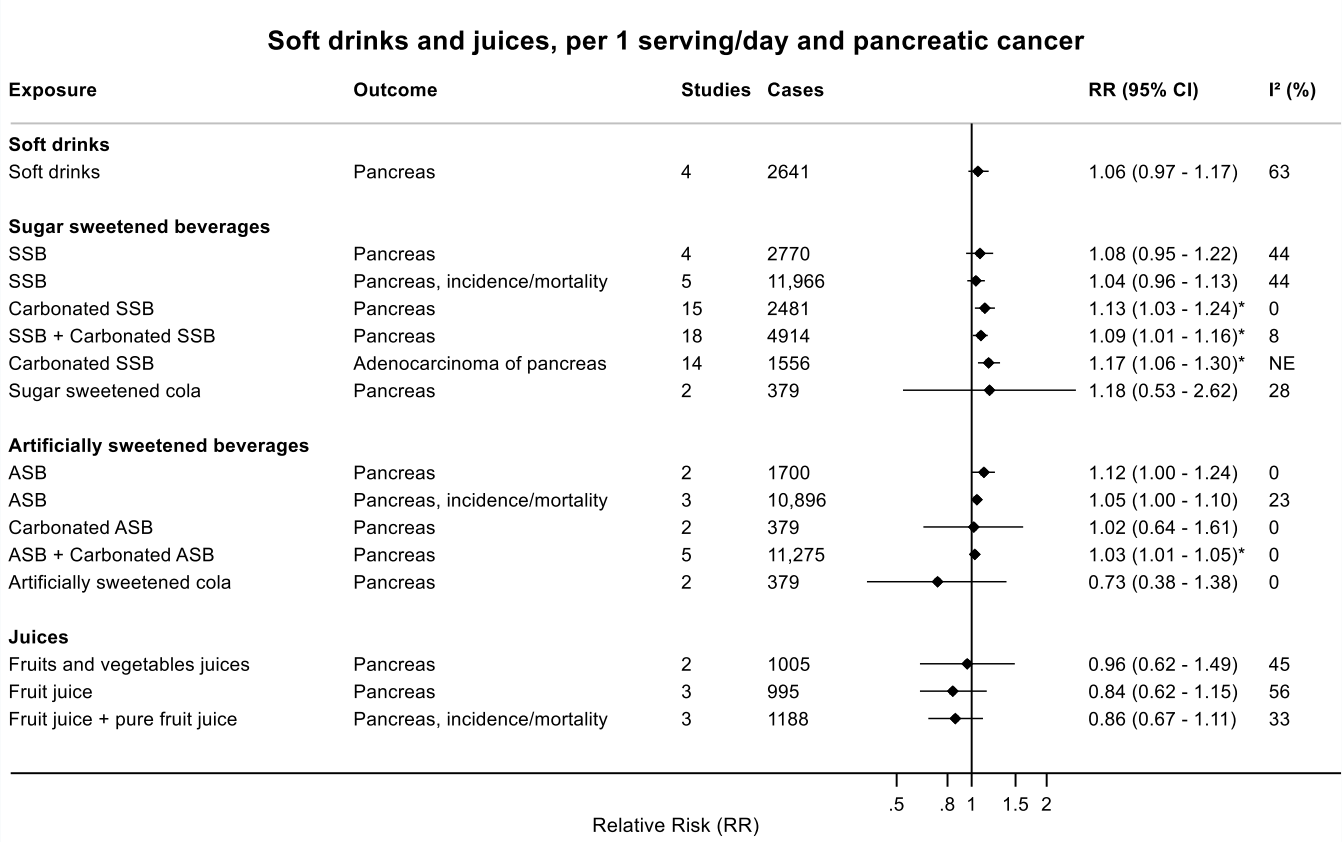


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 9. Summary forest plot of the linear dose-response associations of soft drinks and juices and pancreatic cancer risk.

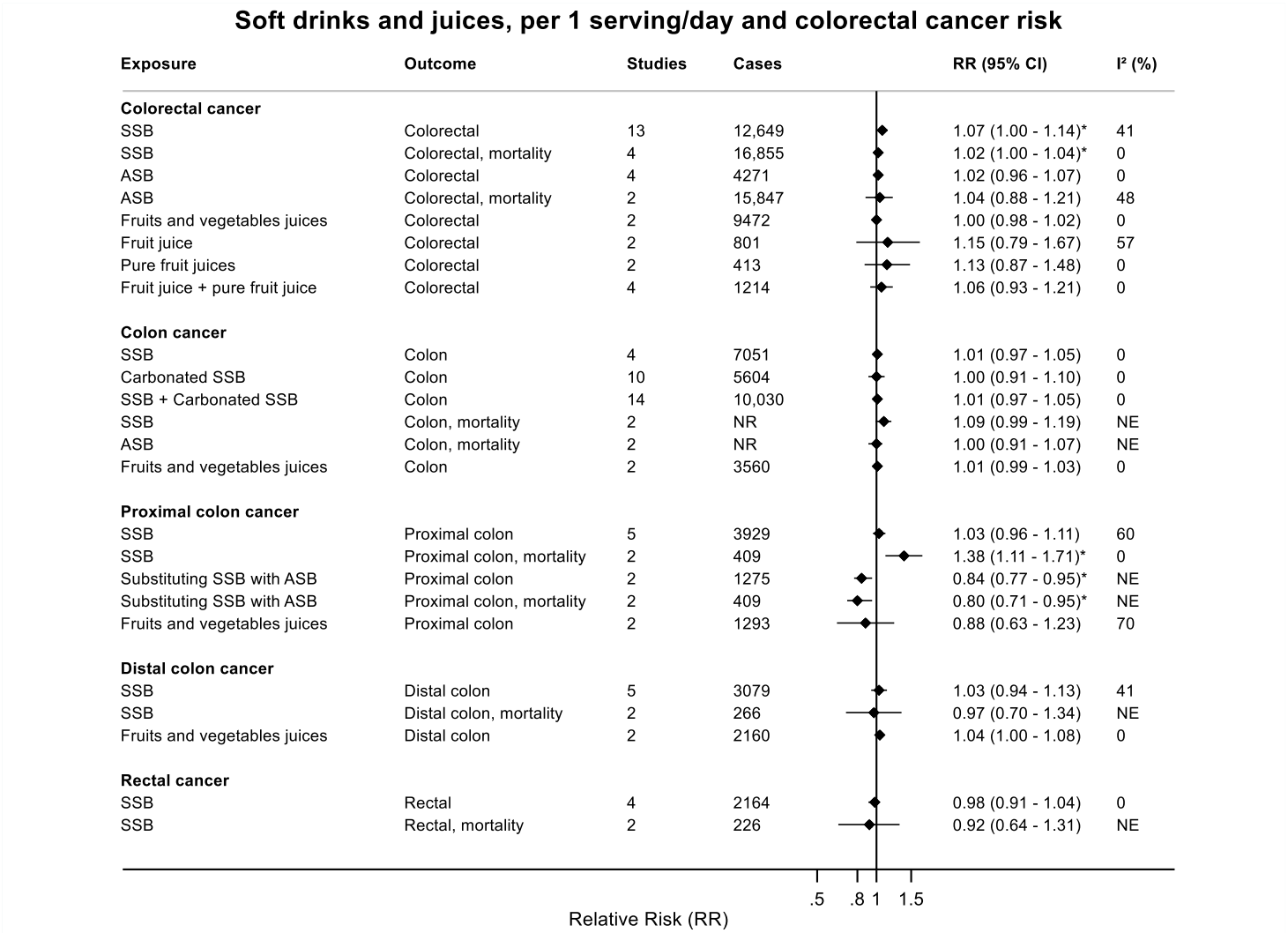


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 10. Summary forest plot of the linear dose-response associations of soft drinks and juices and colorectal cancer risk.

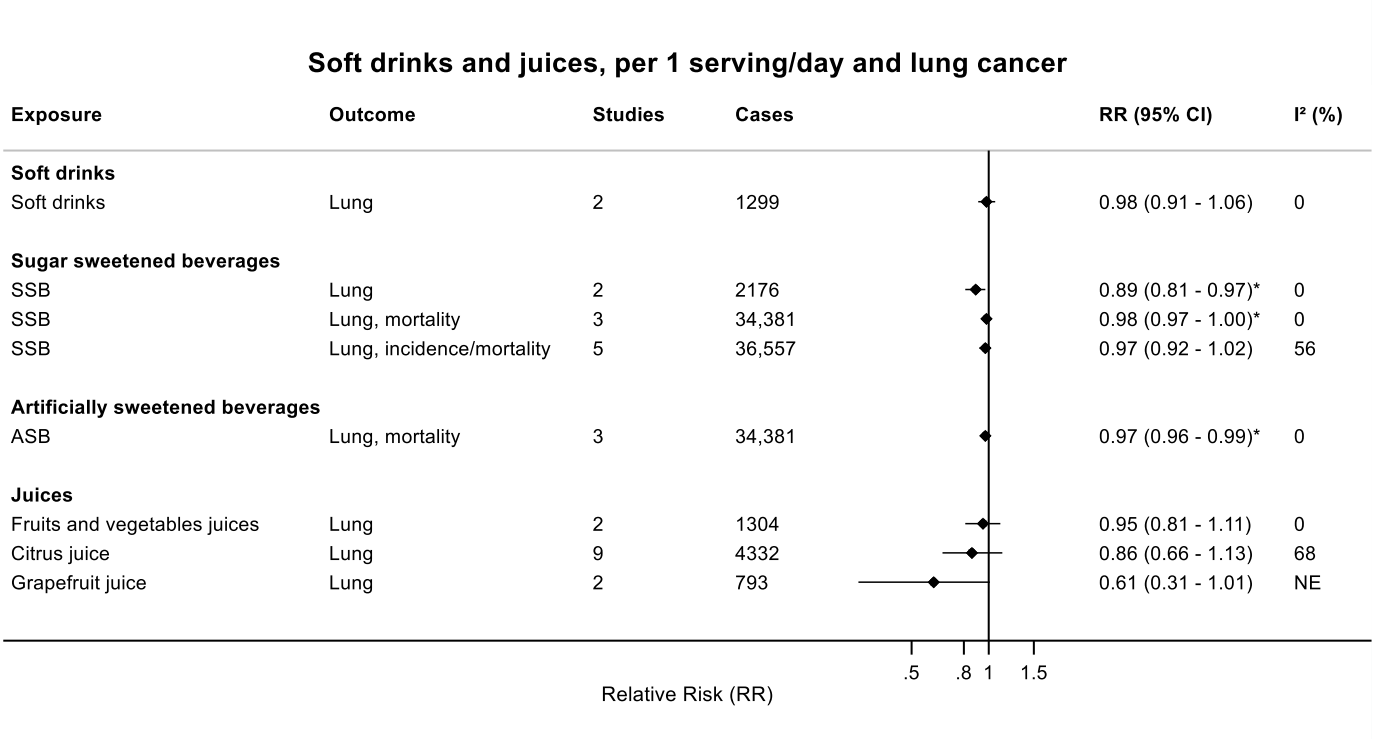


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 11. Summary forest plot of the linear dose-response associations of soft drinks and juices and lung cancer risk.

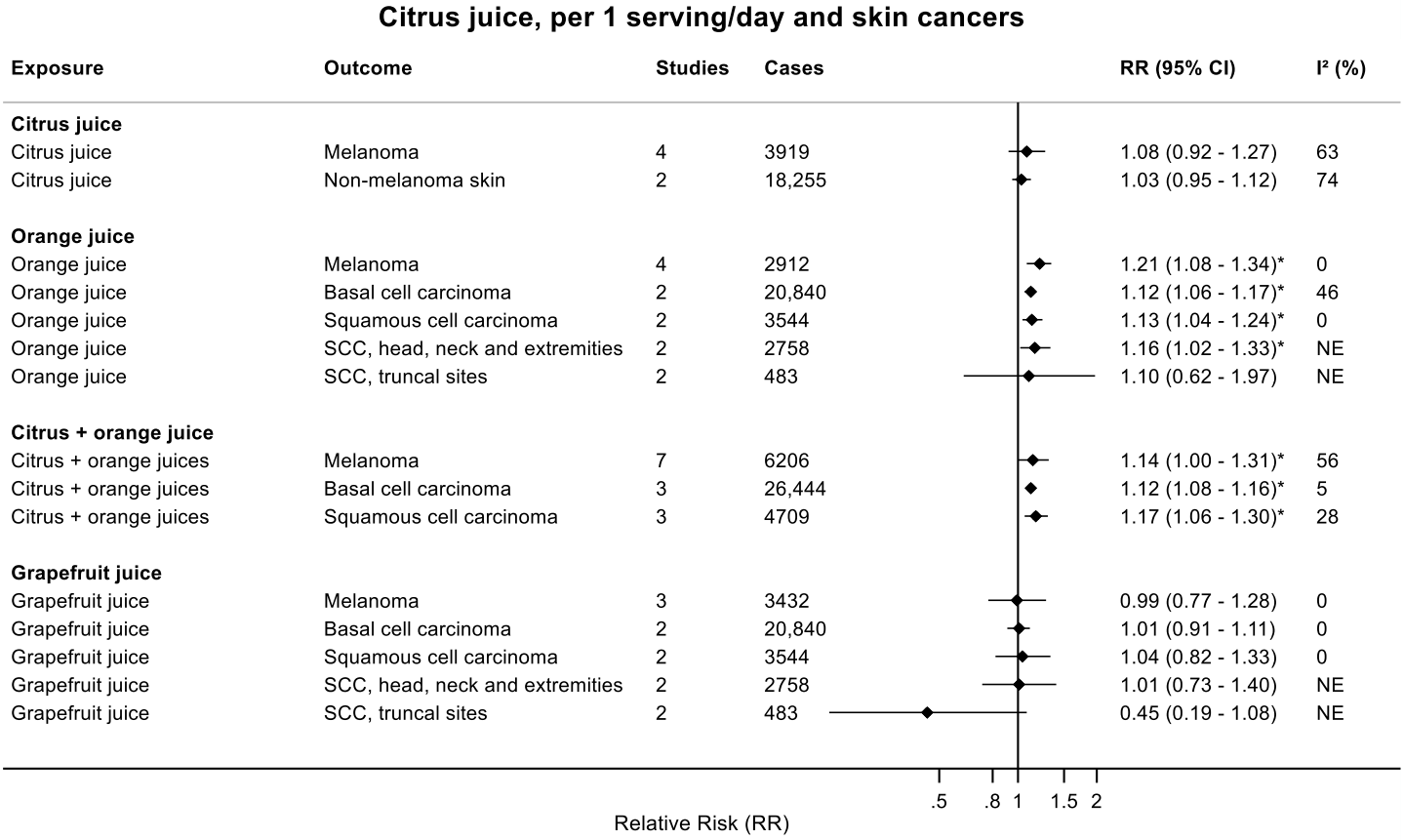


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 12. Summary forest plot of the linear dose-response associations of soft drinks and juices and skin cancer risk.

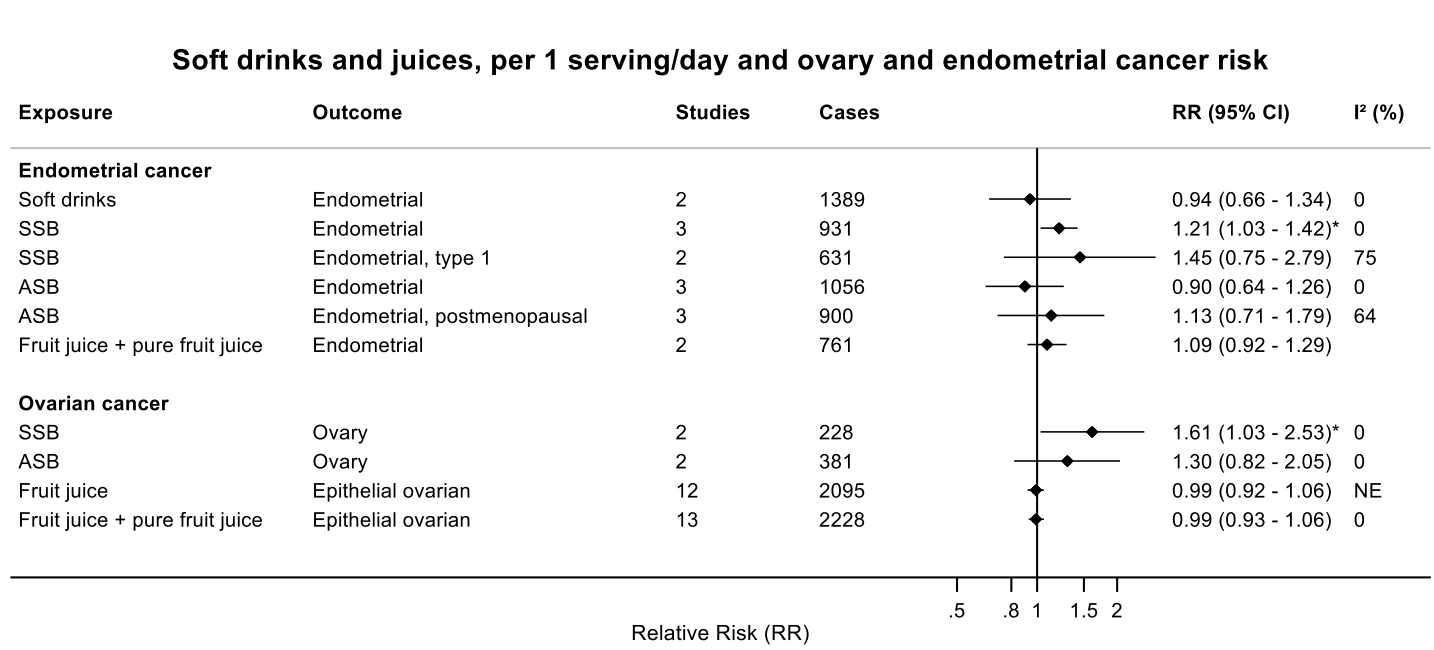


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated

Supplementary Figure 13. Summary forest plot of the linear dose-response associations of soft drinks and juices and ovary and endometrial cancer risk.

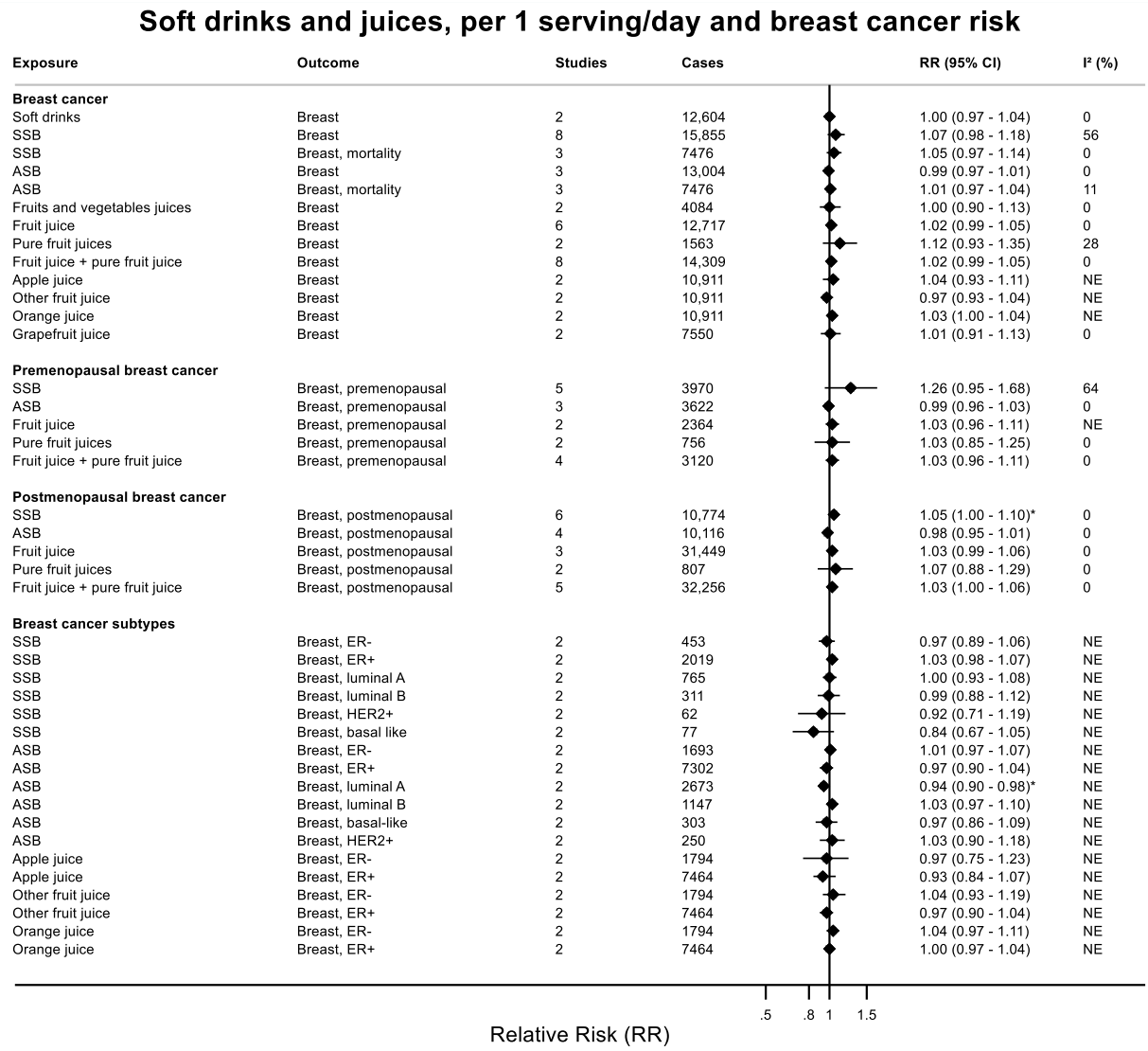


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 14. Summary forest plot of the linear dose-response associations of soft drinks and juices and breast cancer risk.

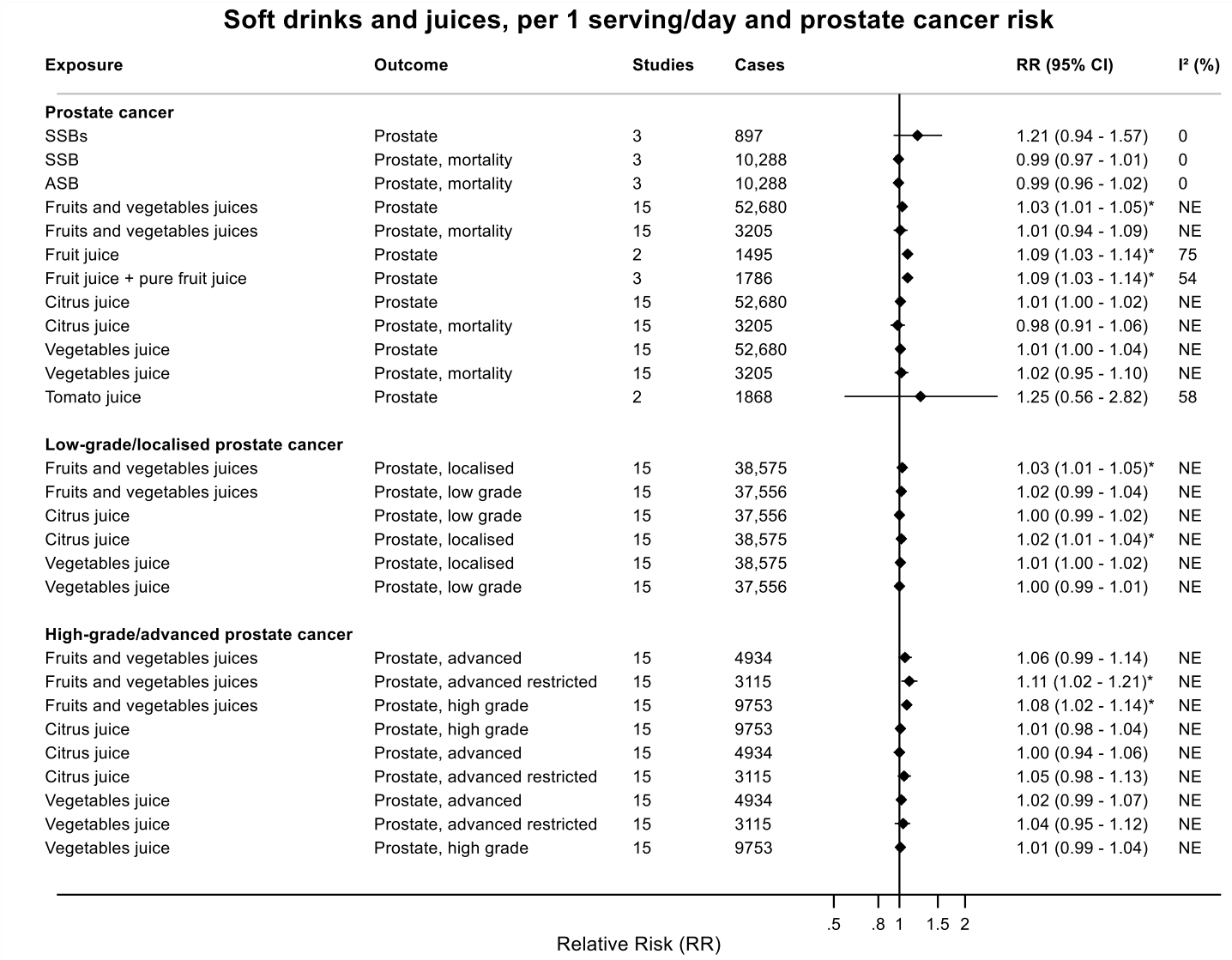


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 15. Summary forest plot of the linear dose-response associations of soft drinks and juices and prostate cancer risk.



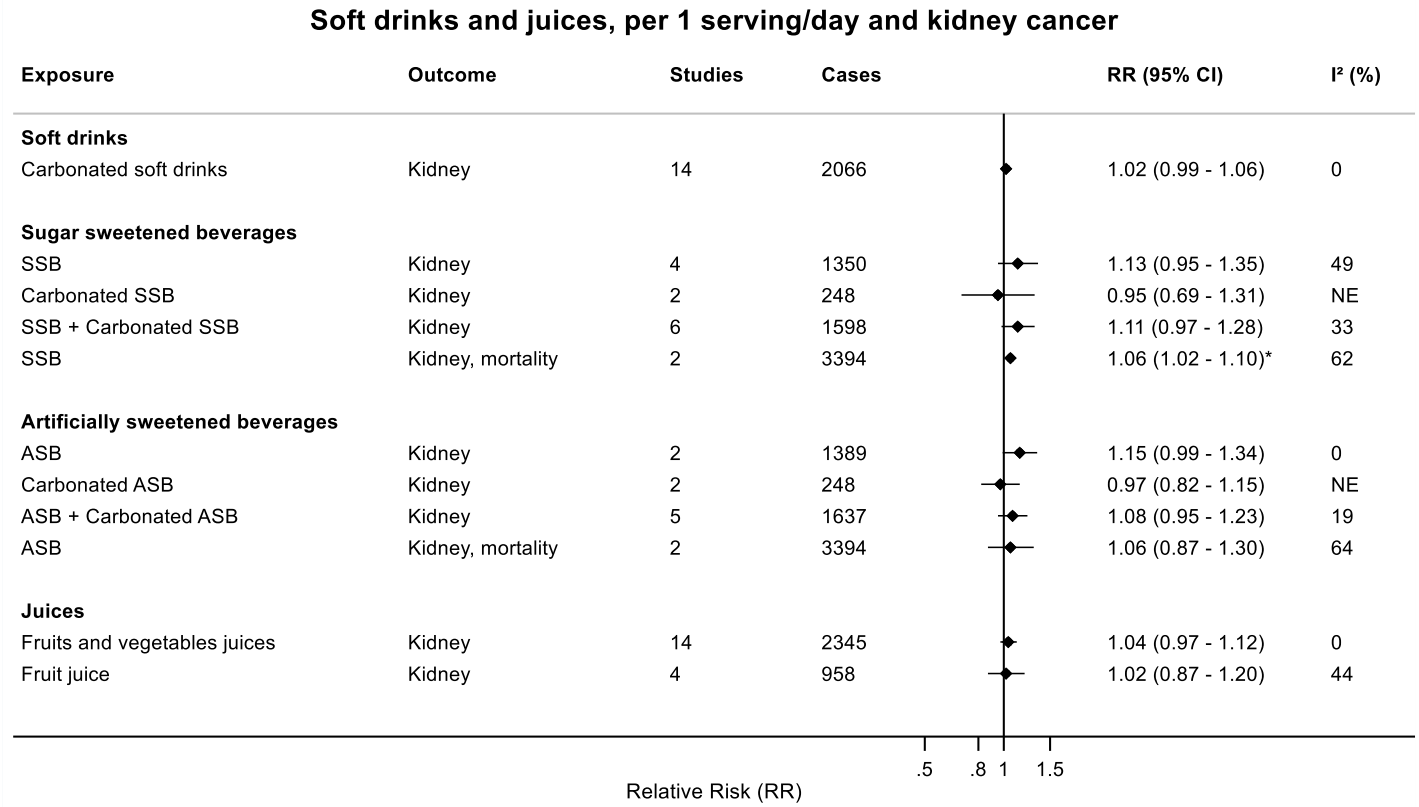
Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: All analyses are based on a random-effects meta-analysis, except for fruit juice and prostate cancer, which is from fixed-effect meta-analysis. The RR and 95%CI for fruit juice consumption and prostate cancer incidence were 1.22 (0.89-1.68) in the random-effect meta-analysis (see Supplementary Figure 243 for additional information).

Outcomes are incidence, unless otherwise stated.

Supplementary Figure 16. Summary forest plot of the linear dose-response associations of soft drinks and juices and kidney cancer risk.

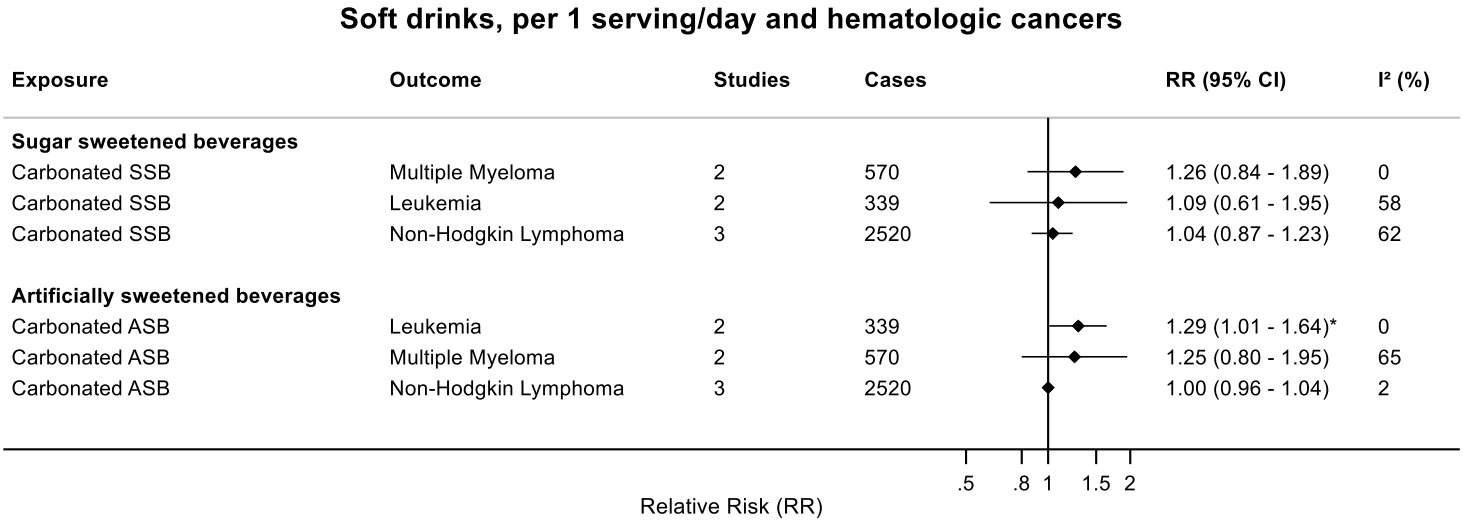


Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 17. Summary forest plot of the linear dose-response associations of soft drinks and juices and hematologic cancers risk.



Forest plot shows the summary results across the linear dose-response (per 1 serving[355 mL of soft drinks, SSBs, and ASBs, and 177 mL of juices]/day) inverse variance DerSimonian-Laird random-effects model meta-analyses. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the corresponding meta-analysis and its 95% confidence interval (CI).

* P<0.05

Note: Outcomes are incidence, unless otherwise stated.

Supplementary Figure 18. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and incidence and mortality of cancers of the head and neck and oral cavity.

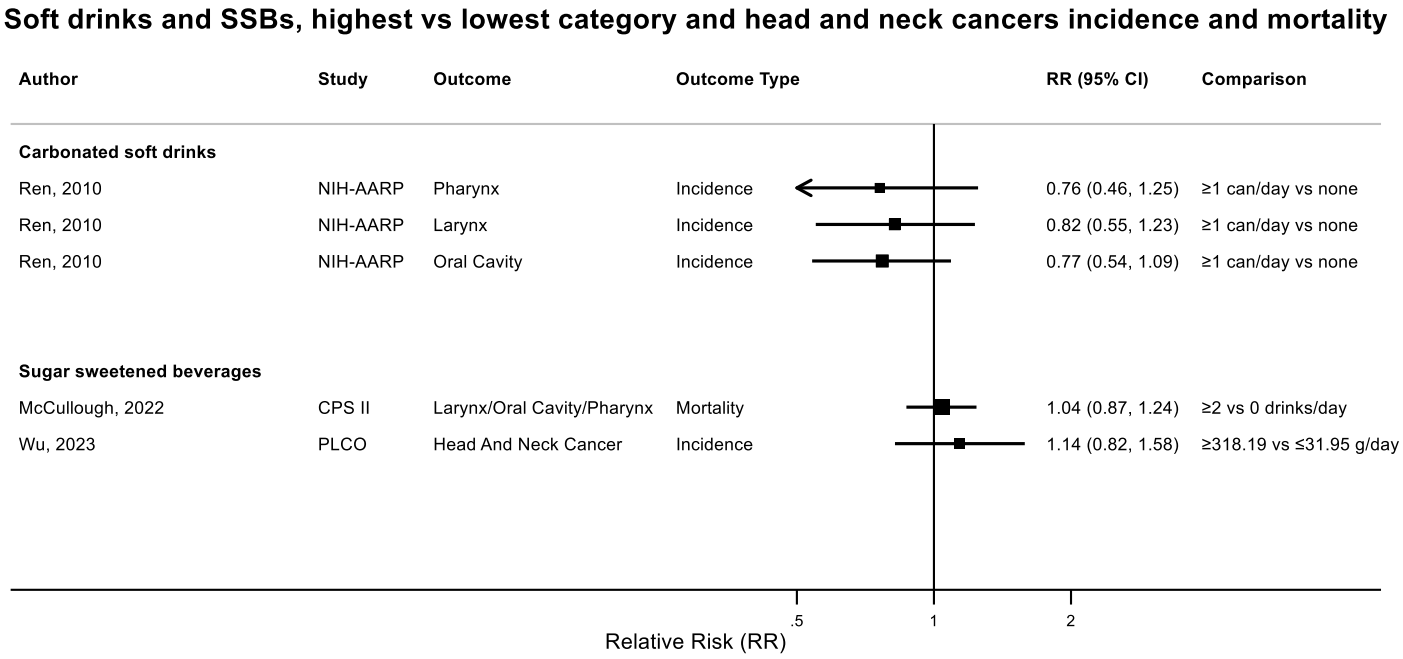


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the relative risk (RR) estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Ren, 2010[143], McCullough, 2022[113], Wu, 2023[172]

Supplementary Figure 19. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and oesophageal cancer incidence and mortality.

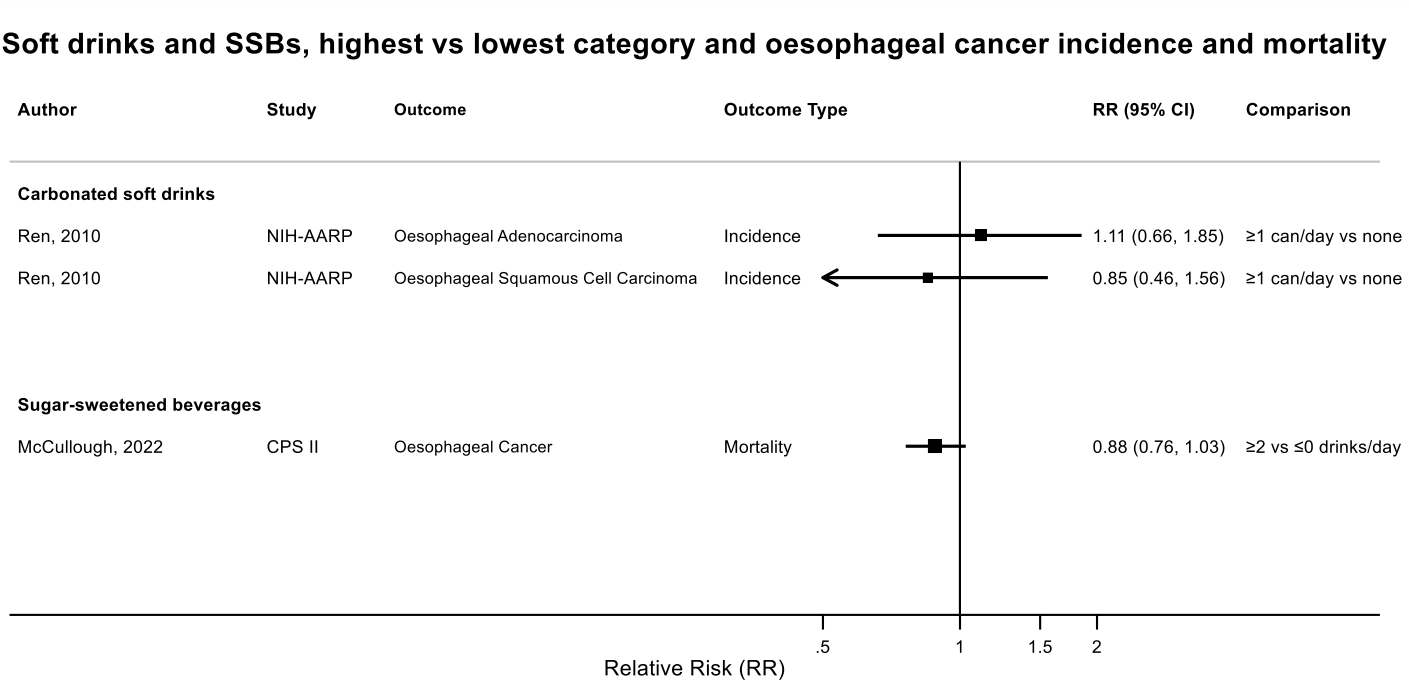


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II

Ren, 2010[143], McCullough, 2022[113]

Supplementary Figure 20. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and stomach cancer incidence and mortality.

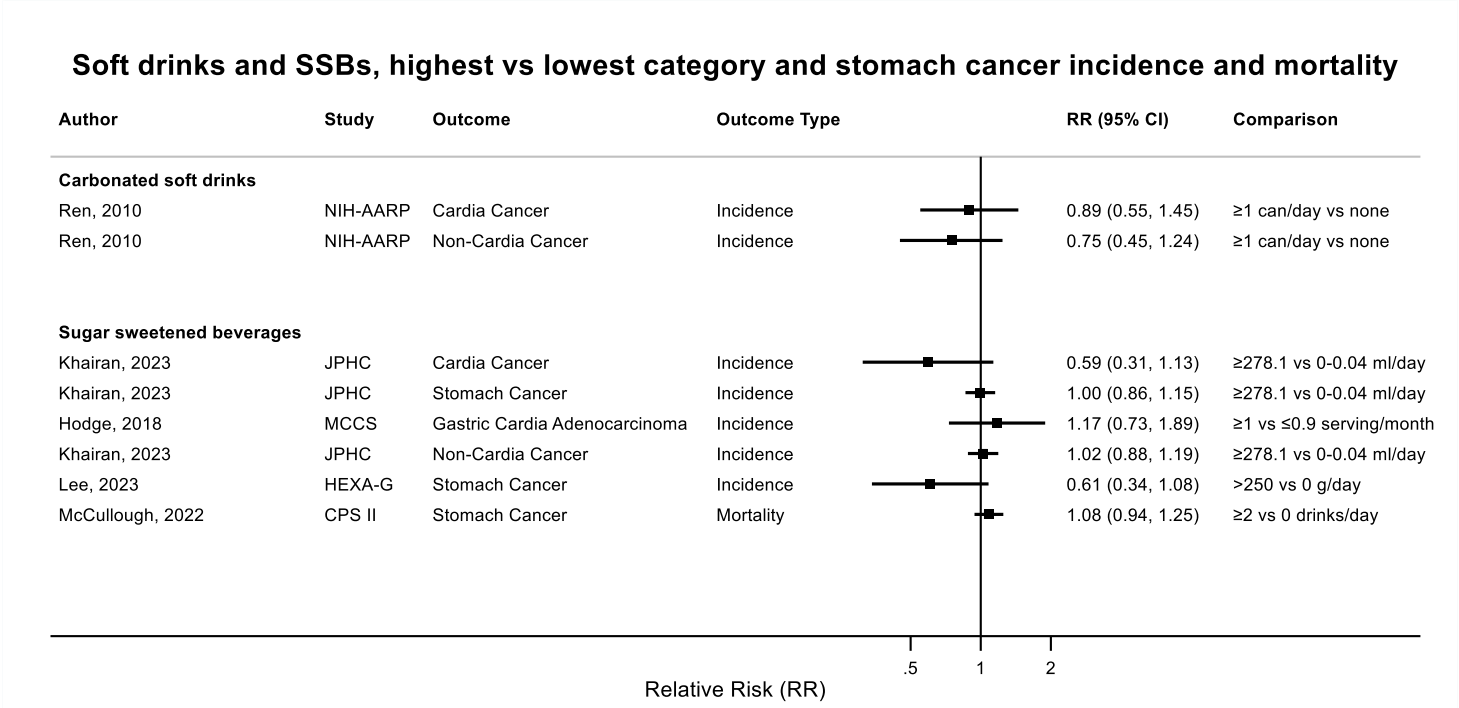


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; JPHC, Japan Public Health Center-Based Prospective Study; MCCS, Melbourne Collaborative Cohort Study; HEXA-G, Health Examinees-Gem study; CPS II, Cancer Prevention Study II

Ren, 2010[143], Khairan, 2023[84],Hodge, 2018[70],Lee, 2023[97], McCullough, 2022[113]

Supplementary Figure 21. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and colorectal cancer incidence.

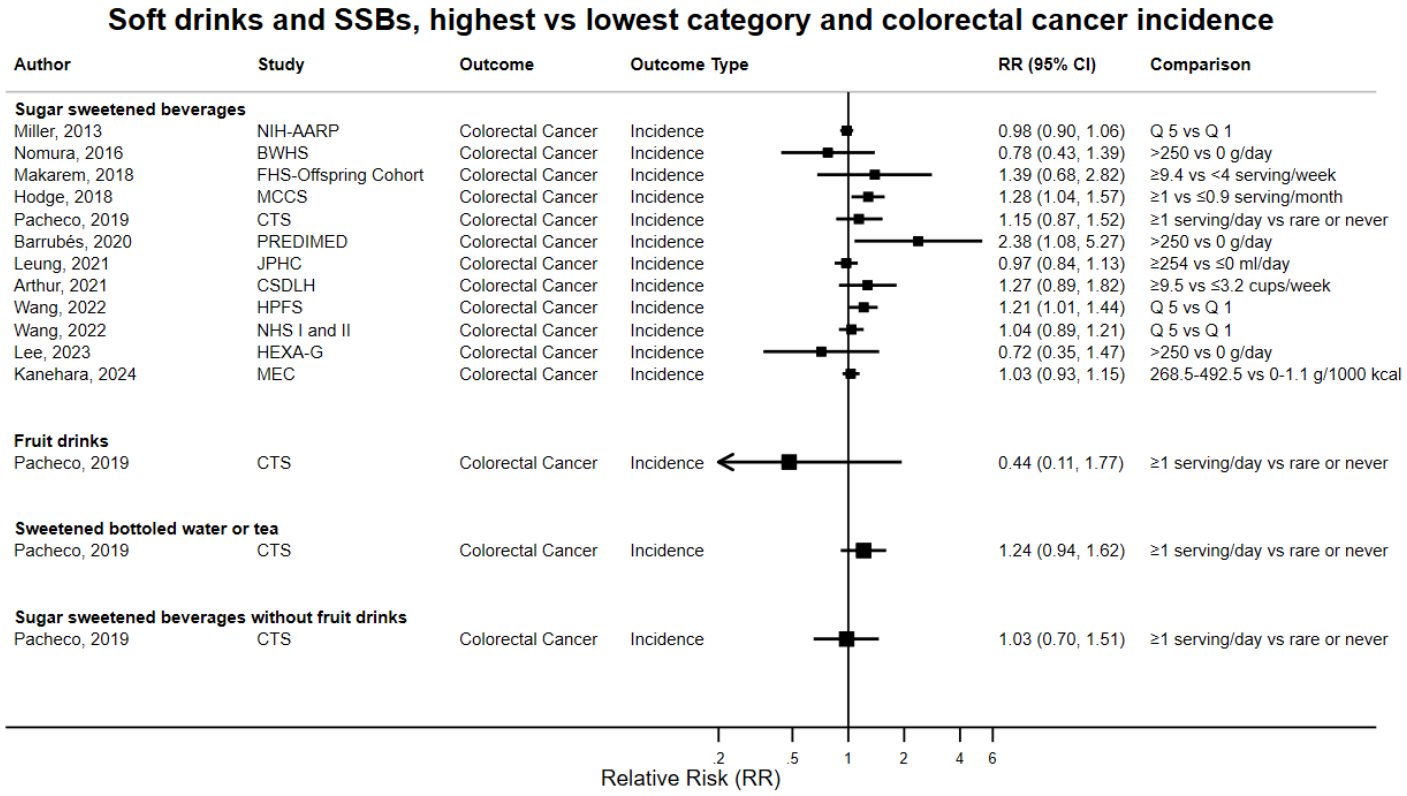


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; BWHS, Black Women's Health Study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; MCCS, Melbourne Collaborative Cohort Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; HPFS, Health Professionals Follow-up Study; NHS I and II, Nurses' Health Study I and II; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study

Note: One additional study (UK Biobank) that could not be included in the dose-response meta-analysis because of insufficient data format reported no association between sugar-sweetened beverages and colorectal cancer risk (HR per 1 SD increase 1.00, 95% CI: 0.95-1.05). The results in males and females were consistent with the main findings and showed no statistical difference by sex (P heterogeneity=0.487)[78].

Miller, 2013[122], Nomura, 2016[129], Makarem, 2018[108], Hodge, 2018[70], Pacheco, 2019[135], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81]

Supplementary Figure 22. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and colorectal cancer mortality.

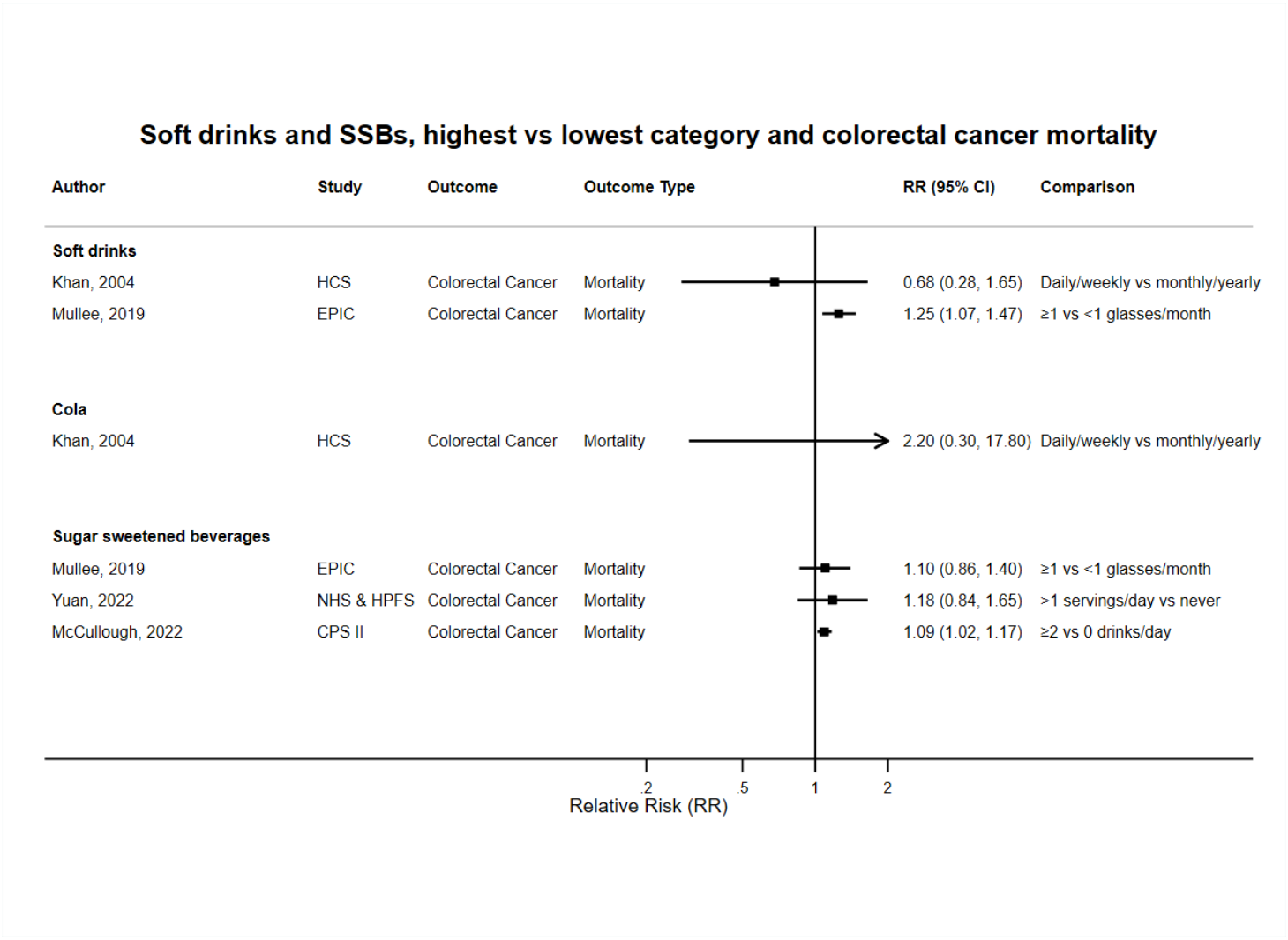


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HCS, Hokkaido Cohort, Japan; EPIC, European Prospective Investigation into Cancer and nutrition; NHS and HPFS, Nurses' Health Study and Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Khan, 2004[85], Mullee, 2019[126], Yuan, 2022[178], McCullough, 2022[113]

Supplementary Figure 23. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and incidence and mortality of colorectal cancer subsites, early-onset colorectal cancer, and small intestine cancer.

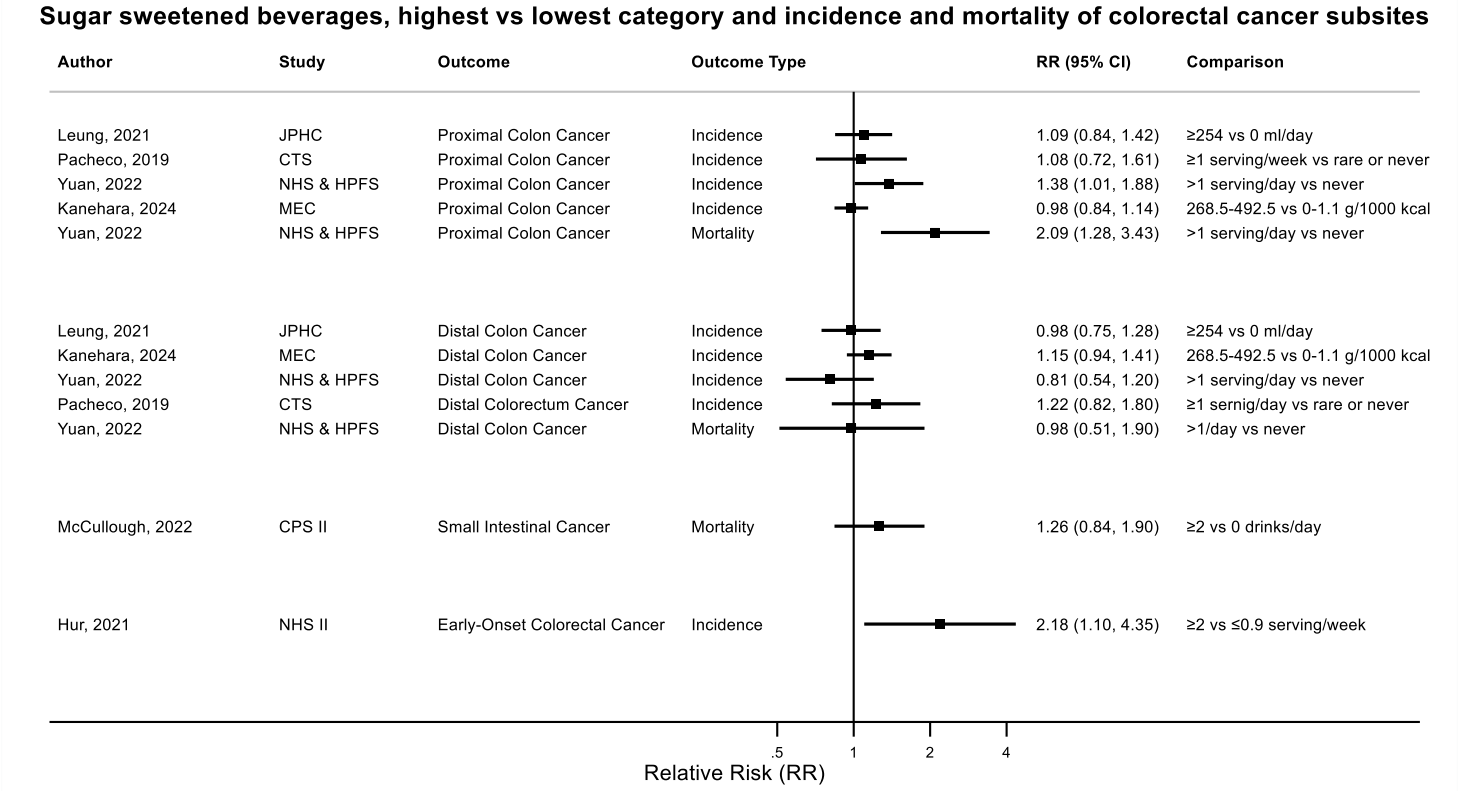


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; CTS, California Teachers Study; NHS, HPFS, Nurses' Health Study, Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study; CTS, California Teachers Study; CPS II, Cancer Prevention Study II; NHS II, Nurses' Health Study II

Leung, 2021[101], Pacheco, 2019[135], Yuan, 2022[178], Kanehara, 2024[81], McCullough, 2022[113], Hur, 2021[72]

Supplementary Figure 24. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and colon cancer incidence and mortality.

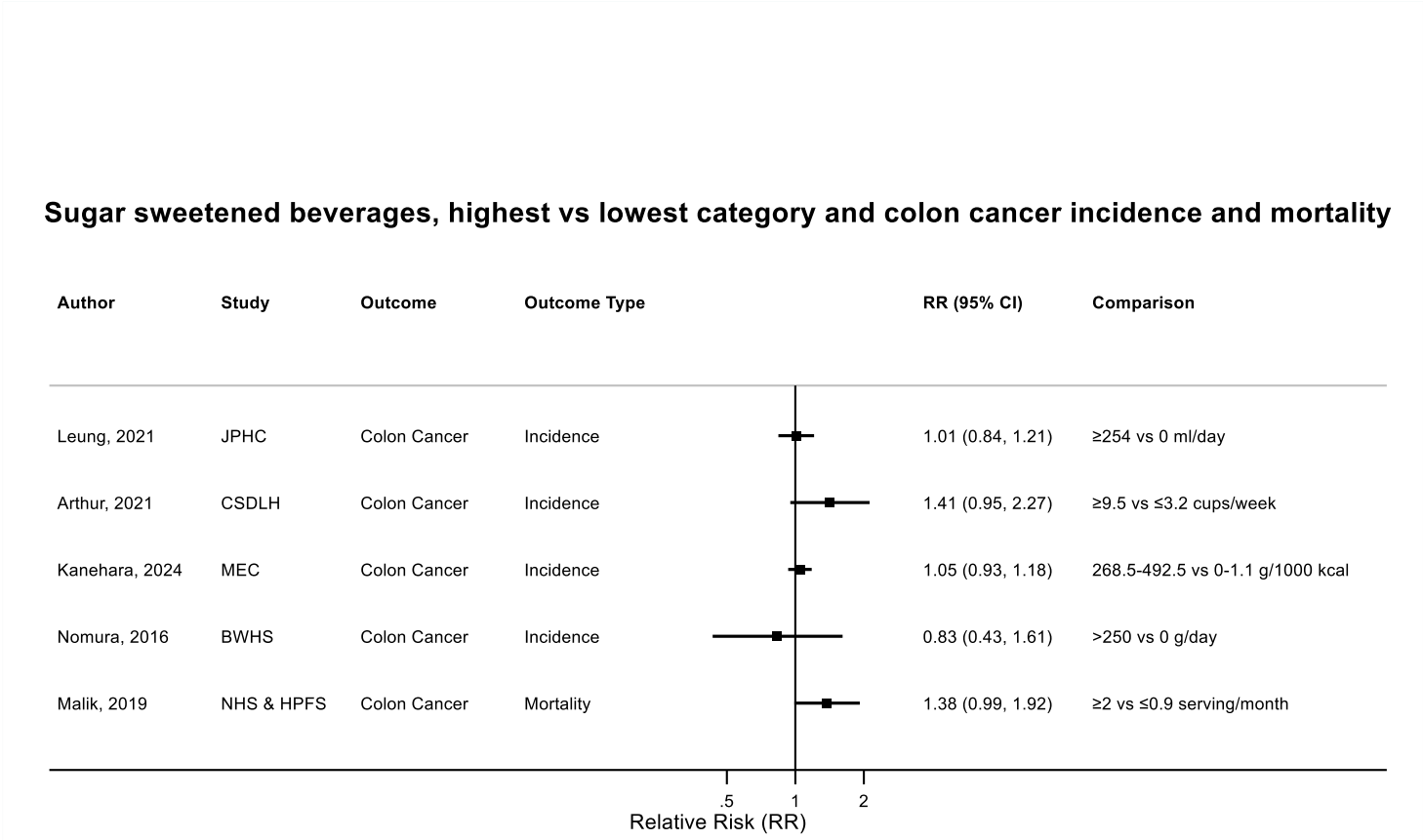


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; MEC, Multiethnic Cohort Study; BWHS, Black Women's Health Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Note: One additional study (UK Biobank) that could not be included in the dose-response meta-analysis because of insufficient data format reported no association between sugar-sweetened beverages and colon cancer risk (HR per 1 SD increase 1.01, 95% CI: 0.94-1.08)[78].

Leung, 2021[101], Arthur, 2021[38], Kanehara, 2024[81], Nomura, 2016[129], Malik, 2019[109]

Supplementary Figure 25. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and rectal cancer incidence and mortality.

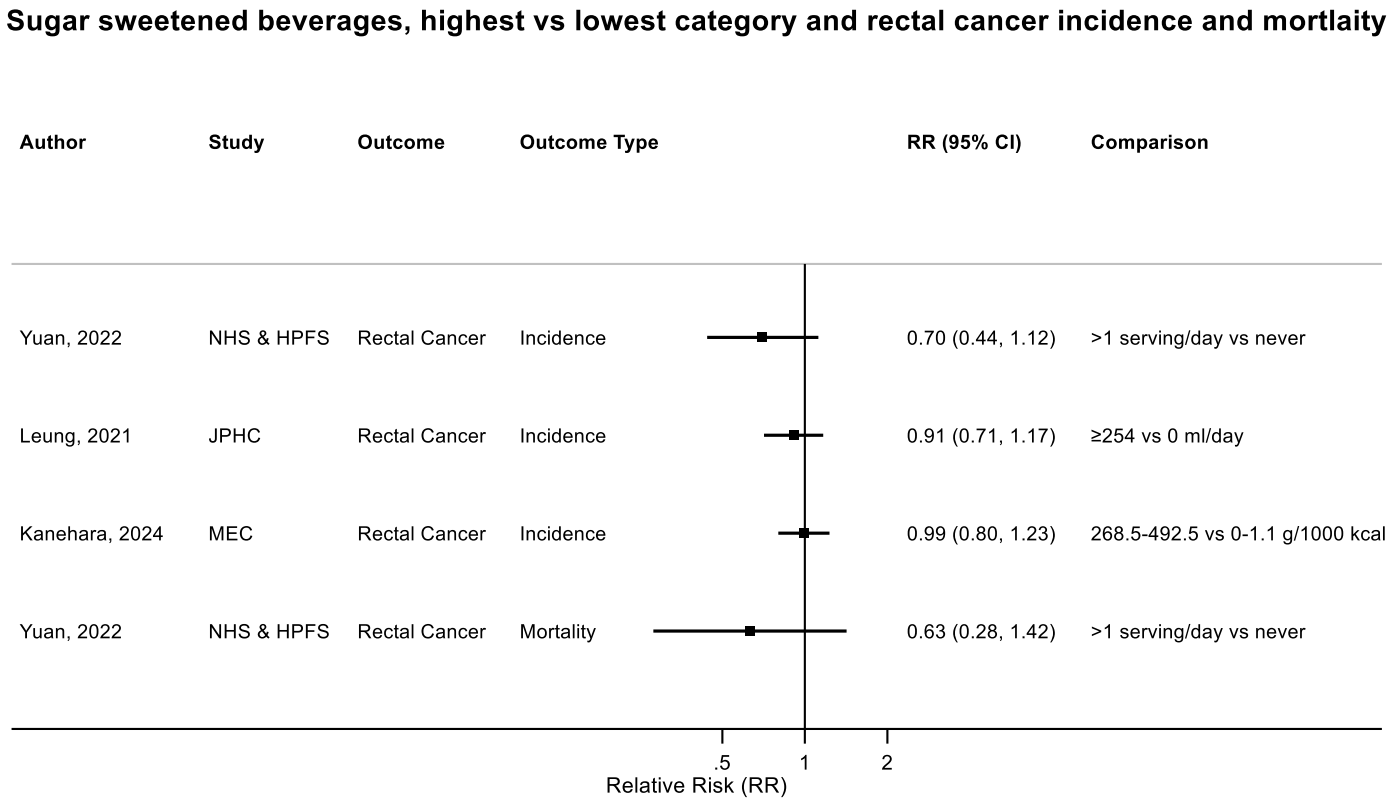


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; JPHC, Japan Public Health Center-Based Prospective Study; MEC, Multiethnic Cohort Study

Note: One additional study (UK Biobank) that could not be included in the dose-response meta-analysis because of insufficient data format reported no association between sugar-sweetened beverages and rectal cancer risk (HR per 1 SD increase 1.01, 95% CI: 0.90-1.12)[78].

Yuan, 2022[178], Leung, 2021[101], Kanehara, 2024[81], Yuan, 2022[178]

Supplementary Figure 26. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and liver cancer incidence and mortality.

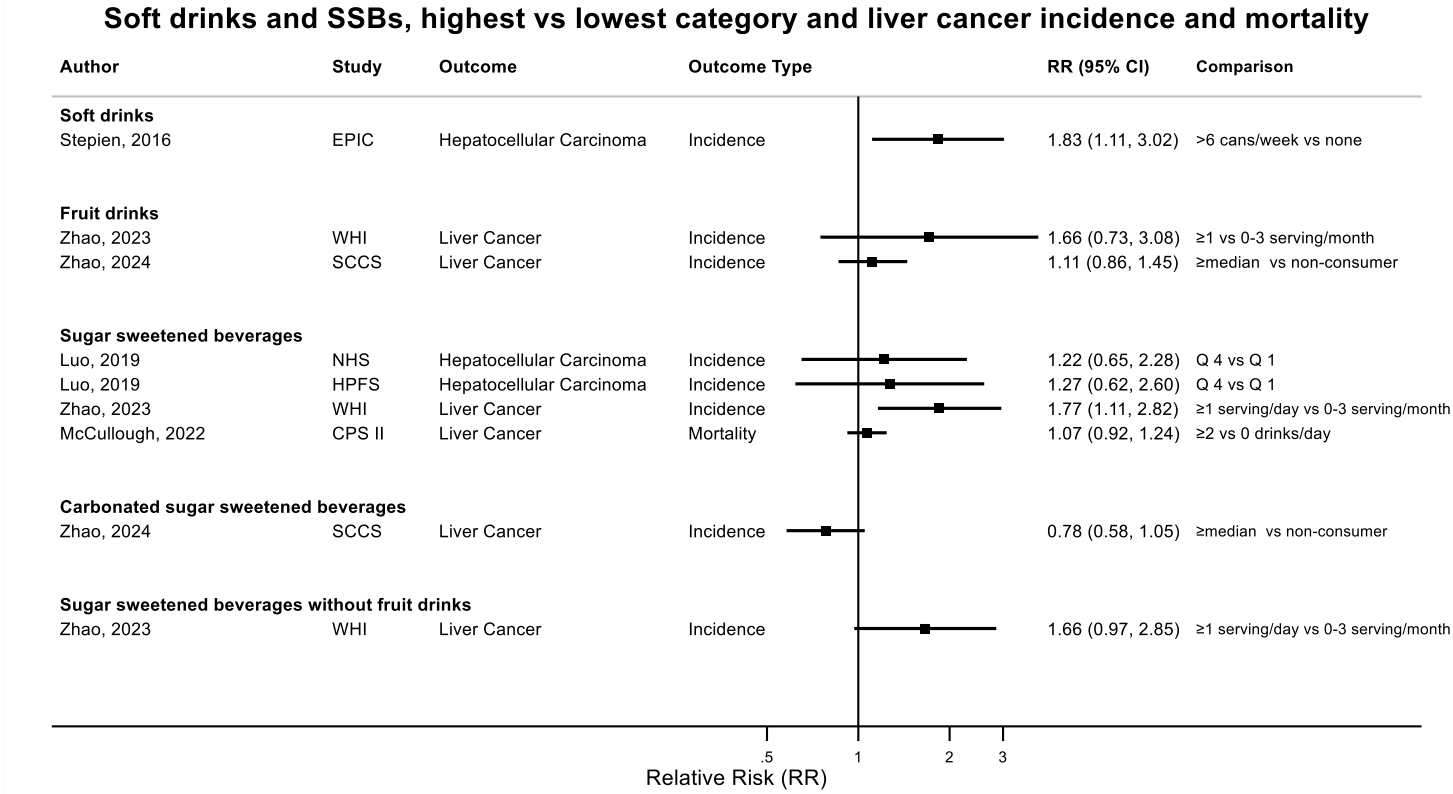


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; WHI, Women's Health Initiative Study; SCCS, Southern Community Cohort Study; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Stepien, 2016[159], Zhao, 2023[186], Zhao, 2024[187], Luo, 2019[105], McCullough, 2022[113]

Supplementary Figure 27. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and gallbladder cancer incidence and mortality.

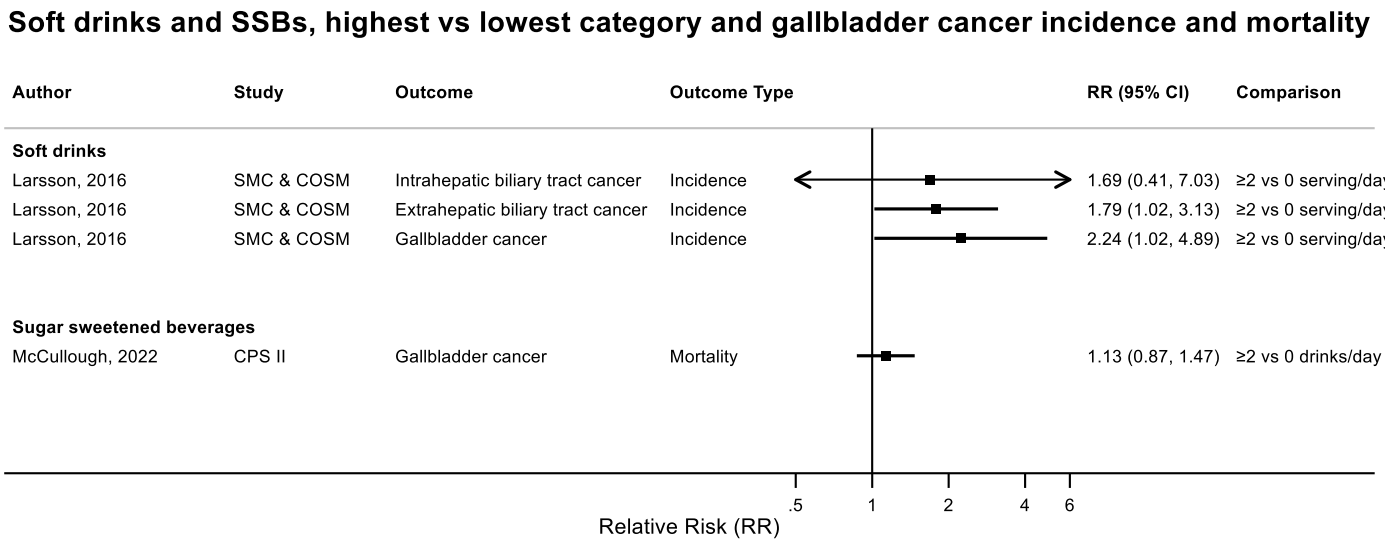


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: SMC & COSMOS, Swedish Mammography Cohort & Continuous Observation of Smoking Subjects Study; CPS II, Cancer Prevention Study II

Larsson, 2016[96], McCullough, 2022[113]

Supplementary Figure 28. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and pancreatic cancer incidence and mortality.

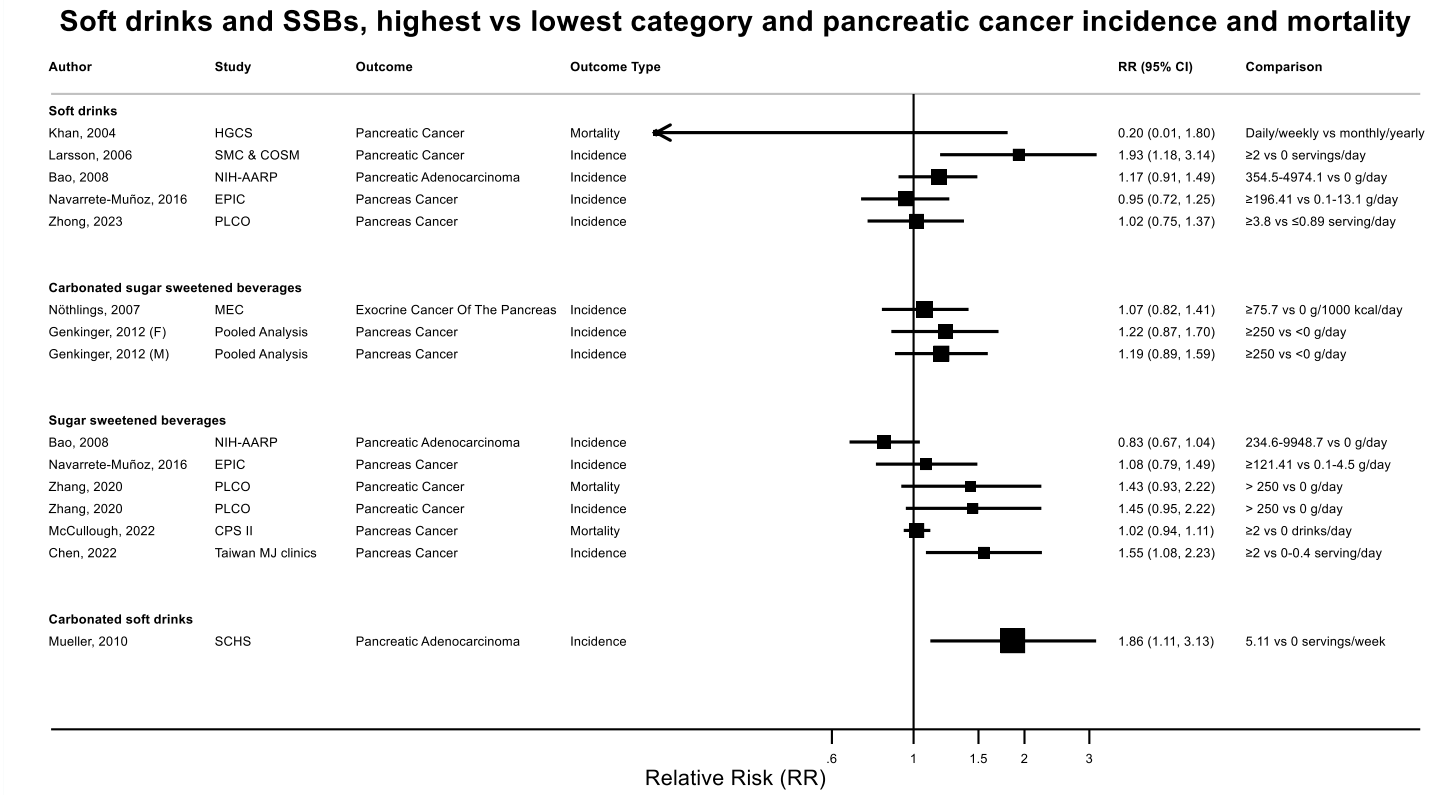


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: HCS, Hokkaido Cohort, Japan; SMC-COSMOS, Swedish Mammography Cohort & Continuous Observation of Smoking Subjects Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; MEC, Multiethnic Cohort Study; CPS II, Cancer Prevention Study II; Taiwan MJ clinics, The Taiwan MJ Cohort Study; SCHS, Singapore Chinese Health study

Khan, 2004[85], Larsson, 2016[96], Bao, 2008[39], Navarrete-Muñoz, 2016[127], Zhong, 2023[189], Nöthlings, 2007[131], Genkinger, 2012[64], Zhang, 2020[184], McCullough, 2022[113], Chen, 2022[45],Mueller, 2010[125]

Supplementary Figure 29. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and lung cancer incidence and mortality.

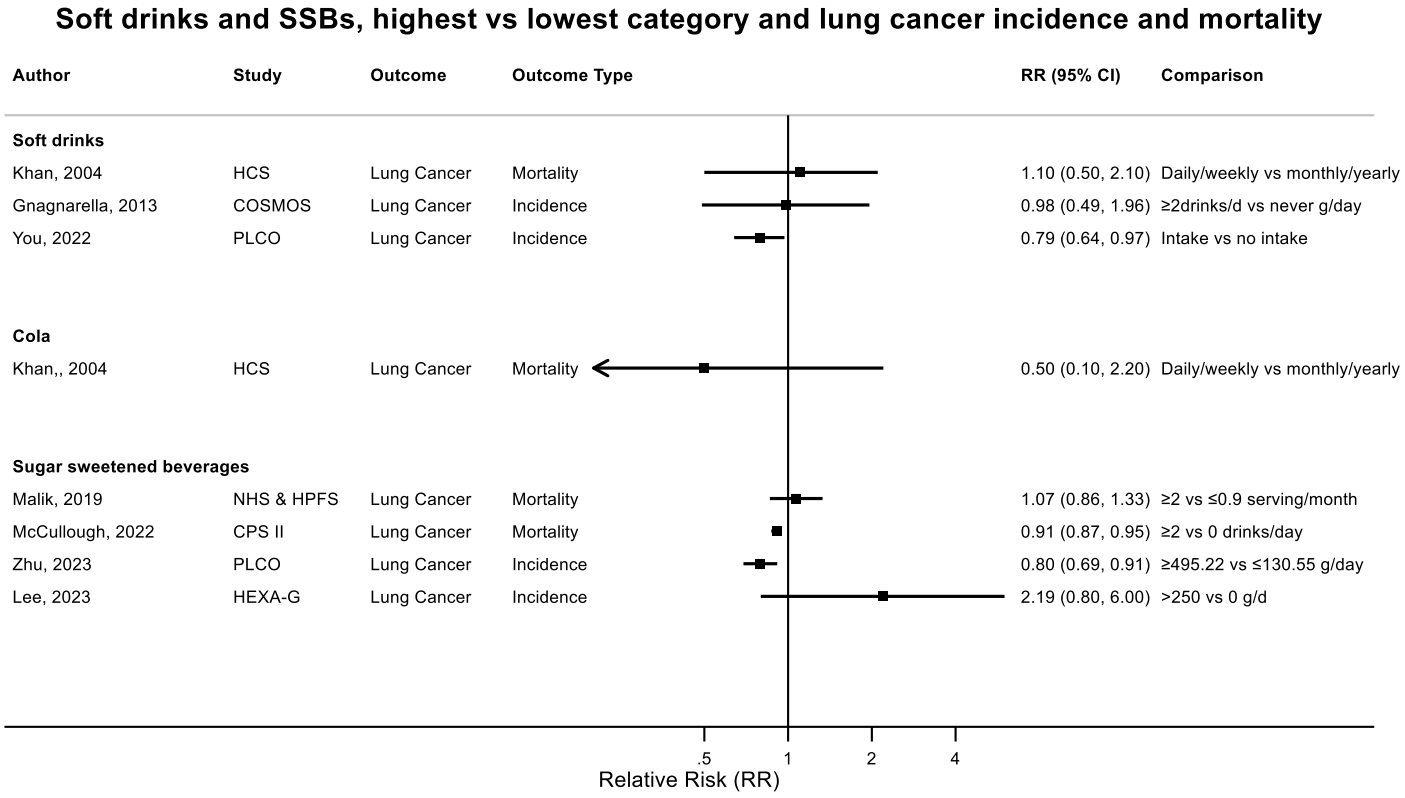


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: HCS, Hokkaido Cohort, Japan; COSMOS, Continuous Observation of Smoking Subjects Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II; HEXA-G, Health Examinees-Gem study

Note: One additional study (NIH-AARP) reported on SSBs and lung cancer incidence per 1 point increase in the component score of three dietary indexes (HEI-2010, AHEI-2010, and DASH), and reported a borderline positive association between lower intake of SSBs and higher risk of lung cancer in male and female[37].

Khan, 2004[85], Gnagnarella, 2013[65], You, 2022[177], Malik, 2019[109], McCullough, 2022[113], Zhu, 2023[190], Lee, 2023[97]

Supplementary Figure 30. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and skin cancer incidence and mortality.

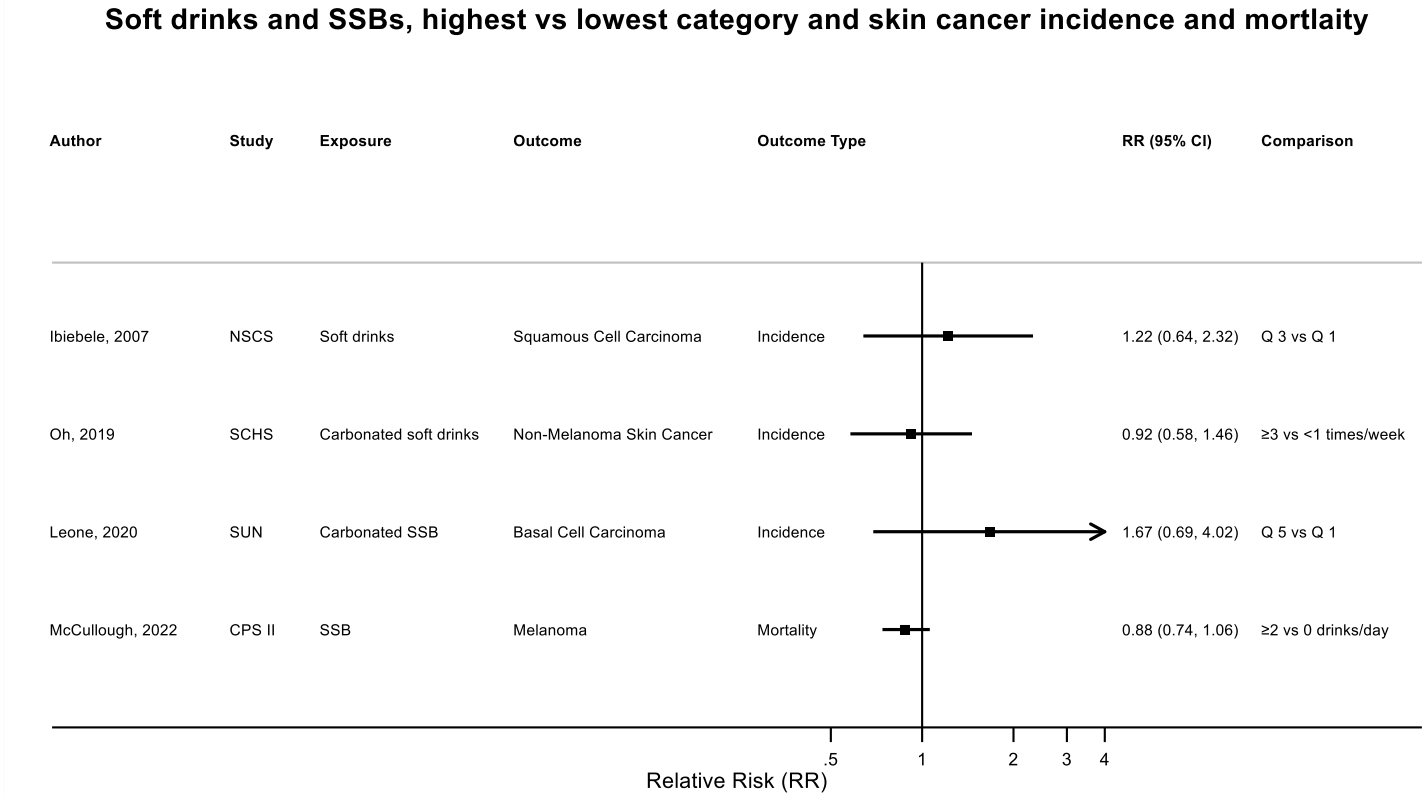


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: NSCS, Nambour Skin Cancer Study; SCHS, Singapore Chinese Health study; SUN, Seguimiento Universidad de Navarra Cohort Study; CPS II, Cancer Prevention Study II

Ibiebele, 2007[73], Oh, 2019[132], Leone, 2020[99], McCullough, 2022[113]

Supplementary Figure 31. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and breast cancer incidence and mortality.

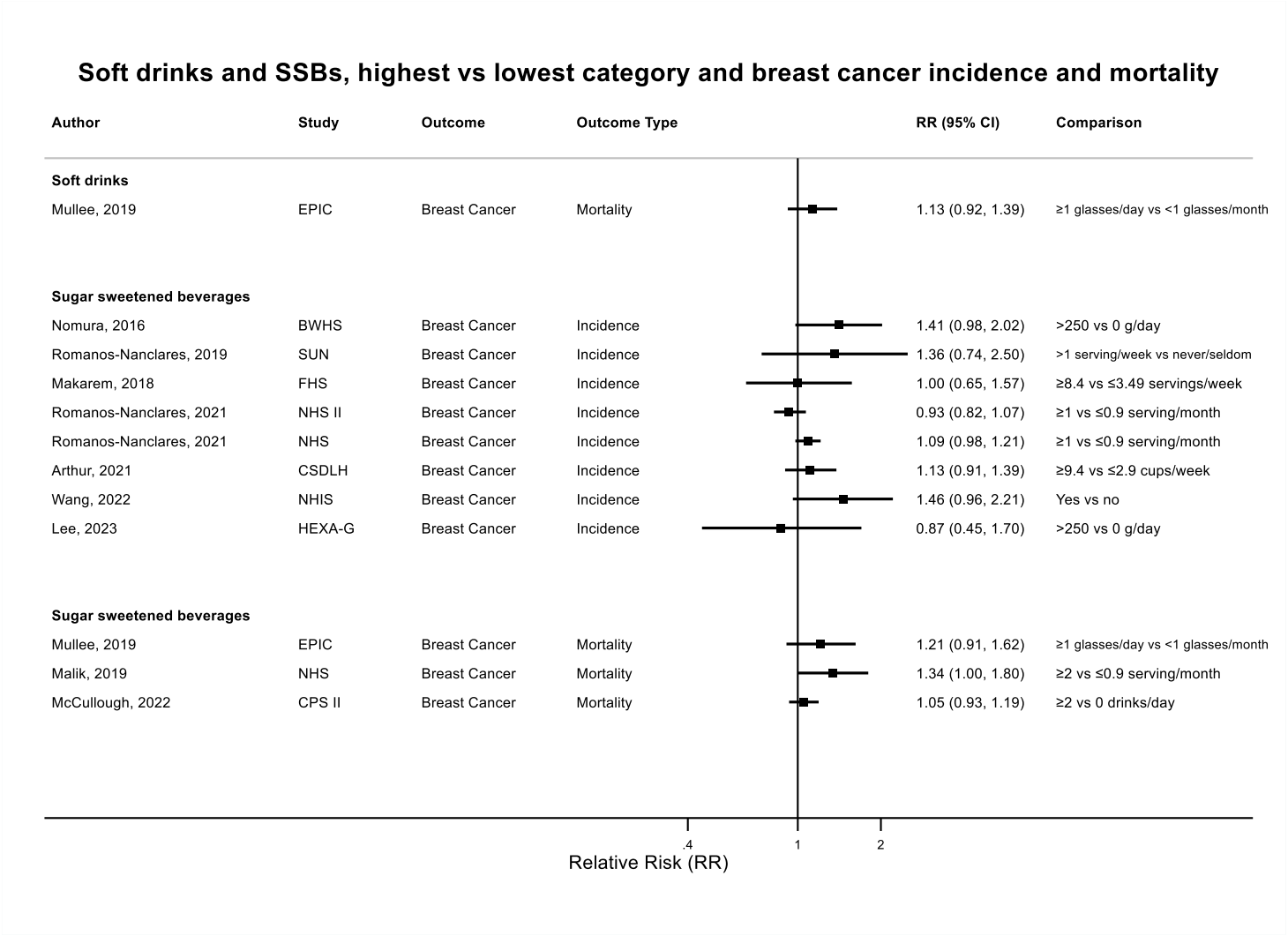


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; BWHS, Black Women's Health Study; SUN, Seguimiento Universidad de Navarra Cohort Study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; NHS II, Nurses' Health Study II; NHS, Nurses' Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHIS, National Health Interview Survey; HEXA-G, Health Examinees-Gem study; CPS II, Cancer Prevention Study II

Note: One study only reported dose-response results and could not be included in the forest plot for high versus low consumption[44].

Mullee, 2019[126], Nomura, 2016[128], Romanos-Nanclares, 2019[146], Makarem, 2018[108], Romanos-Nanclares, 2021[145], Arthur, 2021[38], Wang, 2022[169], Lee, 2023[97], Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113] McCullough, 2022[113]

Supplementary Figure 32. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and breast cancer incidence by menopausal status.

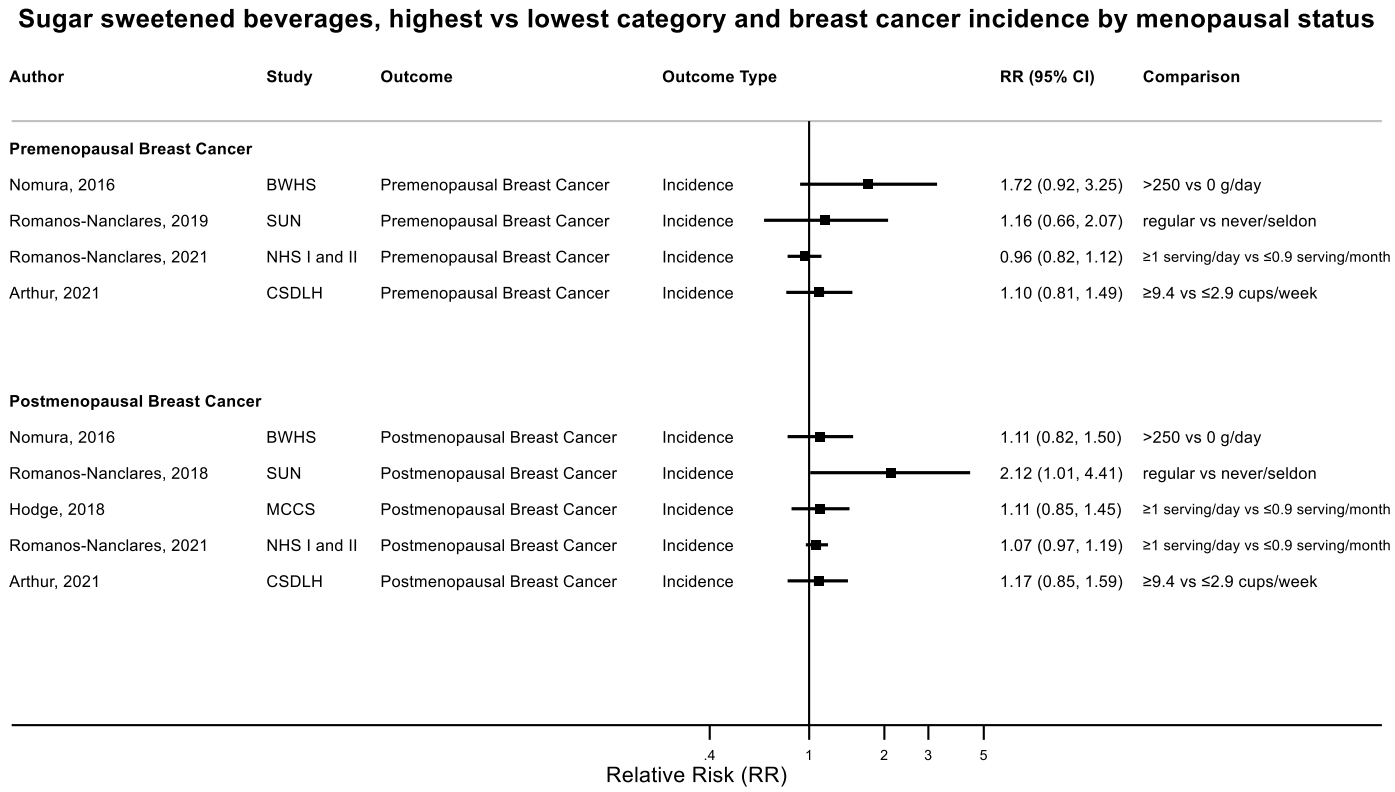


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: BWHS, Black Women's Health Study; SUN, Seguimiento Universidad de Navarra Cohort Study; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health; MCCS, Melbourne Collaborative Cohort Study

Nomura, 2016[128], Romanos-Nanclares, 2019[146], Romanos-Nanclares, 2021[145], Arthur, 2021[38], Hodge, 2018[70]

Supplementary Figure 33. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and incidence of breast cancer subsites.

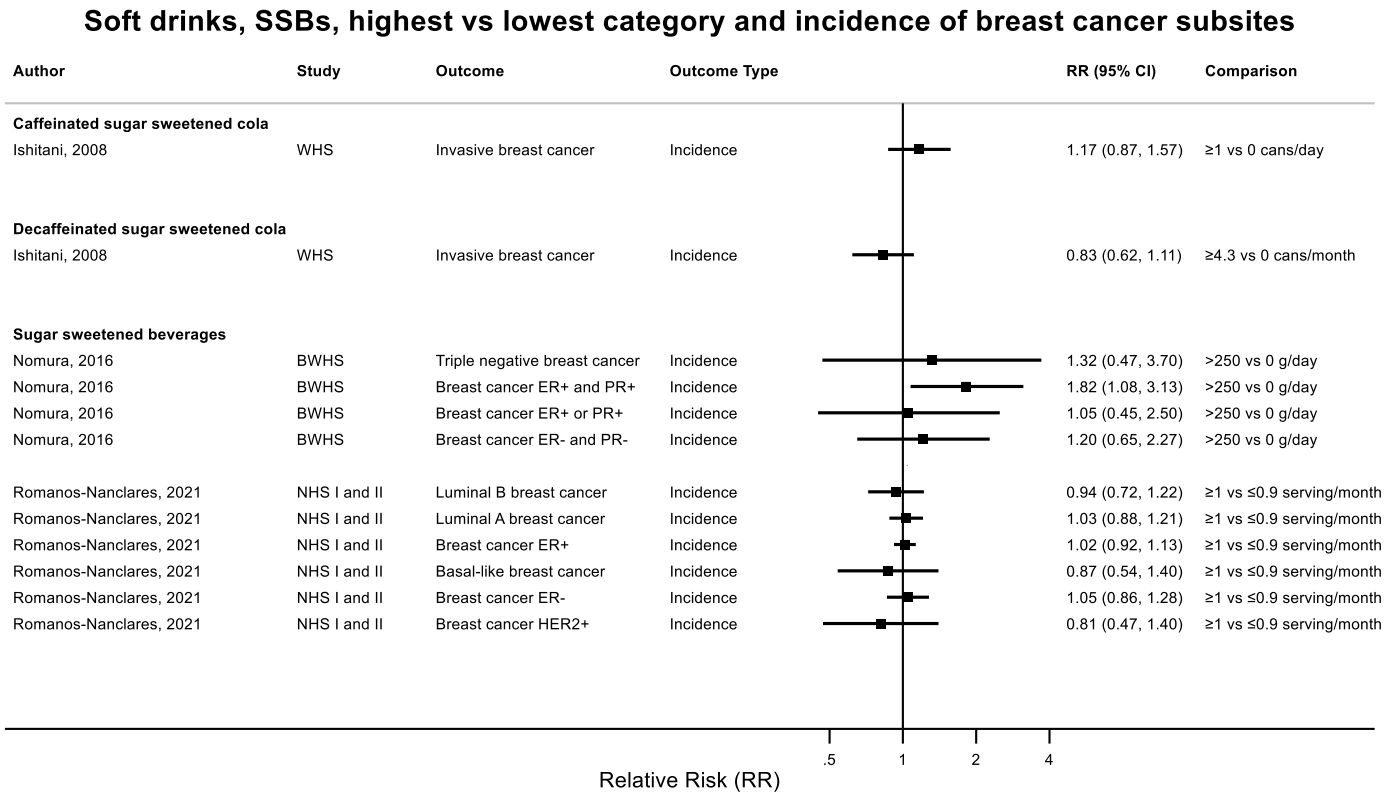


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: WHS, Women's Health Study; BWHS, Black Women's Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; NHS I and II, Nurses' Health Study I and II

Ishitani, 2008[75], Nomura, 2016[128], Karavasiloglou, 2019[211], Romanos-Nanclares, 2021[145]

Supplementary Figure 34. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and endometrial cancer incidence and mortality.

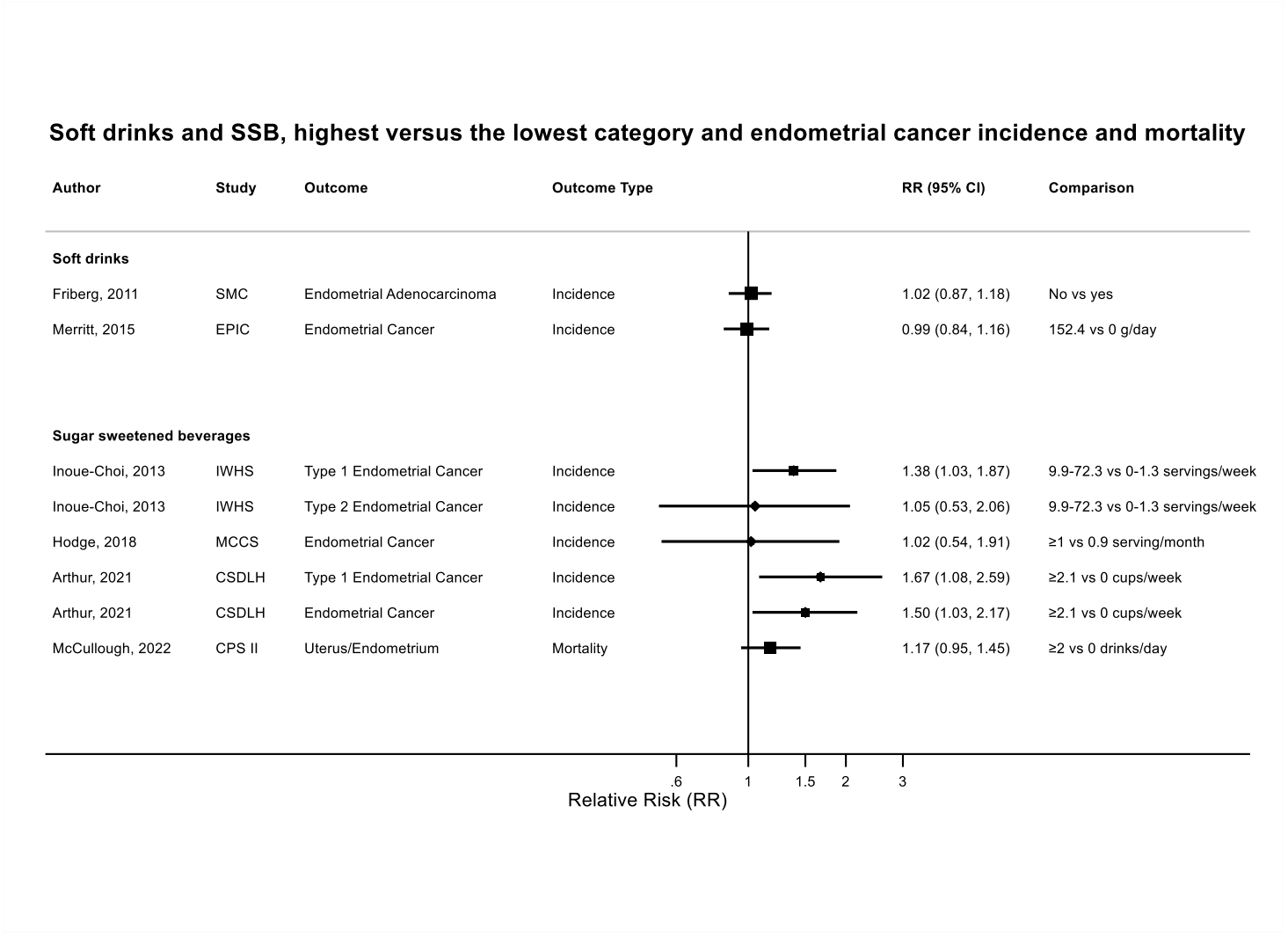


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: SMC, Swedish Mammography Cohort; EPIC, European Prospective Investigation into Cancer and nutrition; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; IWHS, The Iowa Women's Health Study; CPS II, Cancer Prevention Study II

Friberg, 2011[61], Merritt, 2015[117], Inoue-Choi, 2013[74], Hodge, 2018[70], Arthur, 2021[38], McCullough, 2022[113]

Supplementary Figure 35. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and ovarian cancer incidence and mortality.

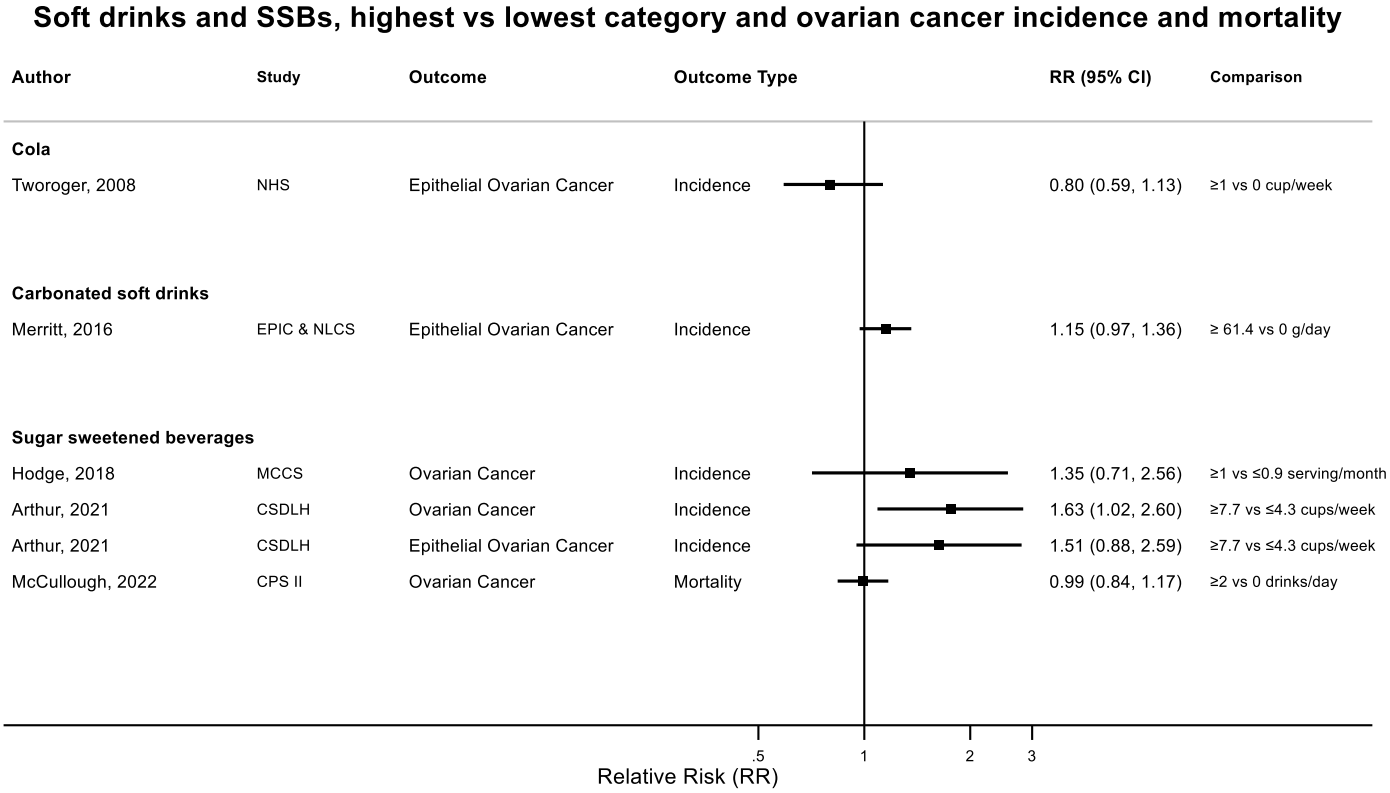


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: NHS, Nurses' Health Study; EPIC & NLCS, European Prospective Investigation into Cancer and nutrition & Netherlands Cohort Study on Diet and Cancer; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; CPS II, Cancer Prevention Study II

Tworoger, 2008[163], Merritt, 2016[118], Hodge, 2018[70], Arthur, 2021[38], McCullough, 2022[113]

Supplementary Figure 36. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and prostate cancer incidence and mortality.

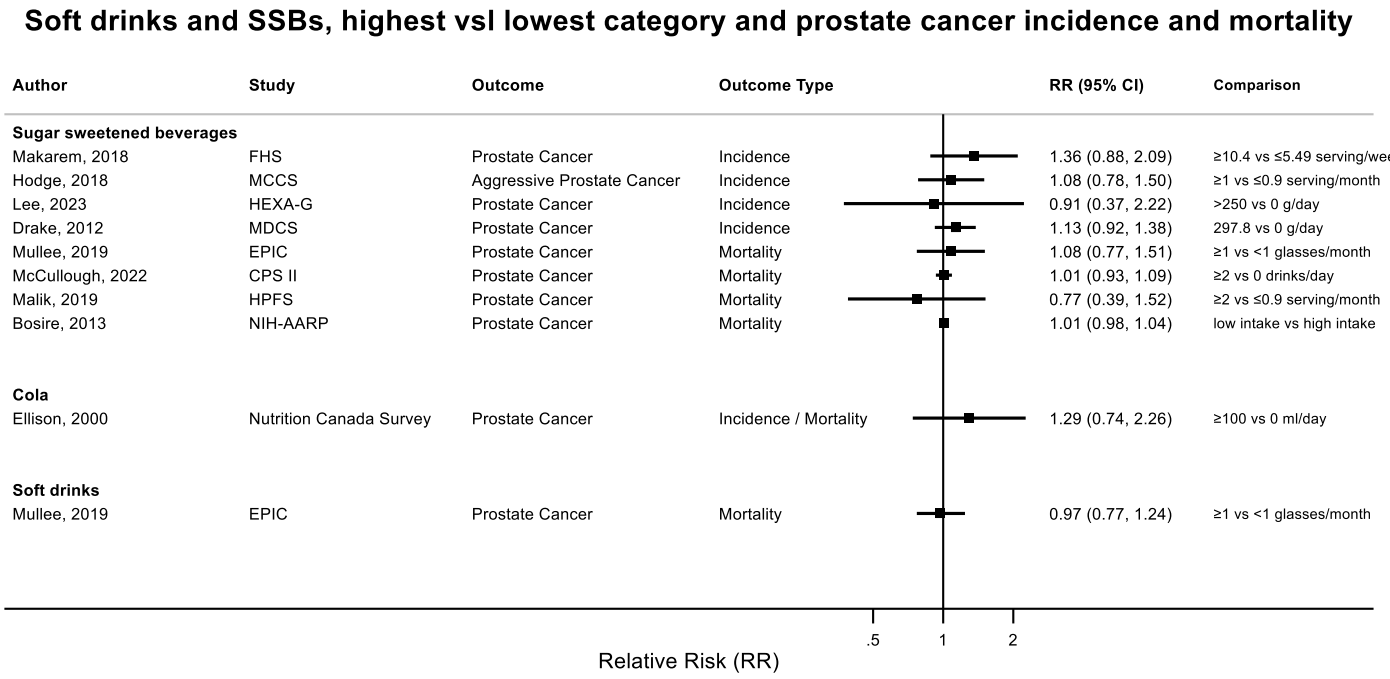


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; MCCS, Melbourne Collaborative Cohort Study; HEXA-G, Health Examinees-Gem study; MDCS, Malmö Diet and Cancer Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study

Makarem, 2018[108], Hodge, 2018[70], Lee, 2023[97], Drake, 2012[47], Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109], Bosire, 2013[42], Ellison, 2000[50]

Supplementary Figure 37. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and bladder cancer incidence and mortality.

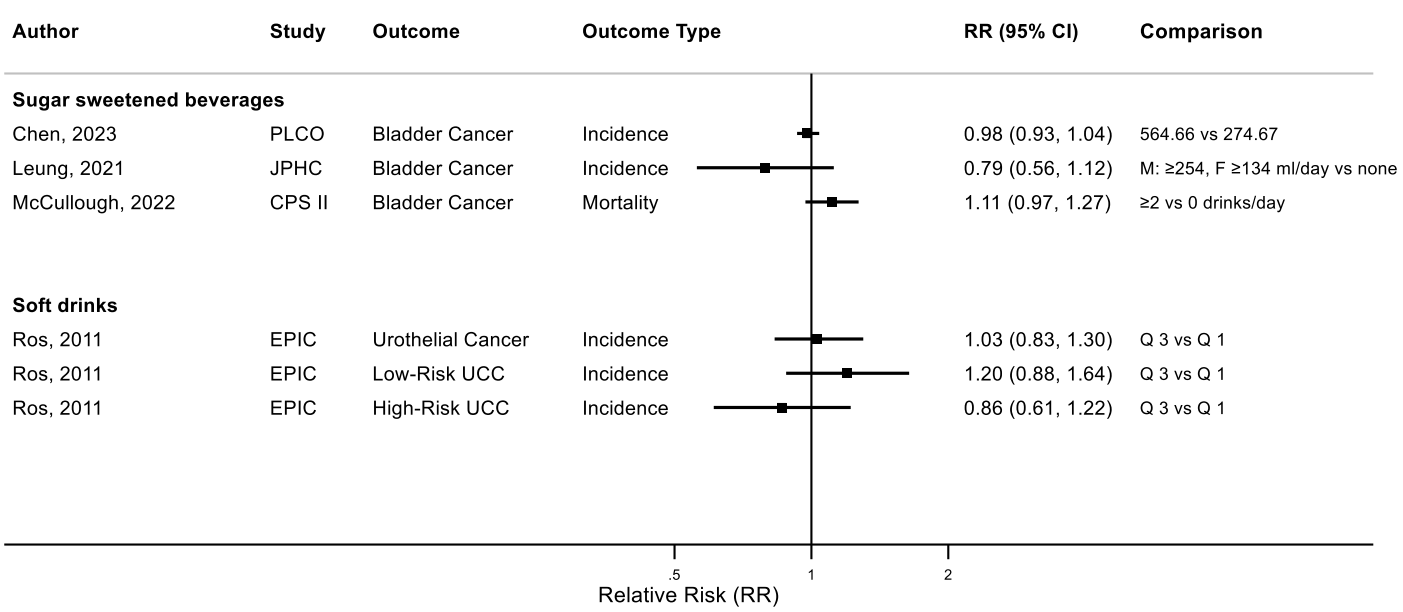


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; JPHC, Japan Public Health Center-Based Prospective Study; CPS II, Cancer Prevention Study II; EPIC, European Prospective Investigation into Cancer and nutrition

Note: One additional study (MEC) that could not be included in the categorical high vs low meta-analysis because of insufficient data format reported little evidence of an association with bladder cancer risk for each 2 point increase in the Alternative Healthy Eating Index – 2010 components score (lower sugar sweetened beverages and fruit juice consumption) in men (HR 1.03, 95% CI:0.99-1.07) and women (HR 0.99, 95% CI:0.93-1.05)[82].

Chen, 2023[46], Leung, 2021[100], McCullough, 2022[113], Ros, 2011[147]

Supplementary Figure 38. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and kidney cancer incidence and mortality.

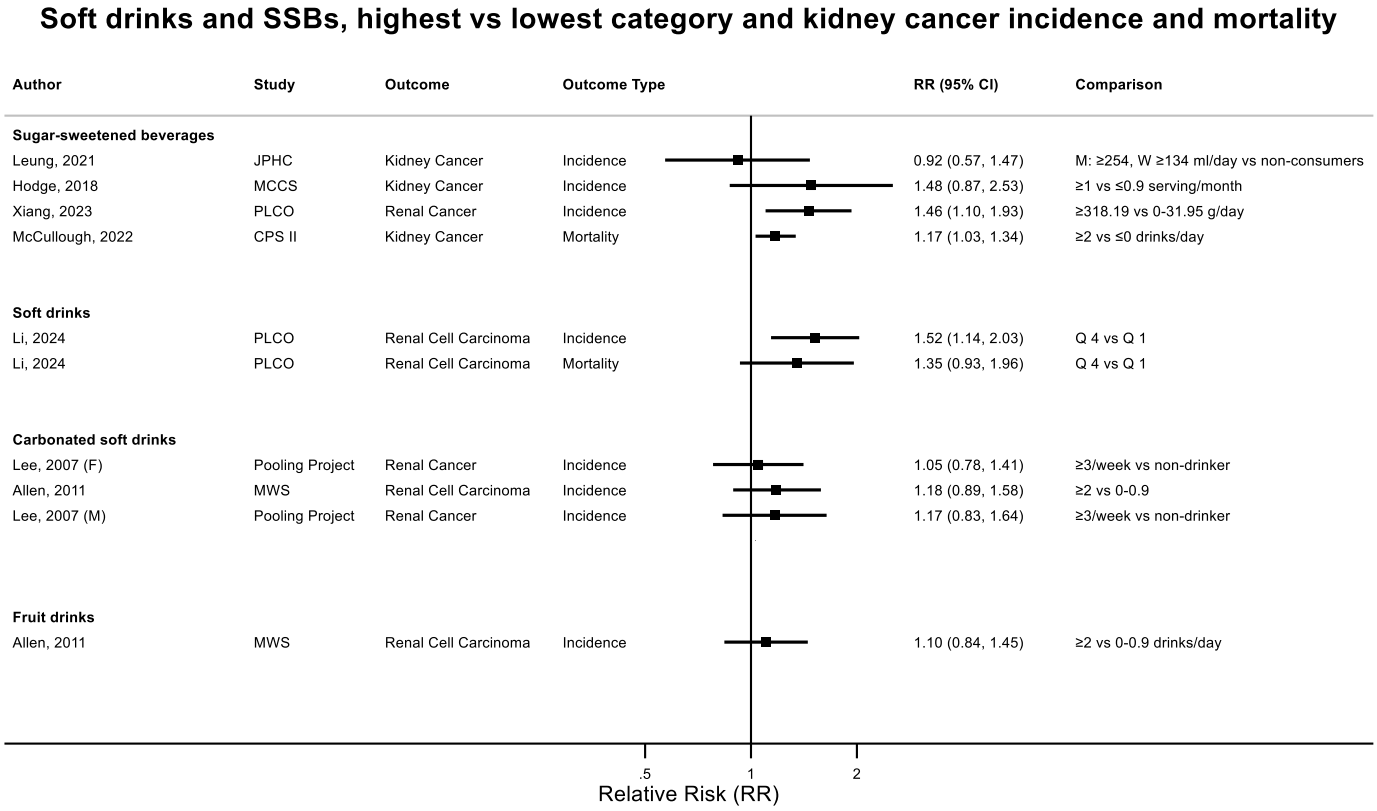


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; MCCS, Melbourne Collaborative Cohort Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; CPS II, Cancer Prevention Study II; Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer; MWS, Million Women Study

Leung, 2021[100], Hodge, 2018[70], Xiang, 2023[173], McCullough, 2022[113], Li, 2024[102], Lee, 2007[26], Allen, 2011[36]

Supplementary Figure 39. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and brain cancer incidence and mortality.

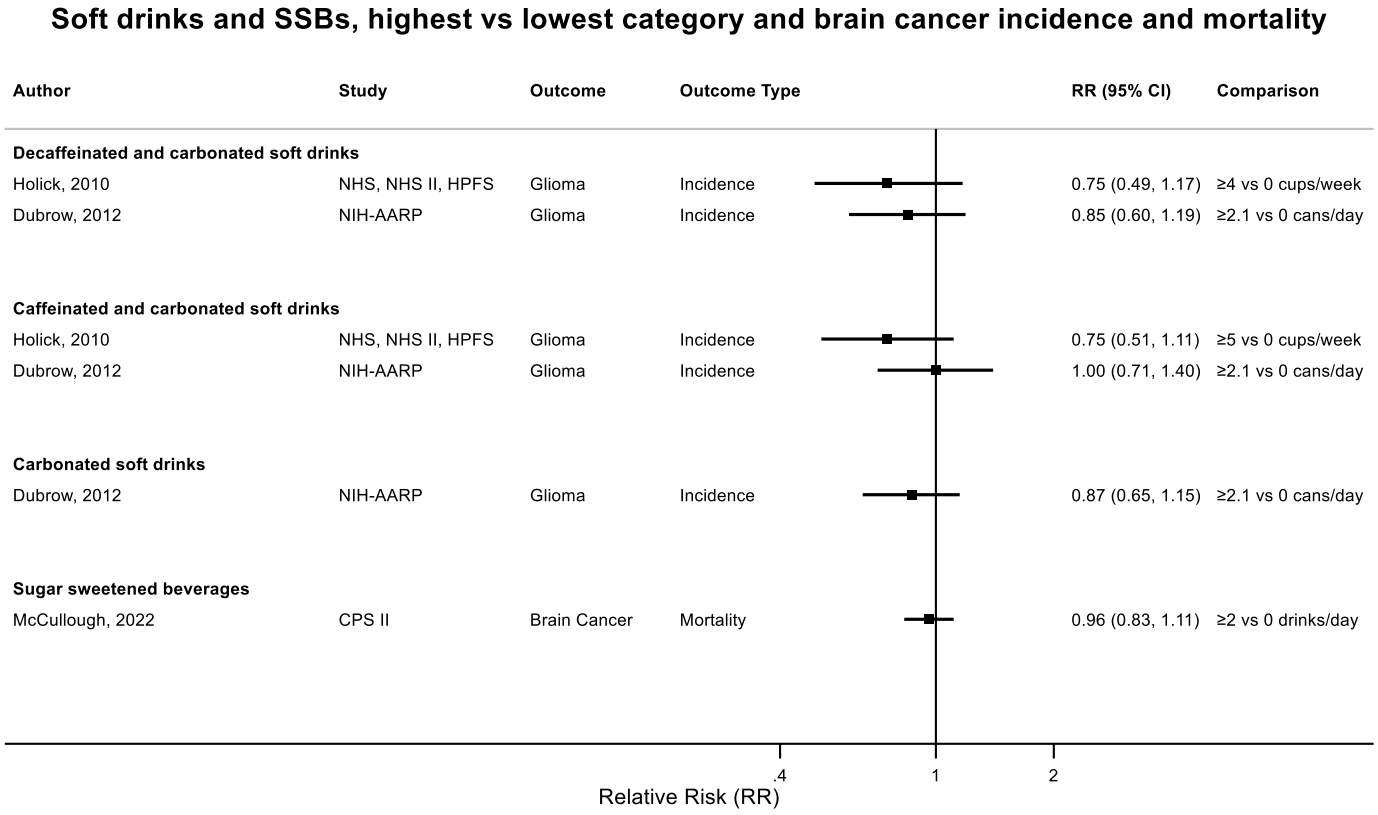


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: NHS, NHS II, HPFS Nurses' Health Study, Nurses' Health Study II, Health Professionals Follow-up Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II

Holick, 2010[71], Dubrow, 2012[48], McCullough, 2022[113]

Supplementary Figure 40. Highest versus the lowest category results from the individual studies on soft drinks and sugar sweetened beverages and thyroid cancer incidence.

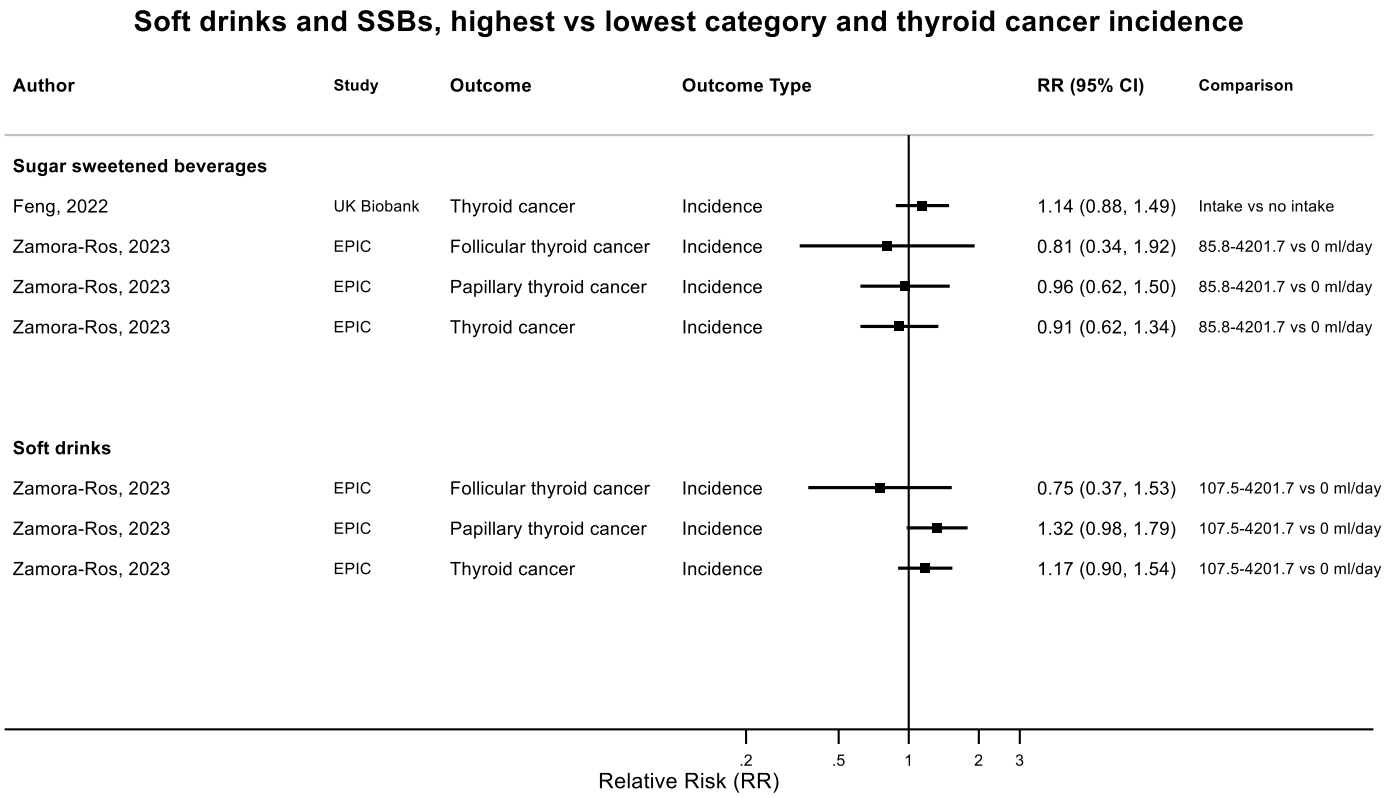


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: UK Biobank, United Kingdom Biobank Study; EPIC, European Prospective Investigation into Cancer and nutrition

Feng, 2022[53], Zamora-Ros, 2023[180]

Supplementary Figure 41. Highest versus the lowest category results from the individual studies on sugar sweetened beverages and lymphoid and haematological cancers incidence and mortality.

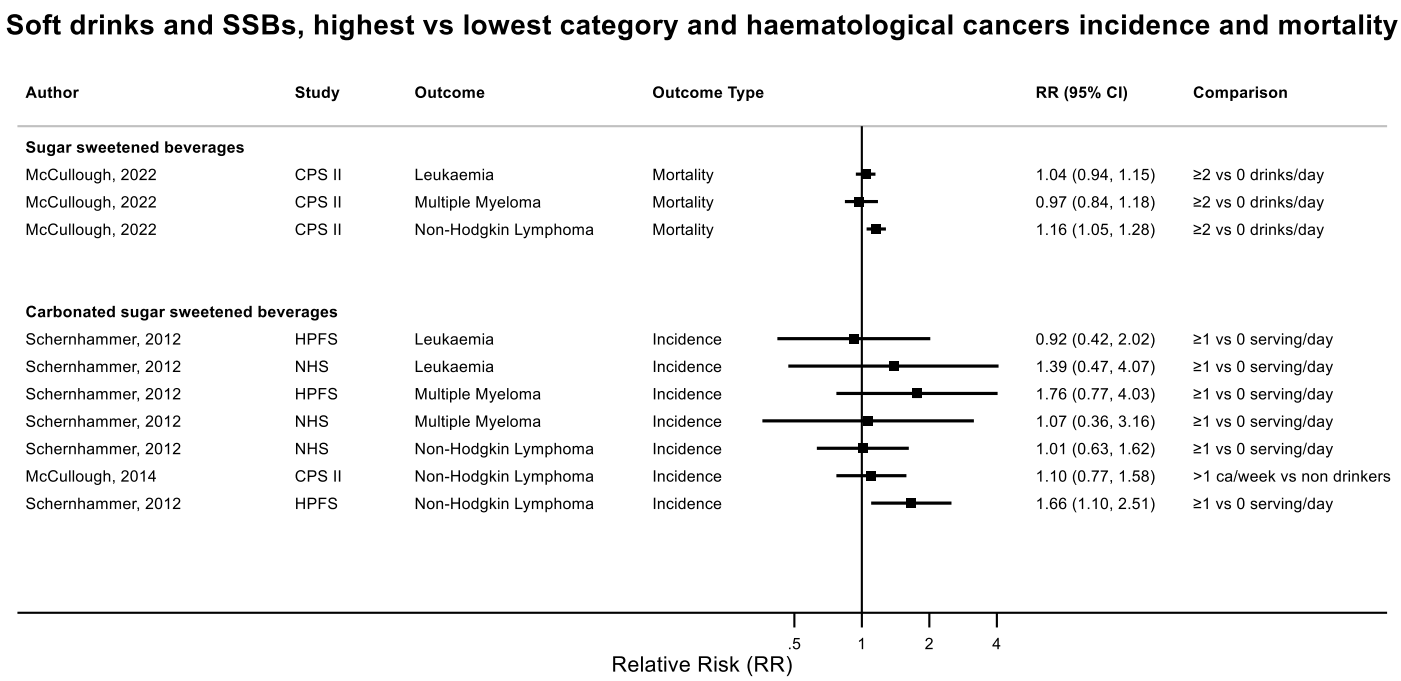


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence

Study abbreviations: CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

McCullough, 2022[113], Schernhammer, 2012[150]

Supplementary Figure 42. Highest versus the lowest category results from individual studies on artificially sweetened beverages and stomach cancer incidence and mortality.

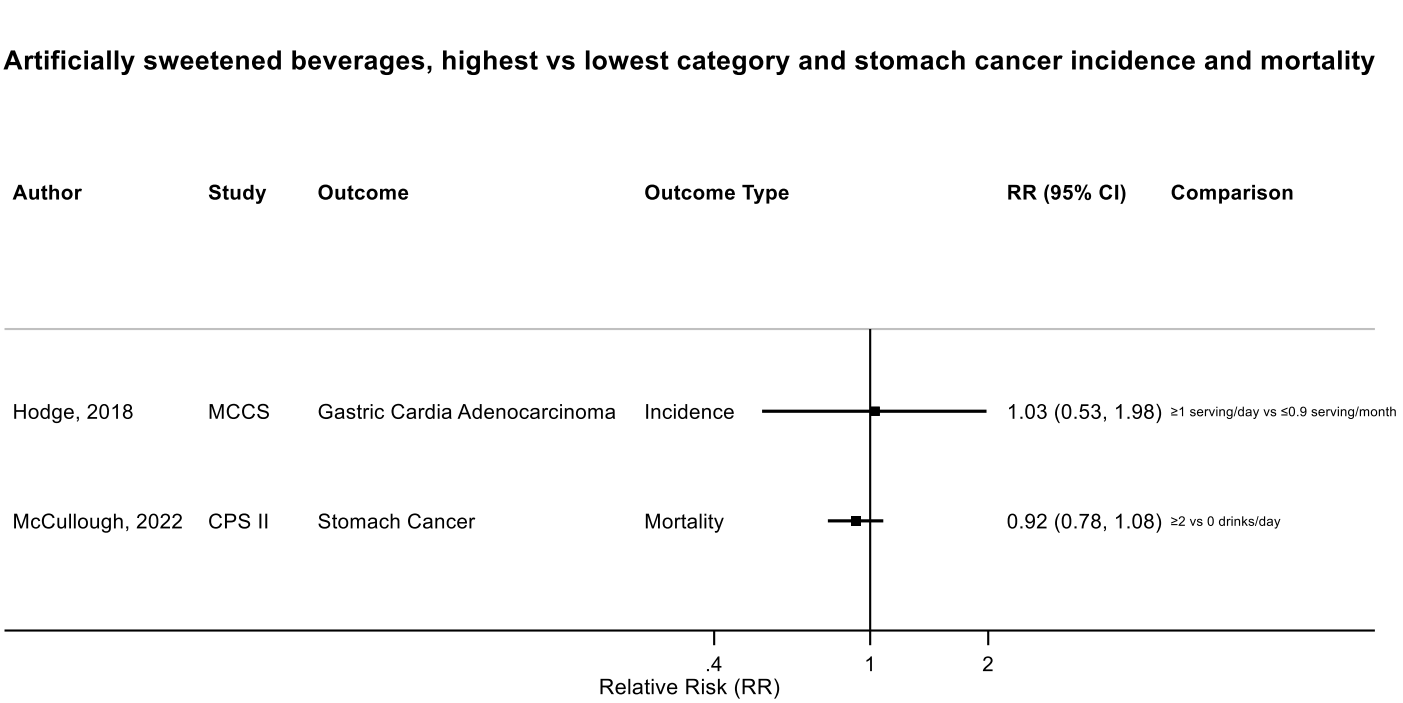


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; CPS II, Cancer Prevention Study II

Hodge, 2018[70], McCullough, 2022[113]

Supplementary Figure 43. Highest versus the lowest category results from individual studies on artificially sweetened beverages and colorectal cancer incidence and mortality.

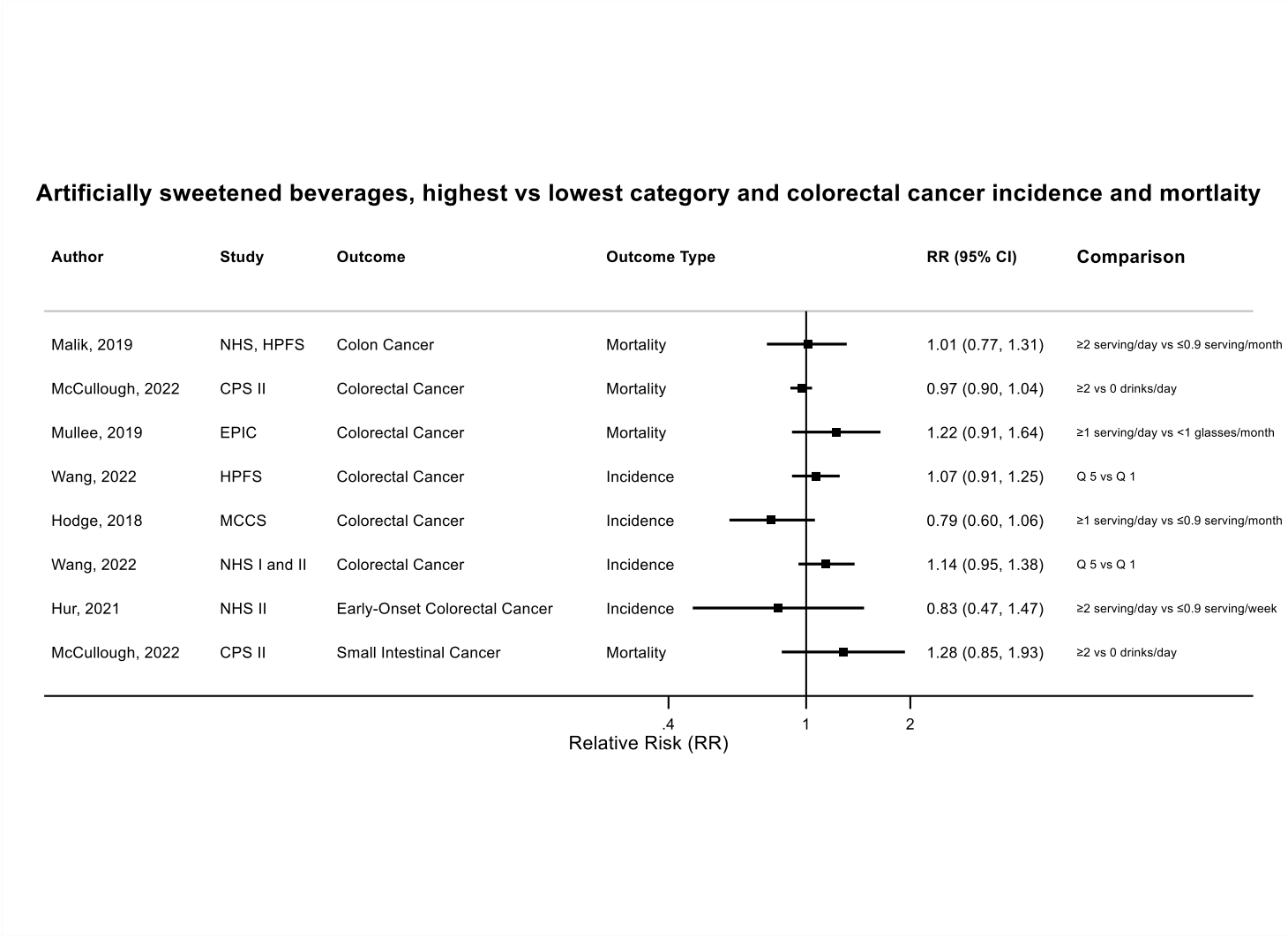


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, HPFS, Nurses' Health Study, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II; EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; MCCS, Melbourne Collaborative Cohort Study; NHS I and II, Nurses' Health Study I and II

Malik, 2019[109], McCullough, 2022[113], Mullee, 2019[126], Wang, 2022[168], Hodge, 2018[70], Hur, 2021[72]

Supplementary Figure 44. Highest versus the lowest category results from individual studies on artificially sweetened beverages and liver cancer incidence and mortality.

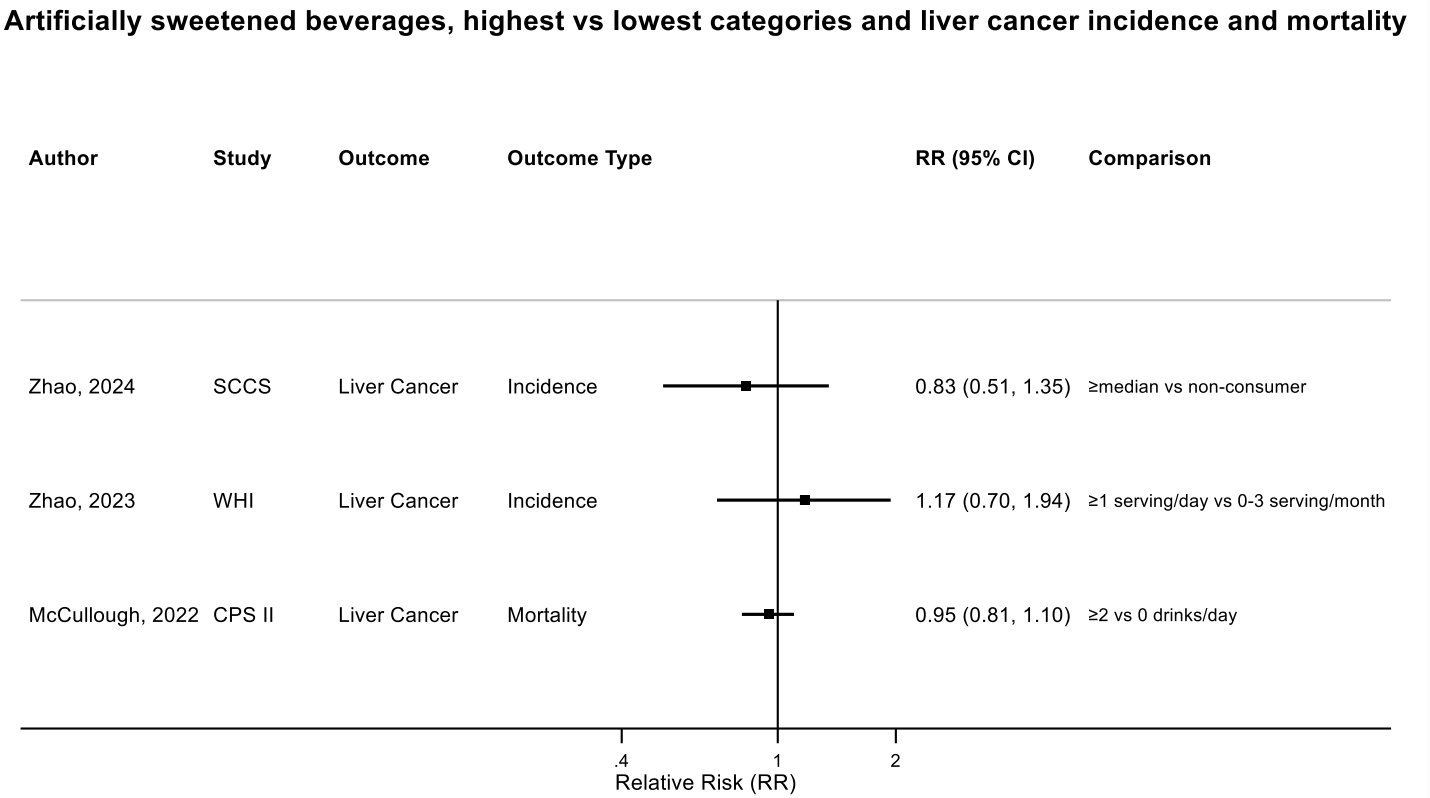


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SCCS, Southern Community Cohort Study; WHI, Women's Health Initiative Study; CPS II, Cancer Prevention Study II

Zhao, 2024[187], Zhao, 2023[186], McCullough, 2022[113]

Supplementary Figure 45. Highest versus the lowest category results from individual studies on artificially sweetened beverages and pancreatic cancer incidence and mortality.

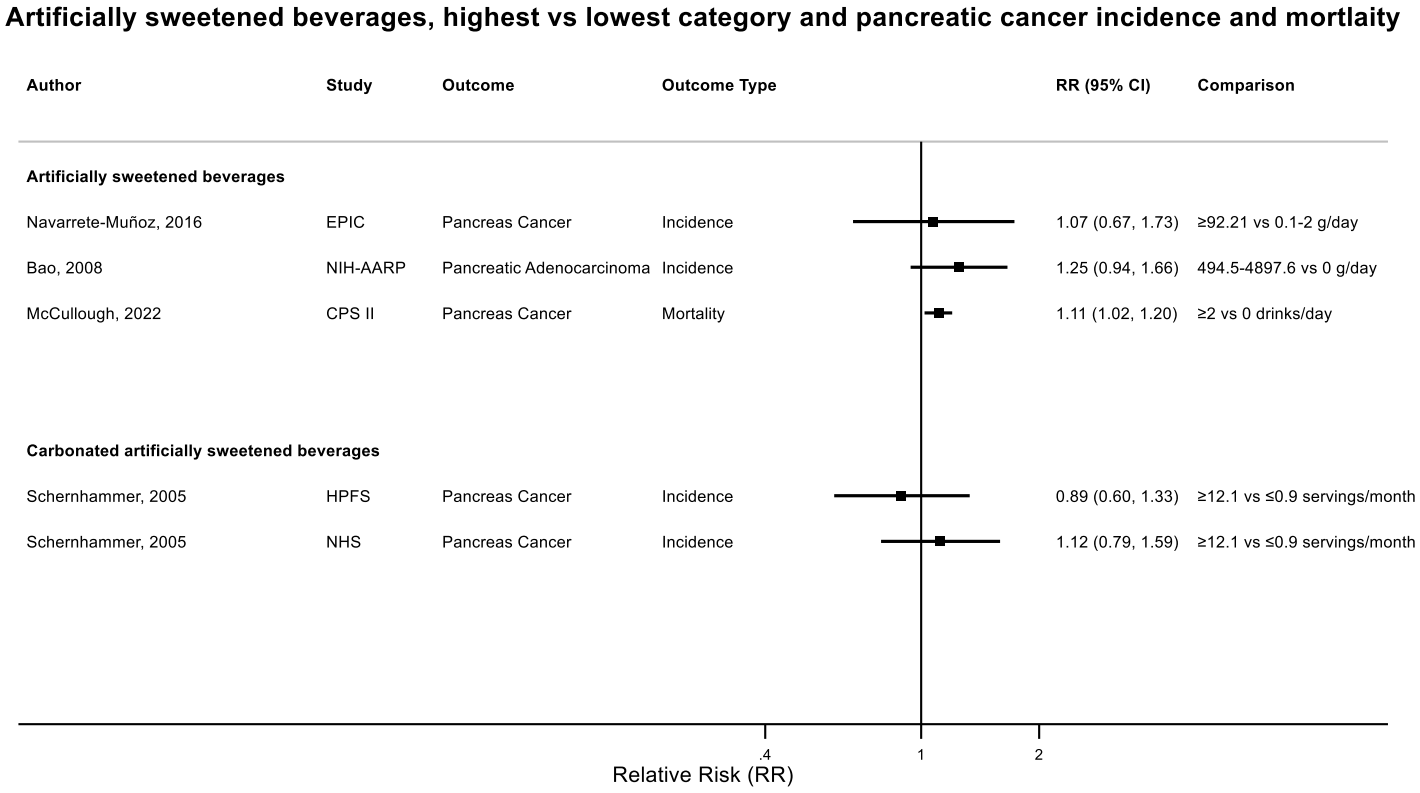


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Navarrete-Muñoz, 2016[127], Bao, 2008[39], McCullough, 2022[113], Schernhammer, 2005[151]

Supplementary Figure 46. Highest versus the lowest category results from individual studies on artificially sweetened beverages and lung cancer incidence and mortality.

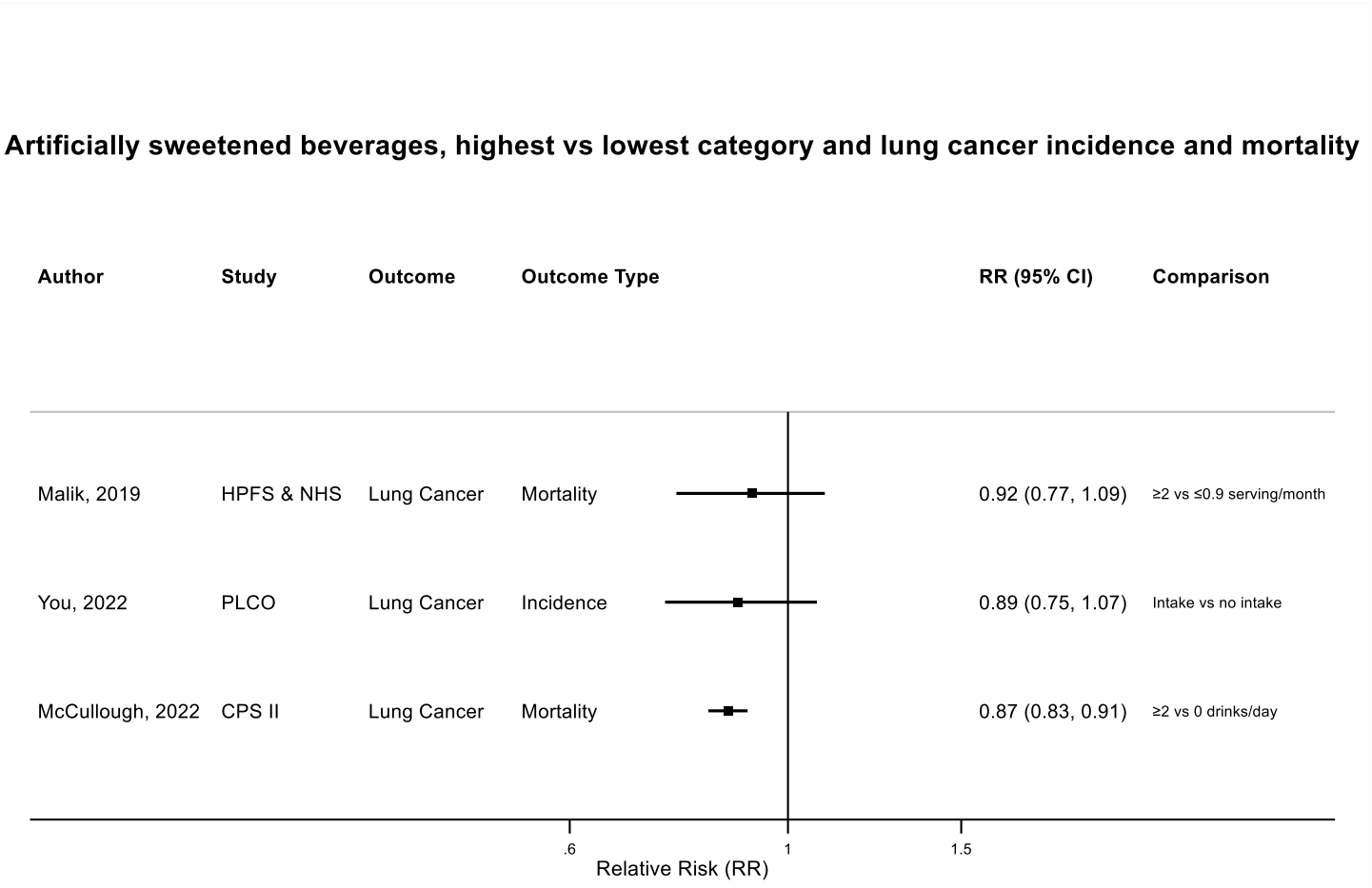


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS & NHS, Health Professionals Follow-up Study & Nurses' Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; CPS II, Cancer Prevention Study II

Malik, 2019[109], You, 2022[177], McCullough, 2022[113]

Supplementary Figure 47. Highest versus the lowest category results from individual studies on artificially sweetened beverages and breast cancer incidence and mortality.

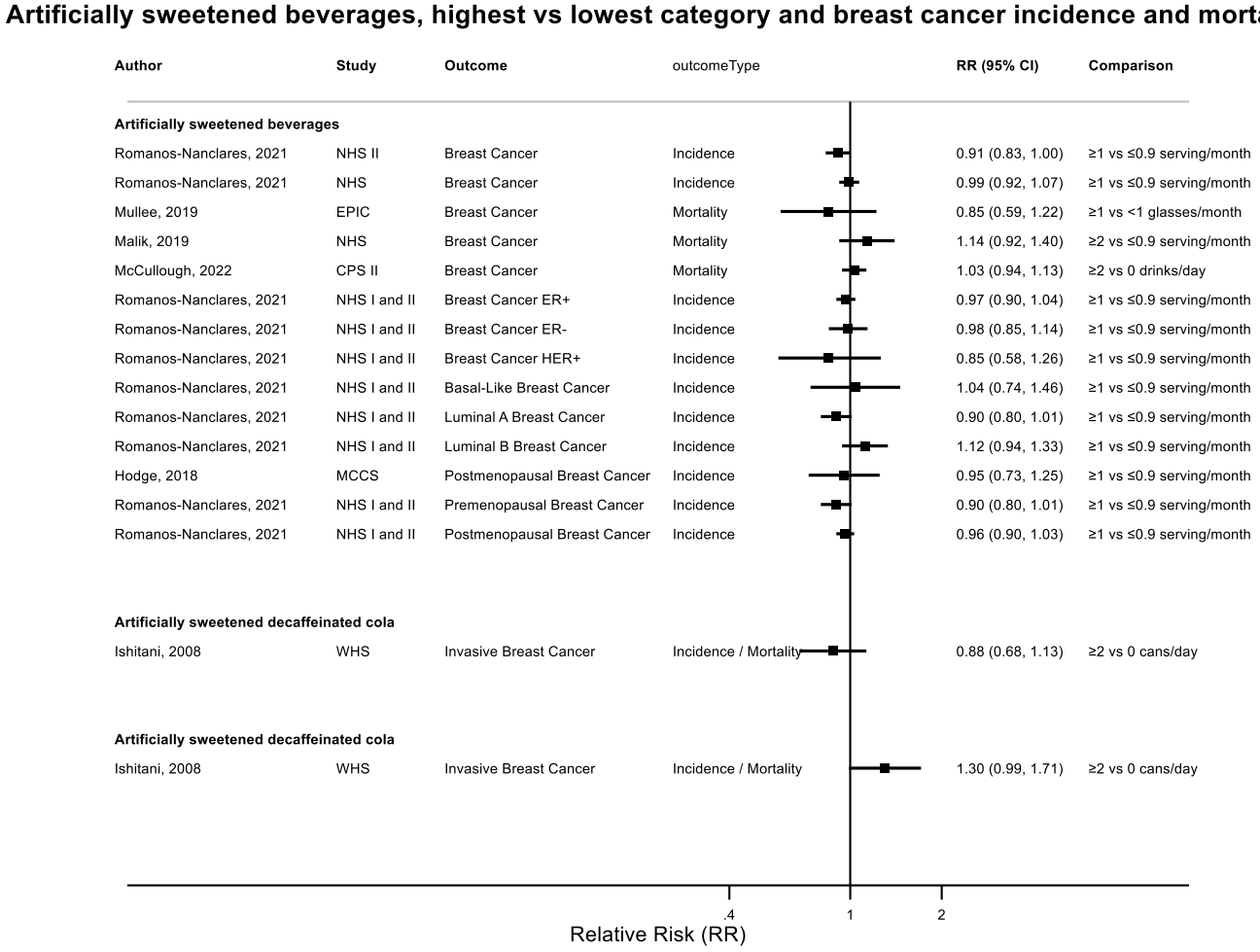


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS II, Nurses' Health Study II; NHS, Nurses' Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; NHS I and II, Nurses' Health Study I and II; MCCS, Melbourne Collaborative Cohort Study; WHS, Women's Health Study

Romanos-Nanclares, 2021[145], Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113], Hodge, 2018[70], Ishitani, 2008[75]

Supplementary Figure 48. Highest versus the lowest category results from individual studies on artificially sweetened beverages and endometrial cancer incidence and mortality.

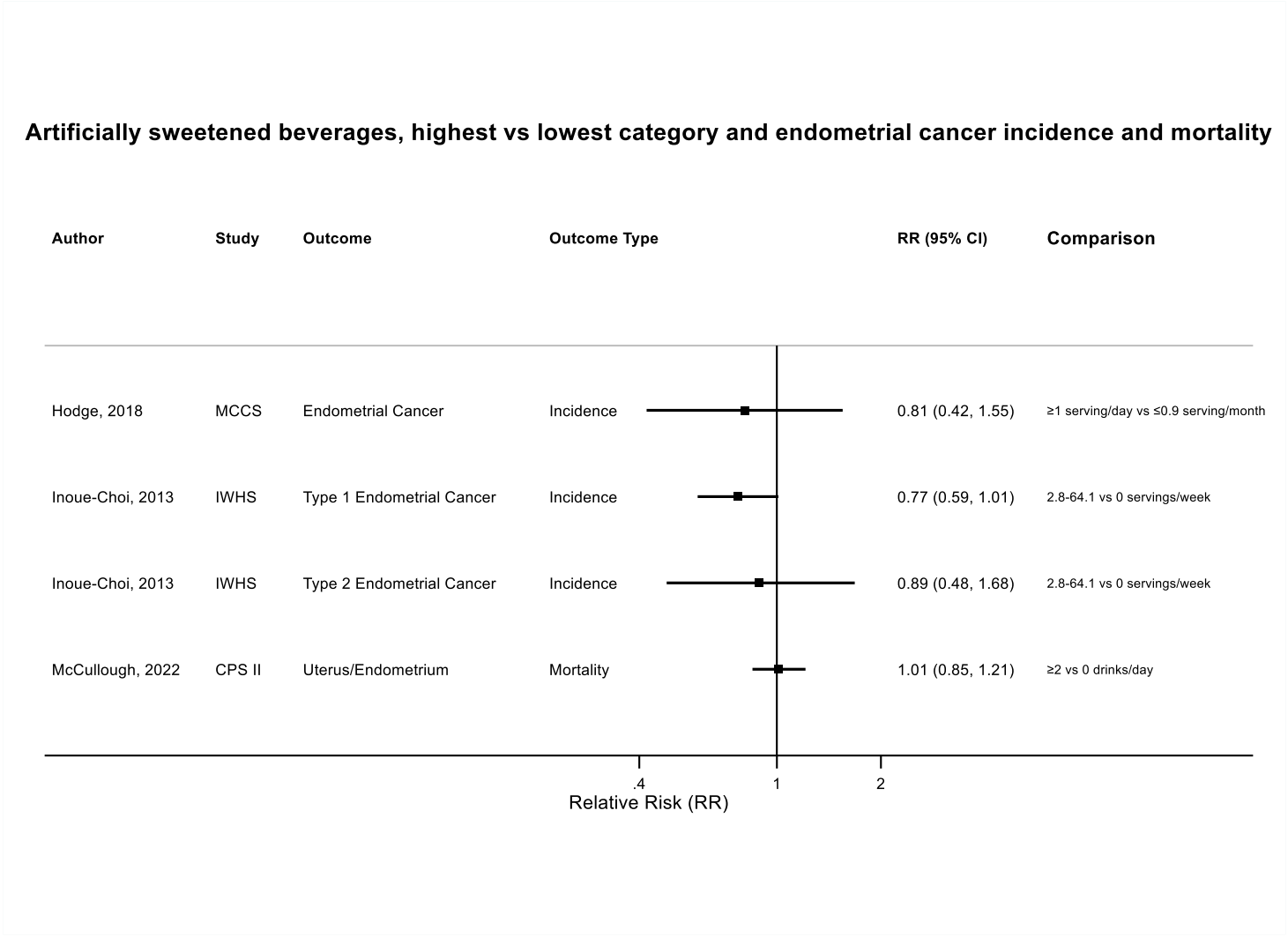


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; IWHS, The Iowa Women's Health Study; CPS II, Cancer Prevention Study II

Hodge, 2018[70], Inoue-Choi, 2013[74], McCullough, 2022[113]

Supplementary Figure 49. Highest versus the lowest category results from individual studies on artificially sweetened beverages and ovarian cancer incidence and mortality.

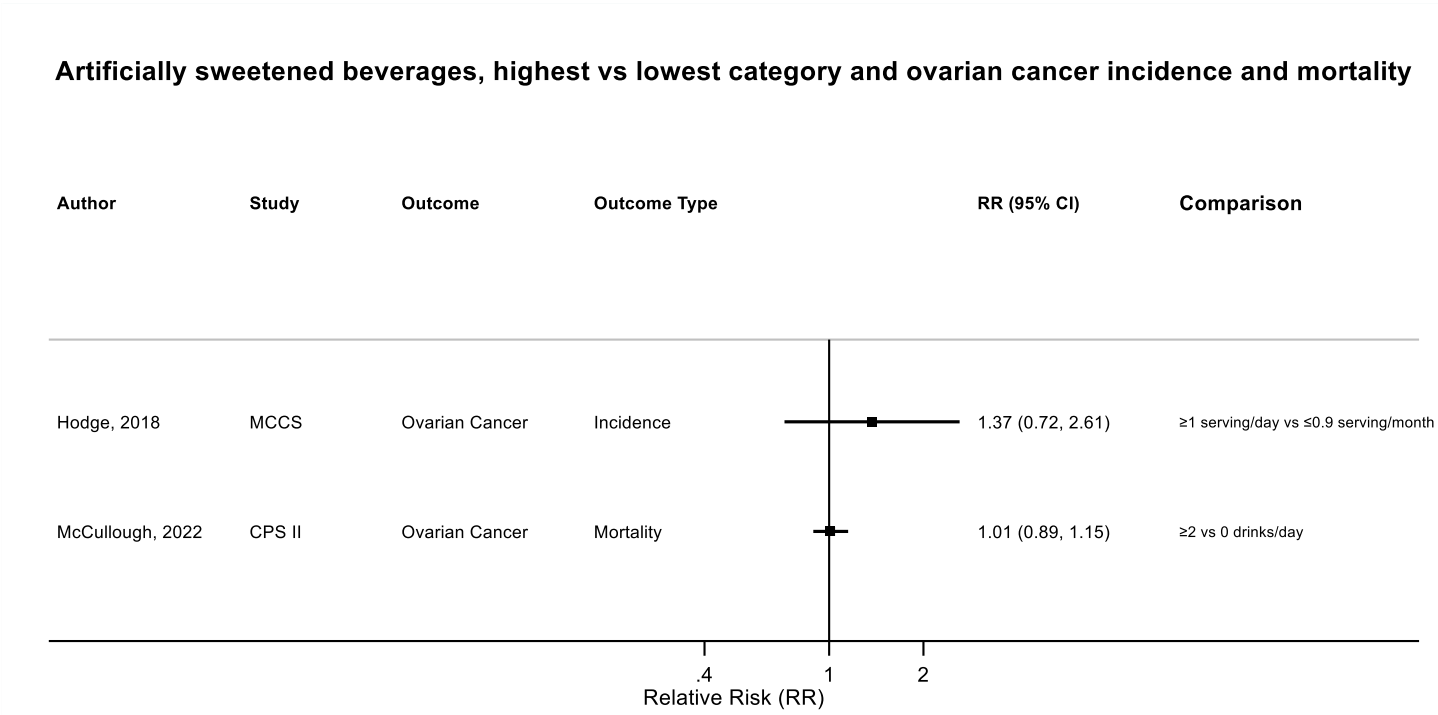


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; CPS II, Cancer Prevention Study II

Hodge, 2018[70], McCullough, 2022[113]

Supplementary Figure 50. Highest versus the lowest category results from individual studies on artificially sweetened beverages and prostate cancer incidence and mortality.

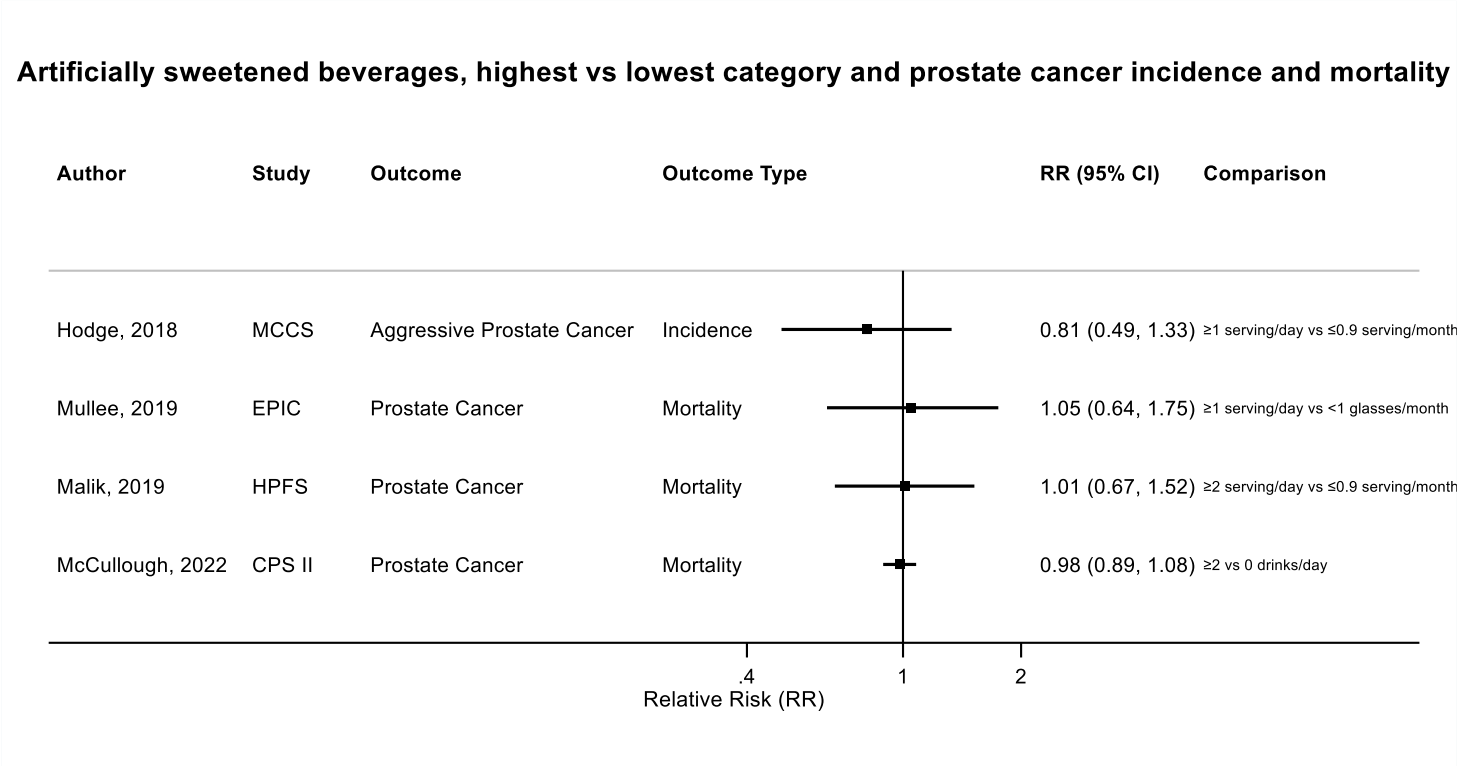


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Note: There was one Frech cohort study (NutriNet-Santé)[44] that that could not be included in the dose-response meta-analysis because of implausible effect size and reported an inverse association but with 95%CI crossing the null value between ASBs and prostate cancer incidence (RR: 0.58, 95%CI: 0.28-1.18) per 10 mL/day increase.

Hodge, 2018[70], Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 51. Highest versus the lowest category results from individual studies on artificially sweetened beverages and kidney cancer incidence and mortality.

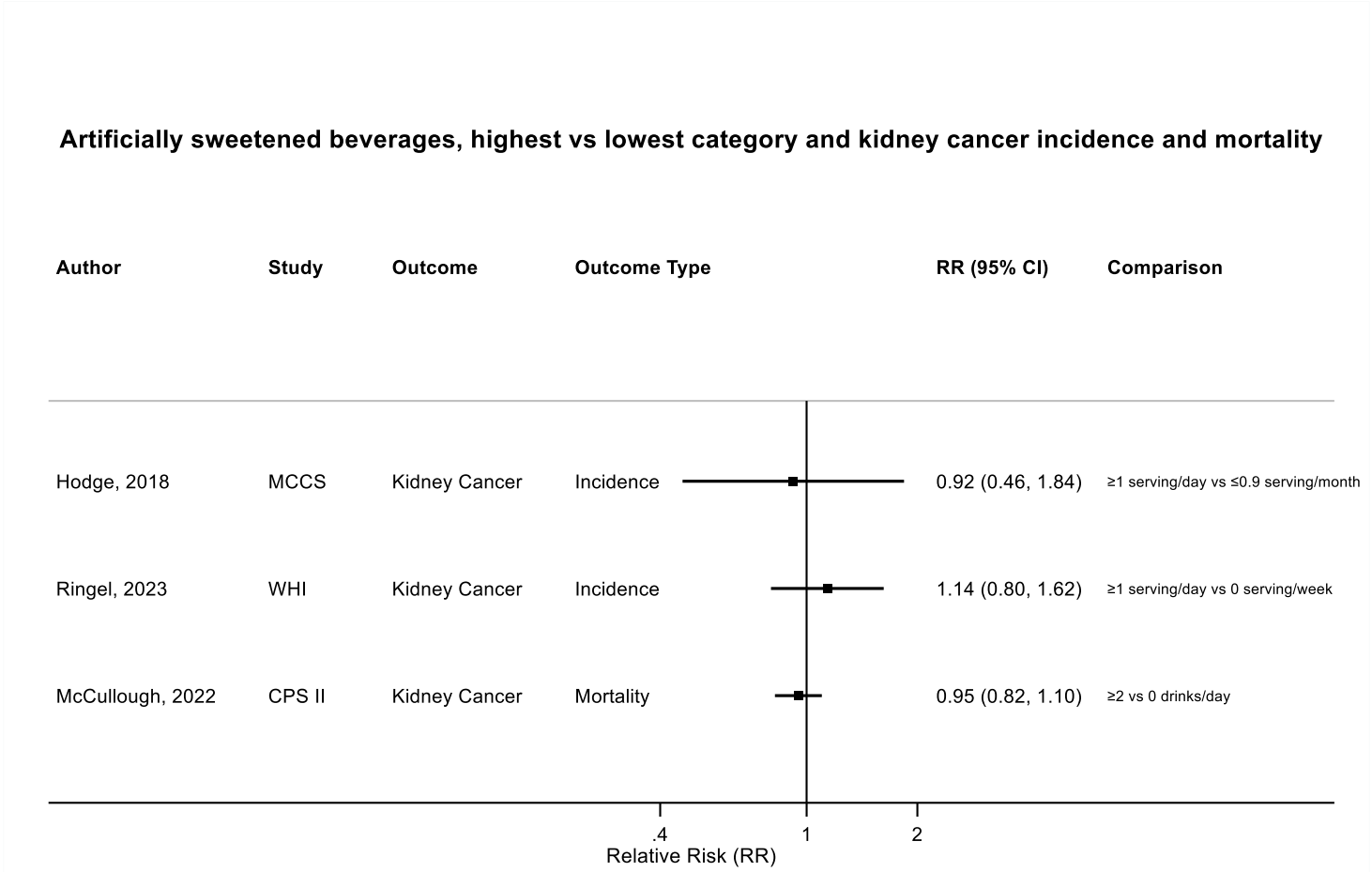


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; WHI, Women's Health Initiative Study; CPS II, Cancer Prevention Study II

Hodge, 2018[70], Ringel, 2023[144], McCullough, 2022[113]

Supplementary Figure 52. Highest versus the lowest category results from individual studies on artificially sweetened beverages and bladder cancer incidence and mortality.

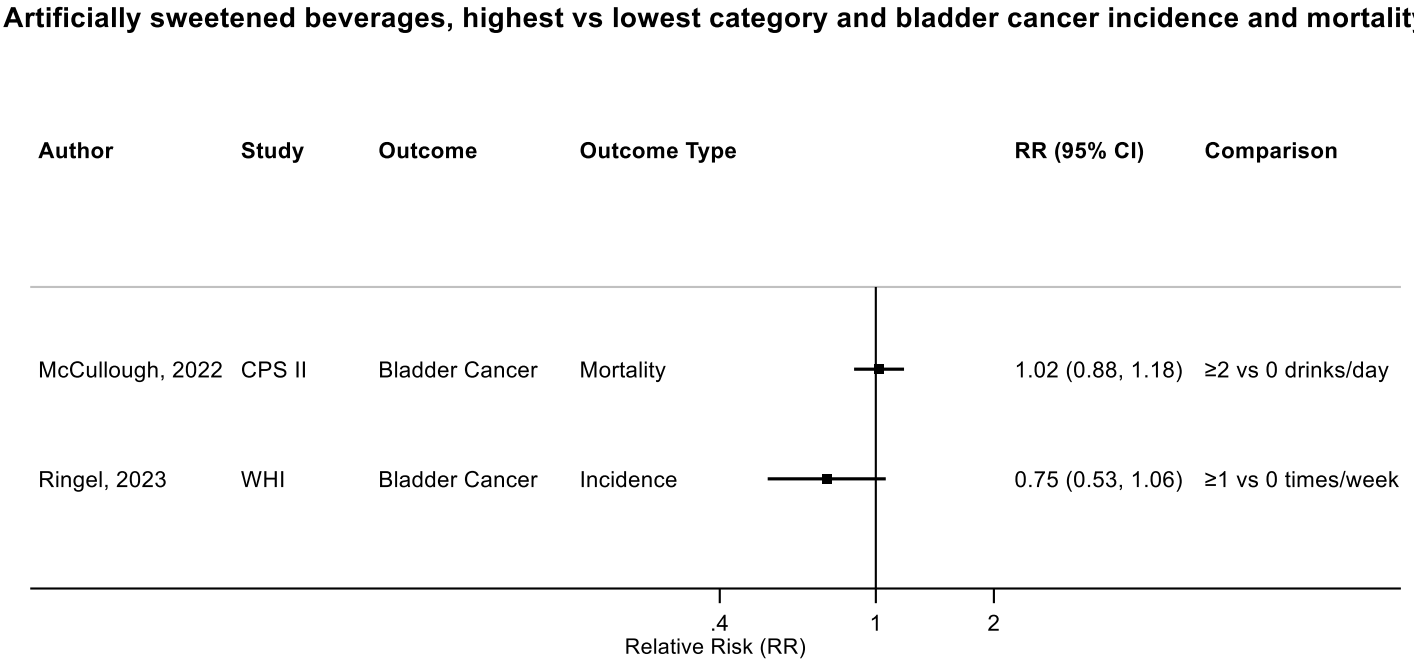


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CPS II, Cancer Prevention Study II; WHI, Women's Health Initiative Study

McCullough, 2022[113], Ringel, 2023[144]

Supplementary Figure 53. Highest versus the lowest category results from individual studies on artificially sweetened beverages and hematological cancers incidence and mortality.

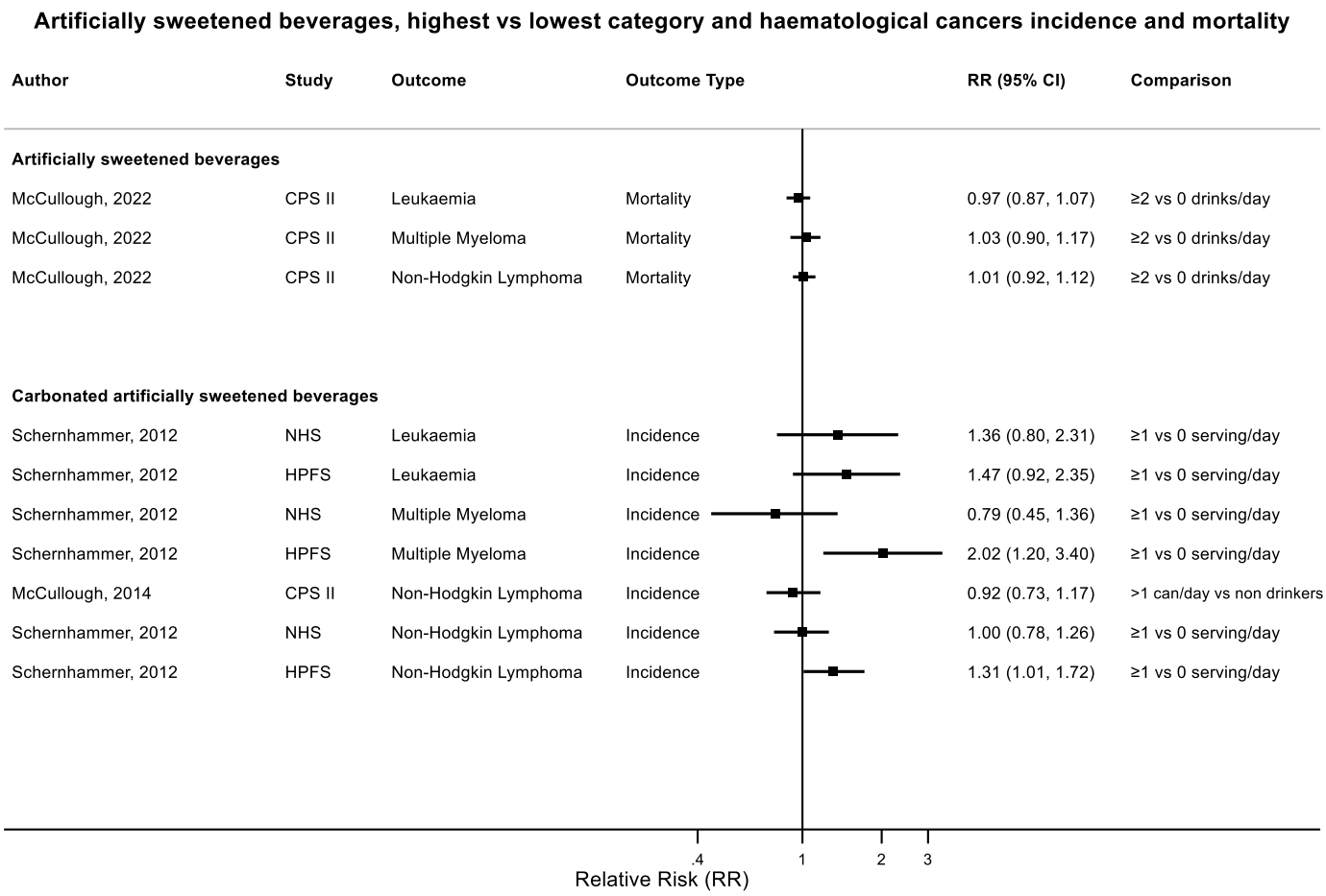


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CPS II, Cancer Prevention Study II; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study

McCullough, 2022[113], Schernhammer, 2012[150], McCullough, 2014[114]

Supplementary Figure 54. Highest versus the lowest category results from individual studies on artificially sweetened beverages and thyroid cancer incidence.

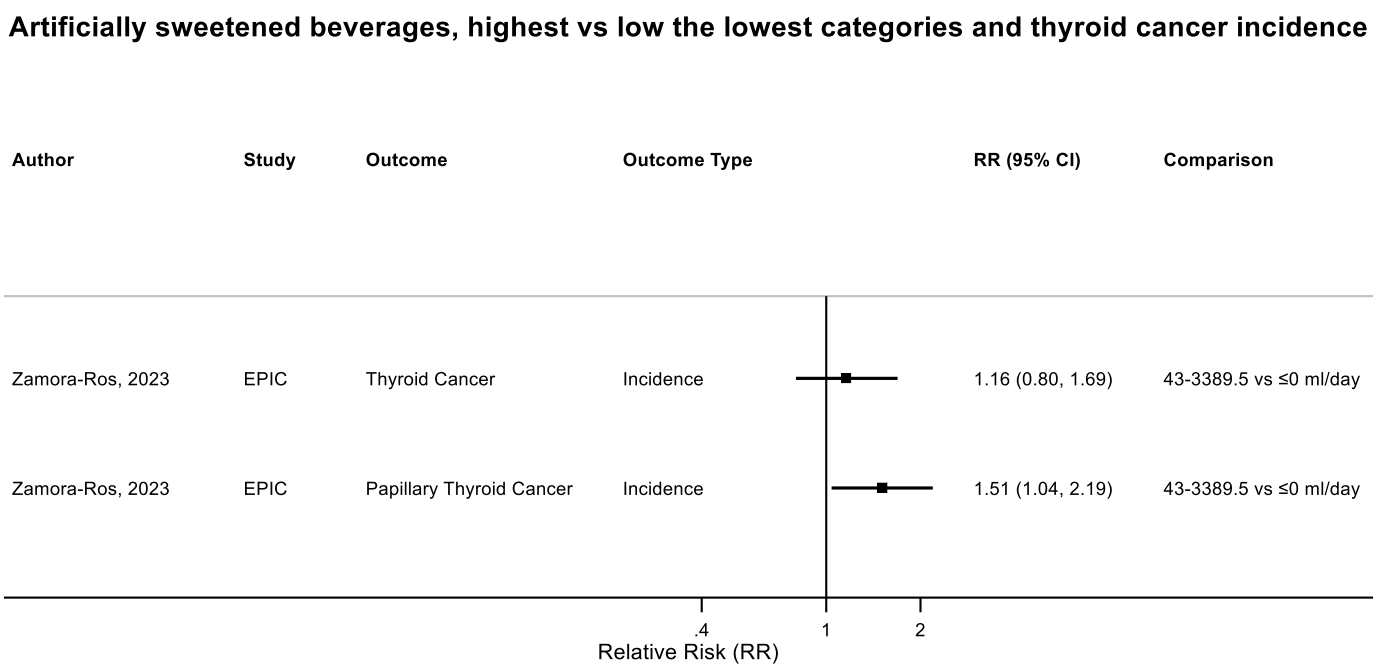


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition

Zamora-Ros, 2023[180]

Supplementary Figure 55. Highest versus the lowest category results from individual studies on juices and of head and neck cancers incidence.

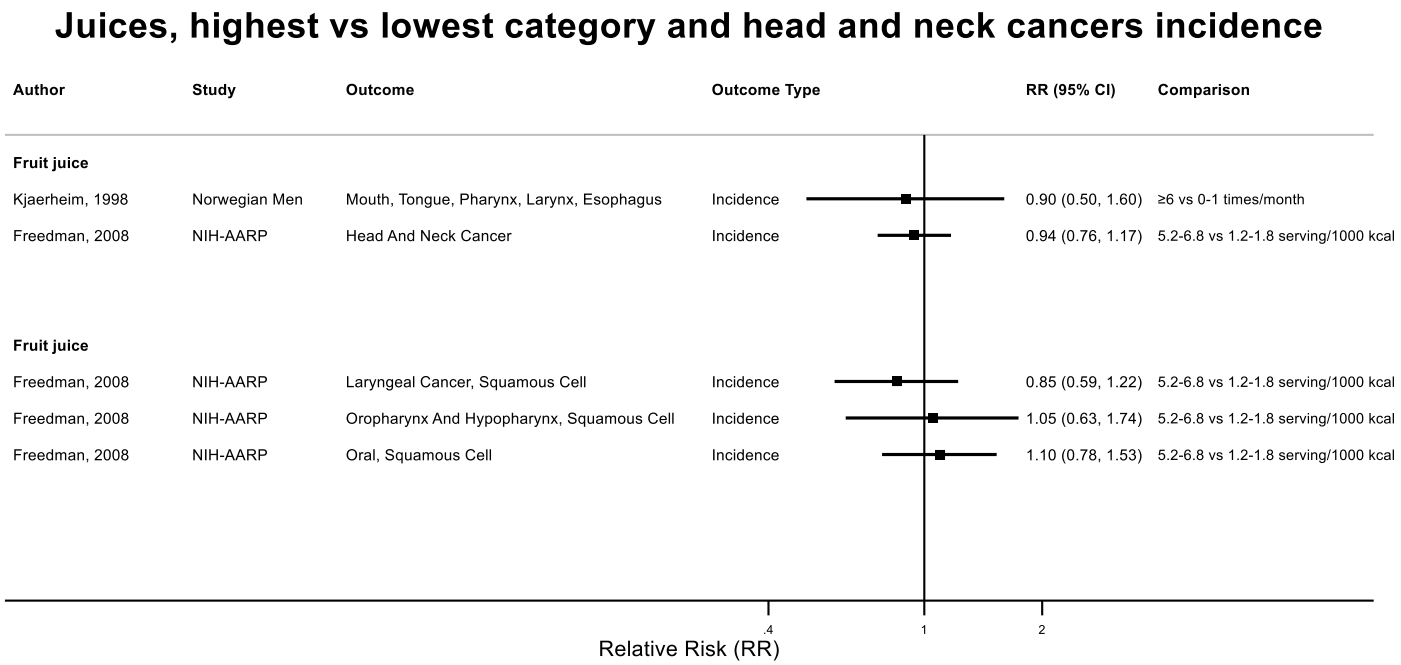


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study

Kjaerheim, 1998[90], Freedman, 2008[59]

Supplementary Figure 56. Highest versus the lowest category results from individual studies on juices and colorectal cancer incidence and mortality.

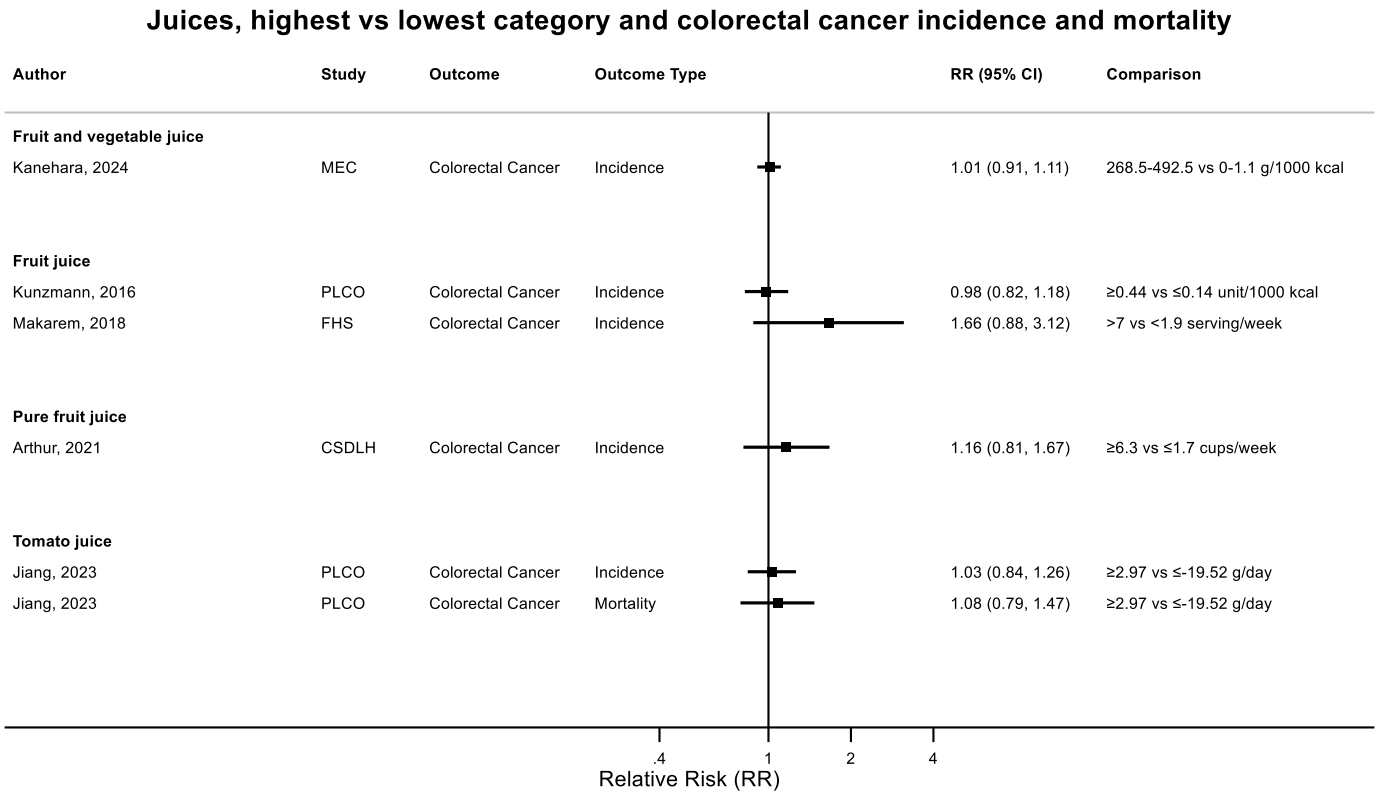


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MEC, Multiethnic Cohort Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Kanehara, 2024[81], Kunzmann, 2016[93], Makarem, 2018[108], Arthur, 2021[38], Jiang, 2023[77]

Supplementary Figure 57. Highest versus the lowest category results from individual studies on juices and colorectal cancer subsites incidence and mortality.

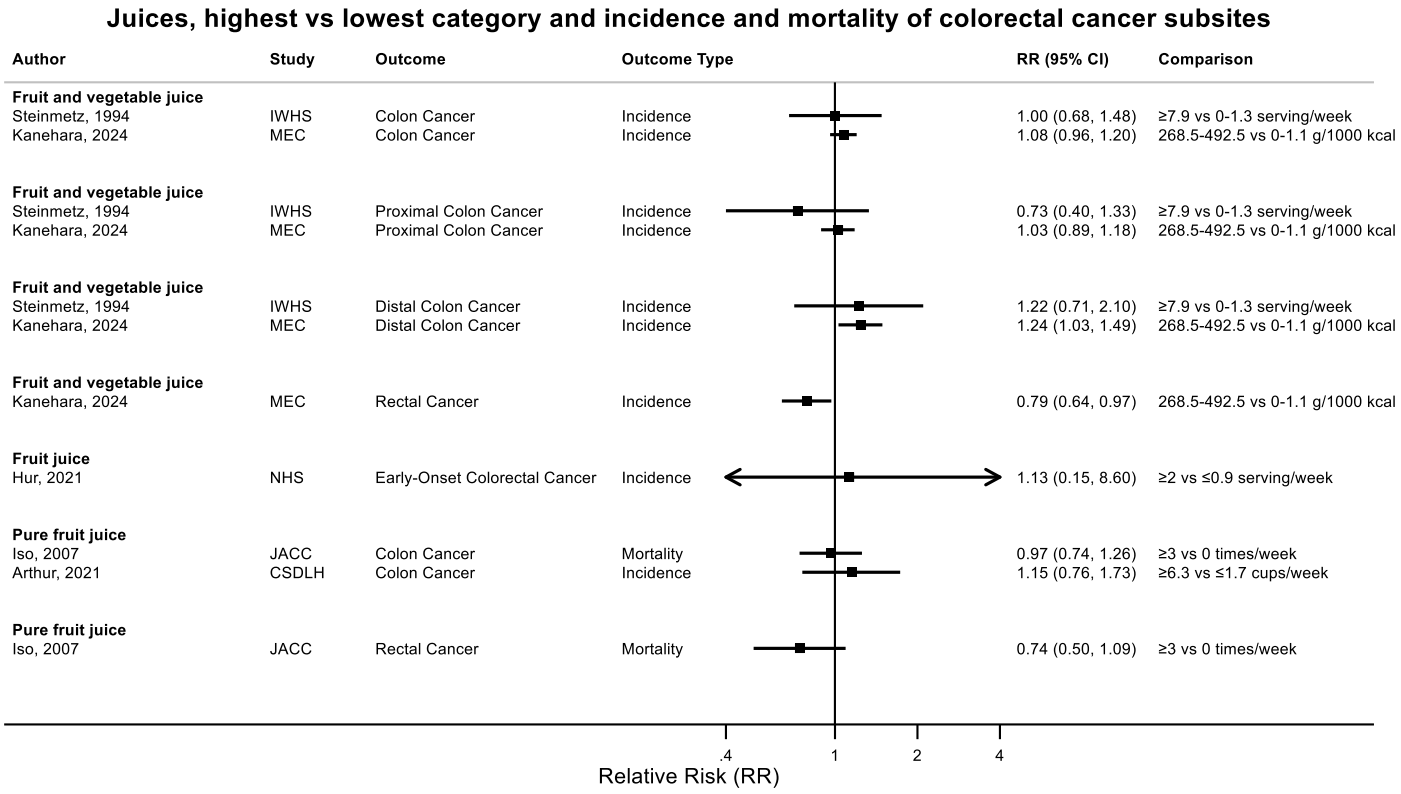


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MEC, Multiethnic Cohort Study; NHS, Nurses' Health Study; JACC, Japan Collaborative Cohort study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Steinmetz, 1994[158], Kanehara, 2024[81], Hur, 2021[72], Iso, 2007[76], Arthur, 2021[38]

Supplementary Figure 58. Highest versus the lowest category results from individual studies on juices and pancreatic cancer incidence and mortality.

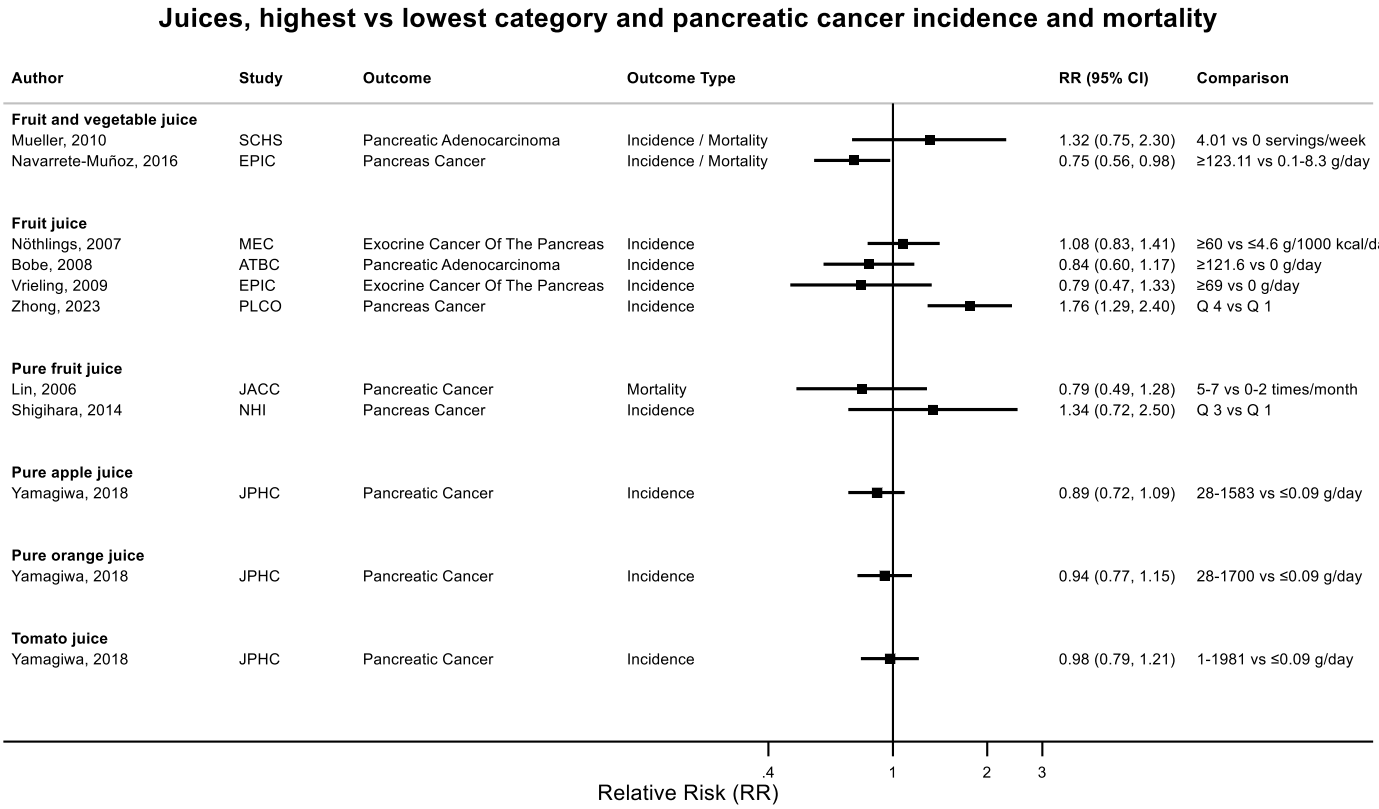


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SCHS, Singapore Chinese Health study; EPIC, European Prospective Investigation into Cancer and nutrition; MEC, Multiethnic Cohort Study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; JACC, Japan Collaborative Cohort study; NHI, Ohsaki National Health Insurance Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study

Mueller, 2010[125], Navarrete-Muñoz, 2016[127], Nöthlings, 2007[131], Bobe, 2008[41], Vrieling, 2009[167], Zhong, 2023[188], Lin, 2006[103], Shigihara, 2014[154], Yamagiwa, 2019[176]

Supplementary Figure 59. Highest versus the lowest category results from individual studies on juices and breast cancer incidence.

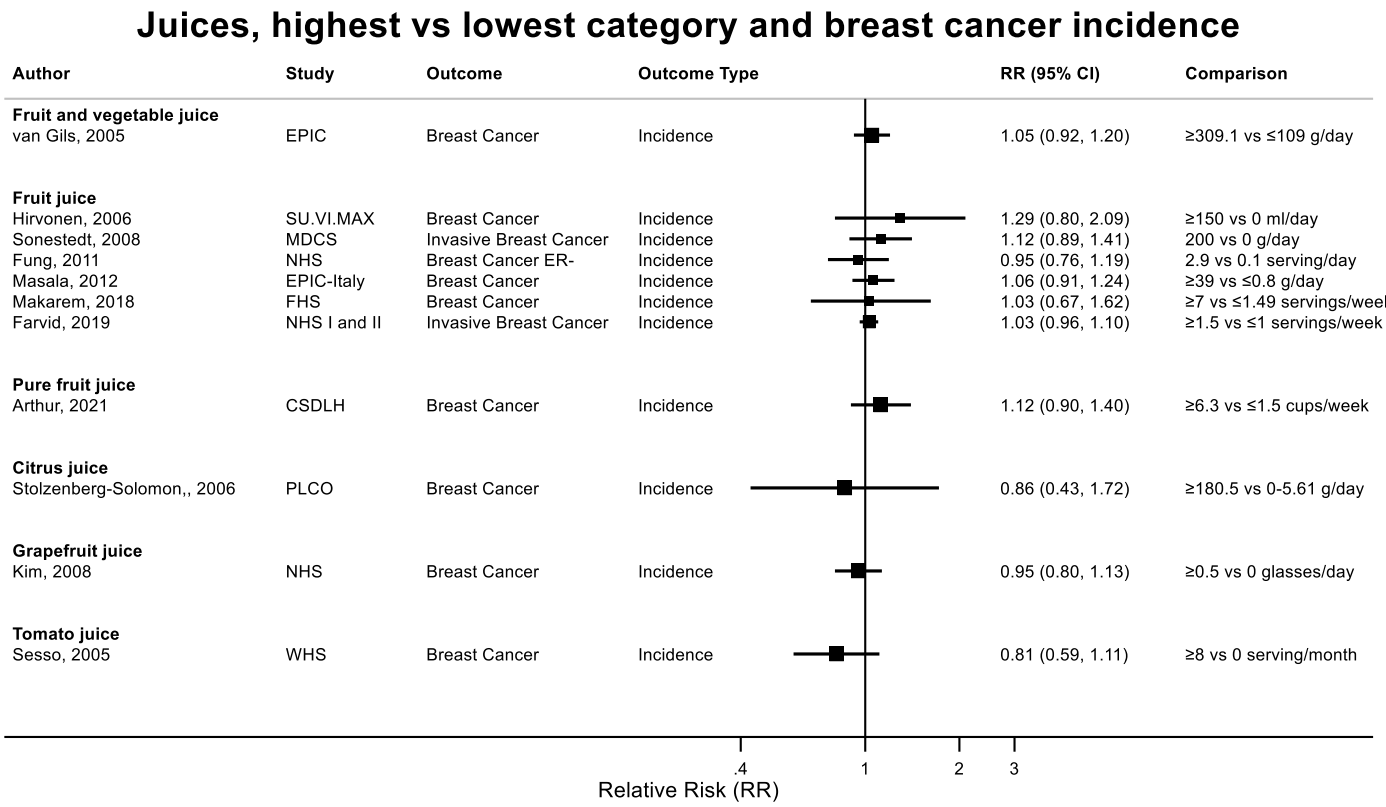


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; MDCS, Malmö Diet and Cancer Study; NHS, Nurses' Health Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition-Italy cohort; FHS, Framingham Heart Study; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHS, Women's Health Study

van Gils, 2005[164], Hirvonen, 2006[69], Sonestedt, 2008[156], Fung, 2011[63], Masala, 2012[112], Makarem, 2018[108], Farvid, 2019[52], Arthur, 2021[38], Stolzenberg-Solomon, 2006[160], Kim, 2008[86], Sesso, 2005[153]

Supplementary Figure 60. Highest versus the lowest category results from individual studies on juices and breast cancer incidence, by menopausal status.

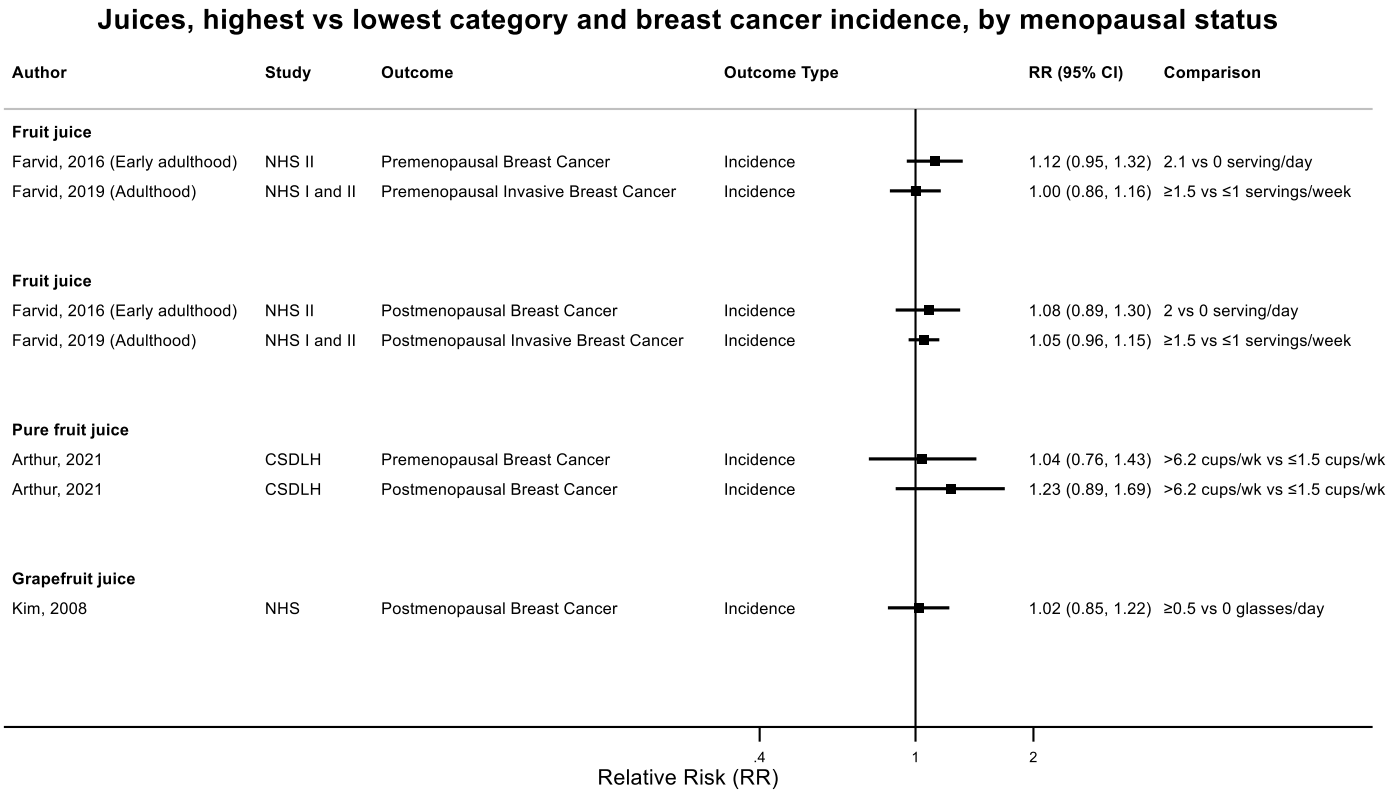


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS II, Nurses' Health Study II; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS, Nurses' Health Study

Farvid, 2016[51], Farvid, 2019[52], Arthur, 2021[38], Kim, 2008[86]

Supplementary Figure 61. Highest versus the lowest category results from individual studies on juices and endometrial cancer incidence.

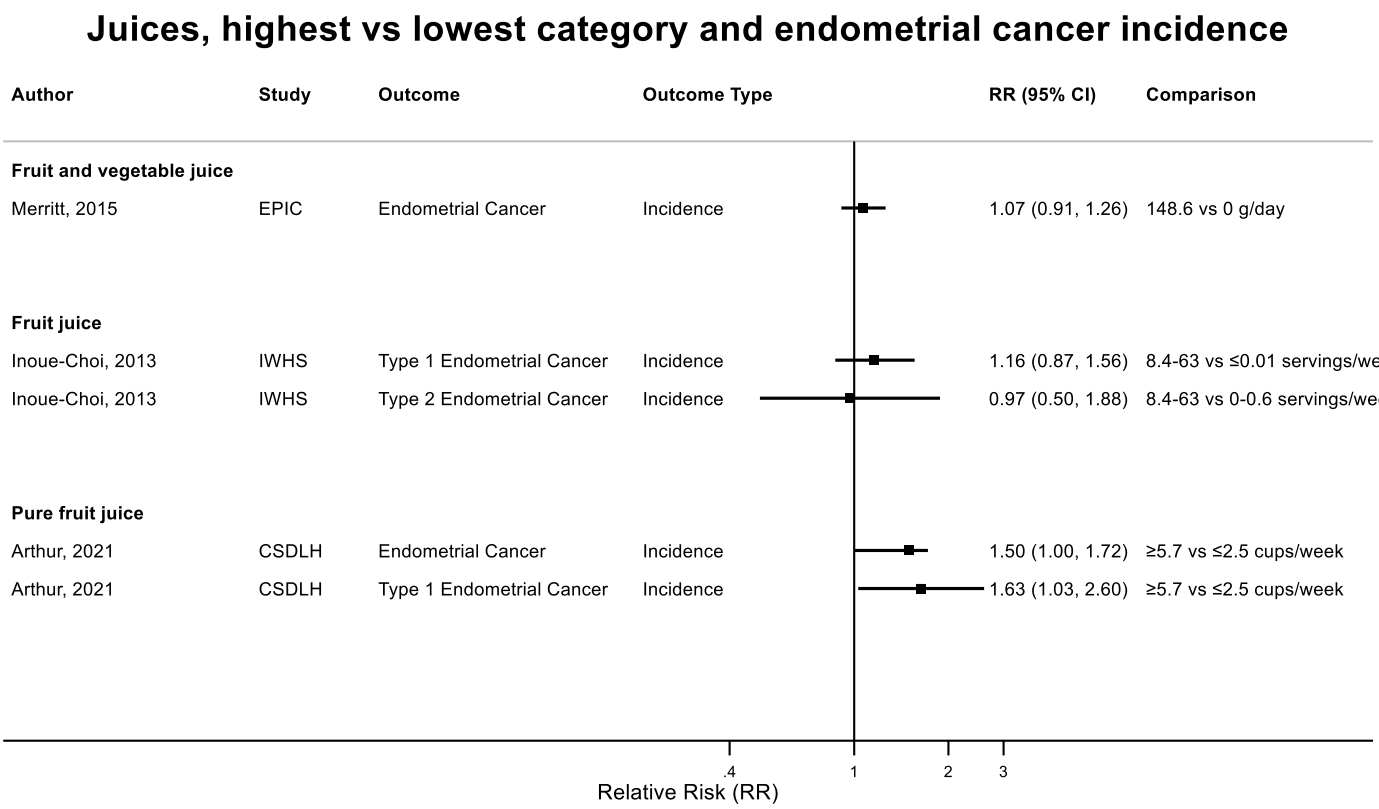


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; IWHS, The Iowa Women's Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Merritt, 2015[117], Inoue-Choi, 2013[74], Arthur, 2021[38]

Supplementary Figure 62. Highest versus the lowest category results from individual studies on juices and prostate cancer incidence and mortality.

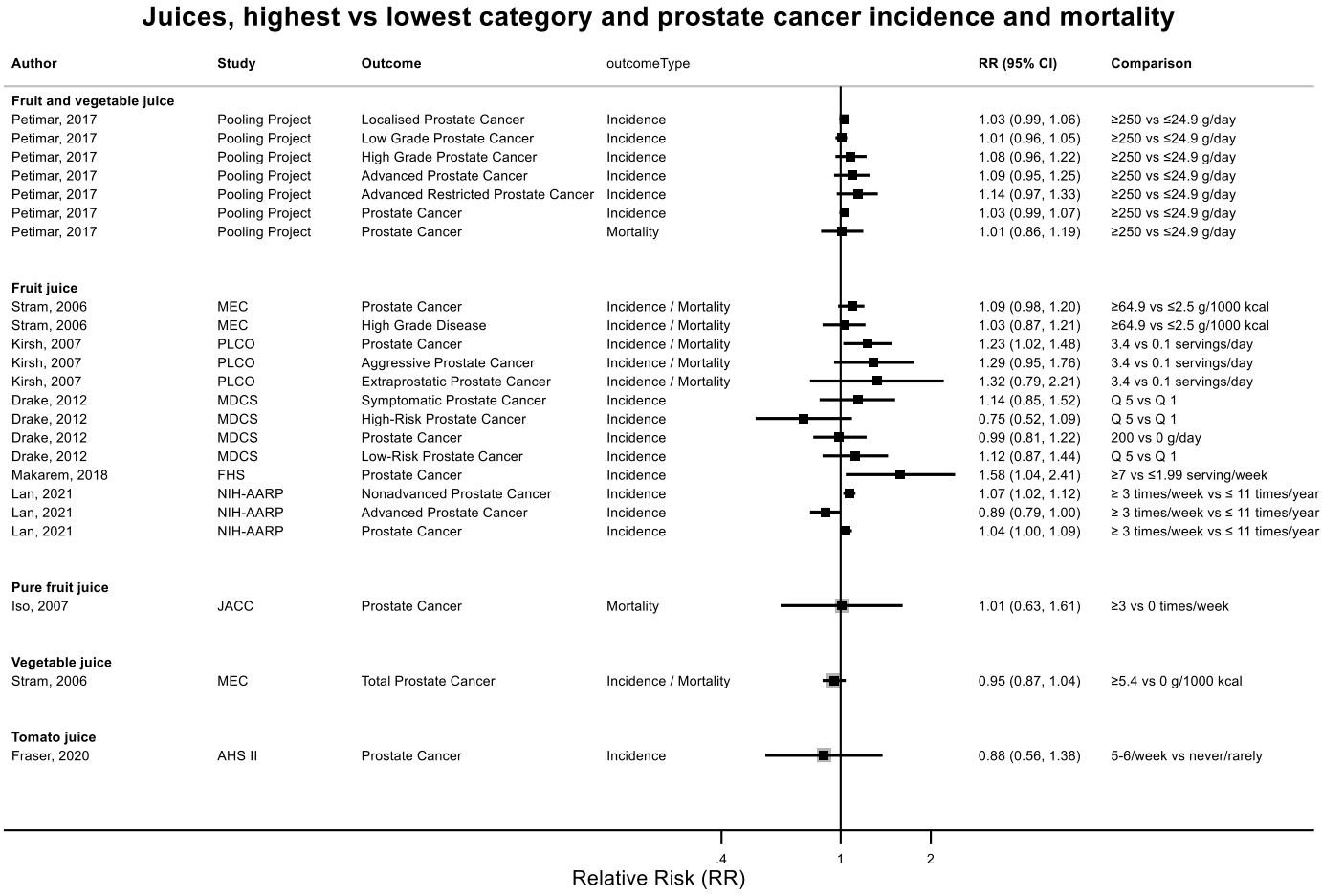


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer; MEC, Multiethnic Cohort Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; MDCS, Malmö Diet and Cancer Study; FHS, Framingham Heart Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; JACC, Japan Collaborative Cohort study; MEC, Multiethnic Cohort Study; AHS II, Adventist Health Study

Petimar, 2017[139], Stram, 2006[161], Kirsh, 2007[89], Drake, 2012[47], Makarem, 2018[108], Lan, 2021[94], Iso, 2007[76], Fraser, 2020[56]

Notes: Lan, 2021, NIH-AARP investigated fruit juice intake at ages 12-13 years.

Supplementary Figure 63. Highest versus the lowest category results from individual studies on citrus juices and melanoma incidence.

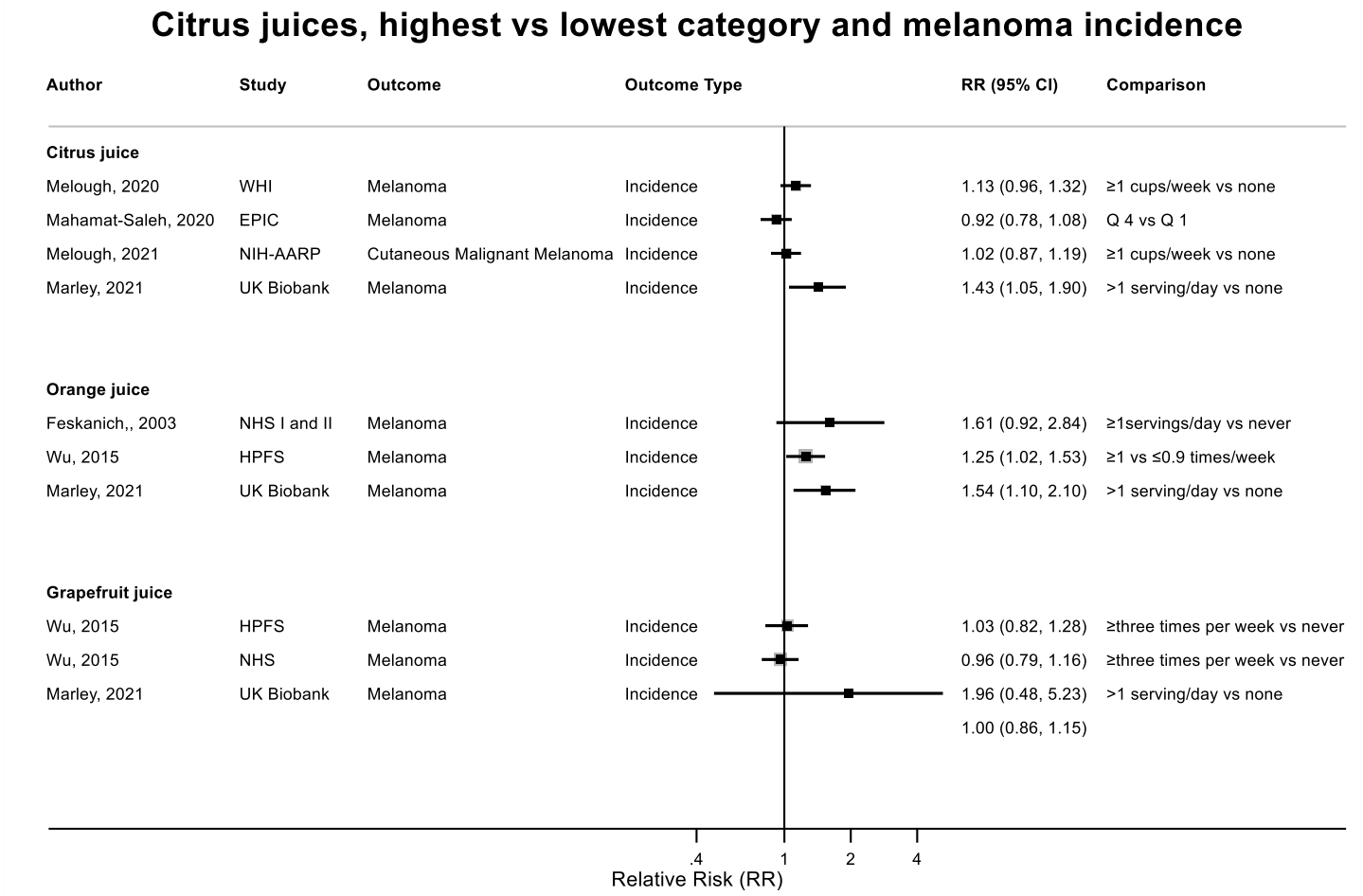


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; UK Biobank, United Kingdom Biobank Study; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study

Melough, 2020[116], Mahamat-Saleh, 2020[107], Melough, 2021[115], Marley, 2021[110], Feskanich, 2003[54], Wu, 2023[172]

Supplementary Figure 64. Highest versus the lowest category results from individual studies on citrus juices and non-melanoma skin cancer incidence.

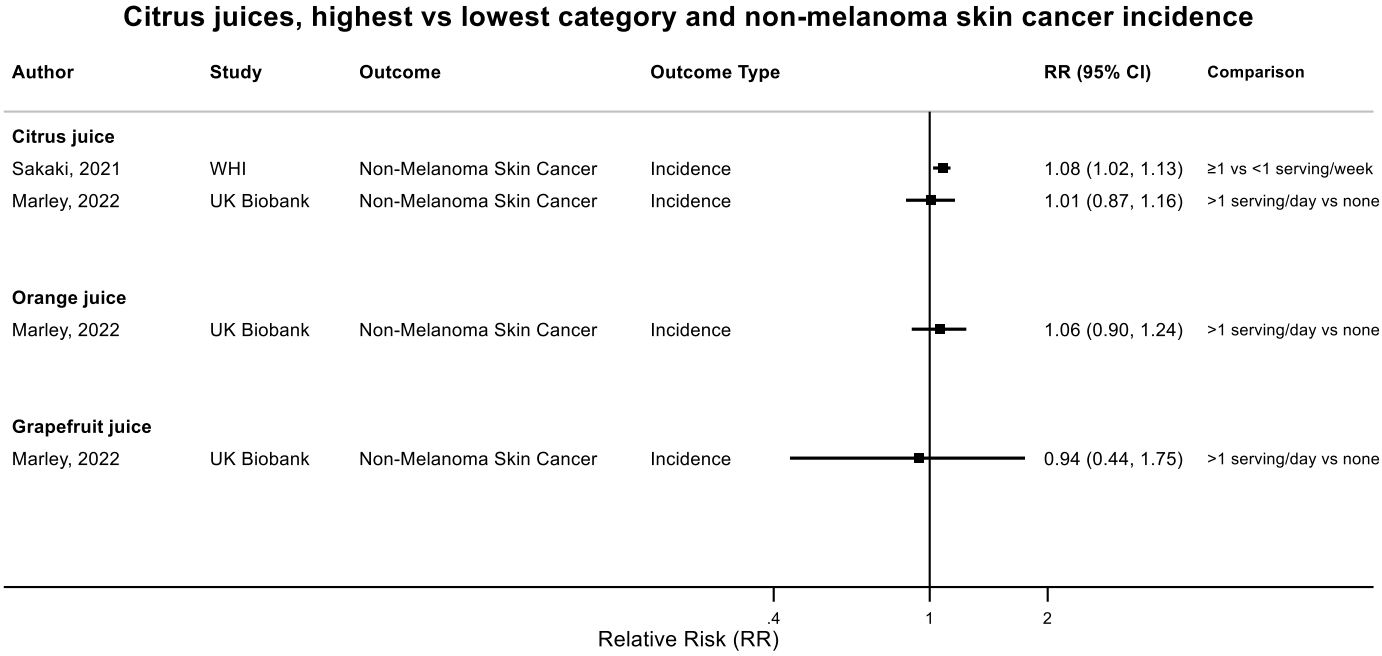


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; UK Biobank, United Kingdom Biobank Study

Sakaki, 2021[148], Marley, 2022[111]

Supplementary Figure 65. Highest versus the lowest category results from individual studies on citrus juices and basal cell carcinoma incidence.

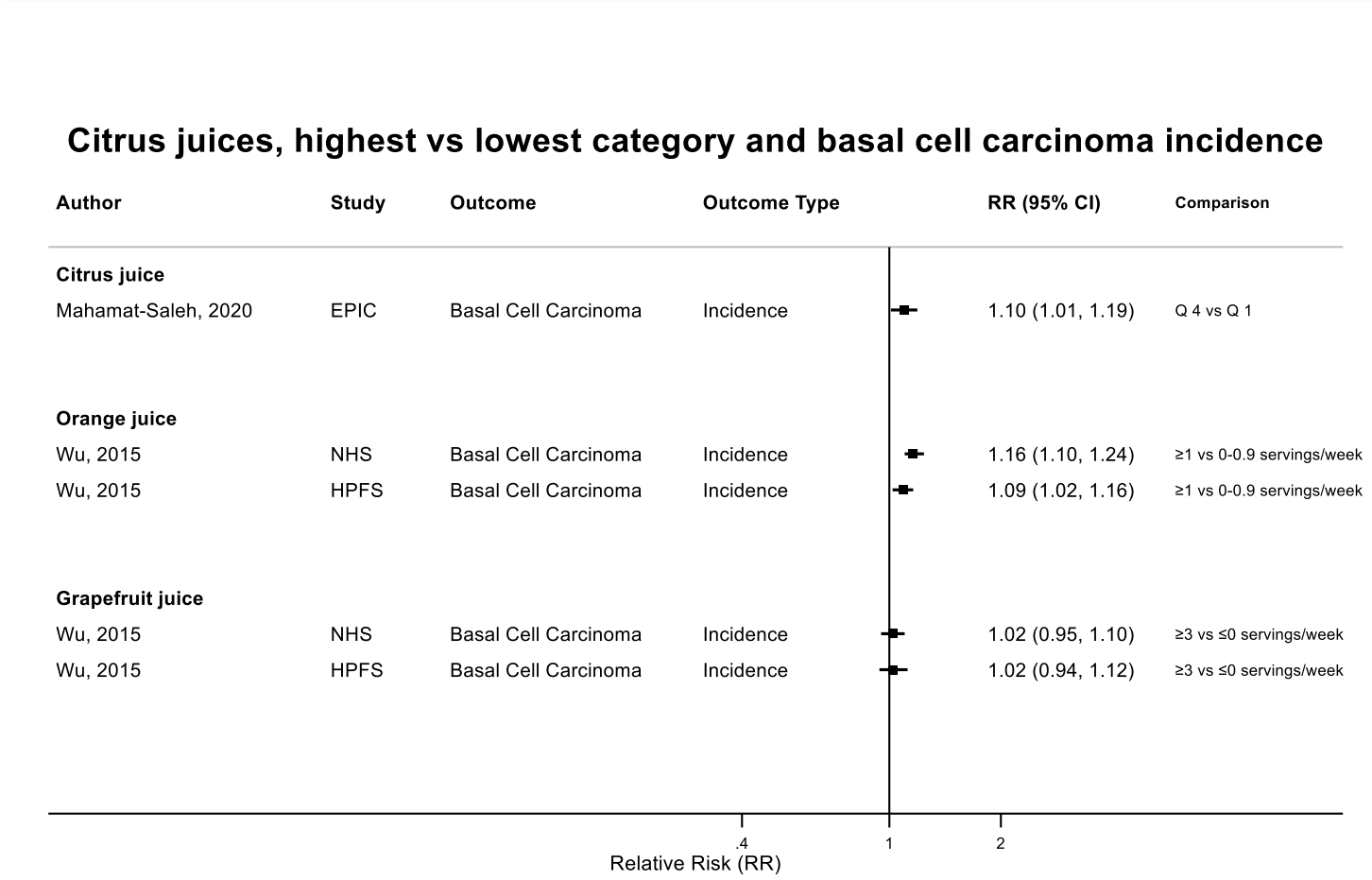


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study

Mahamat-Saleh, 2020[107], Wu, 2015[170]

Supplementary Figure 66. Highest versus the lowest category results from individual studies on citrus juices and squamous cell carcinoma incidence.

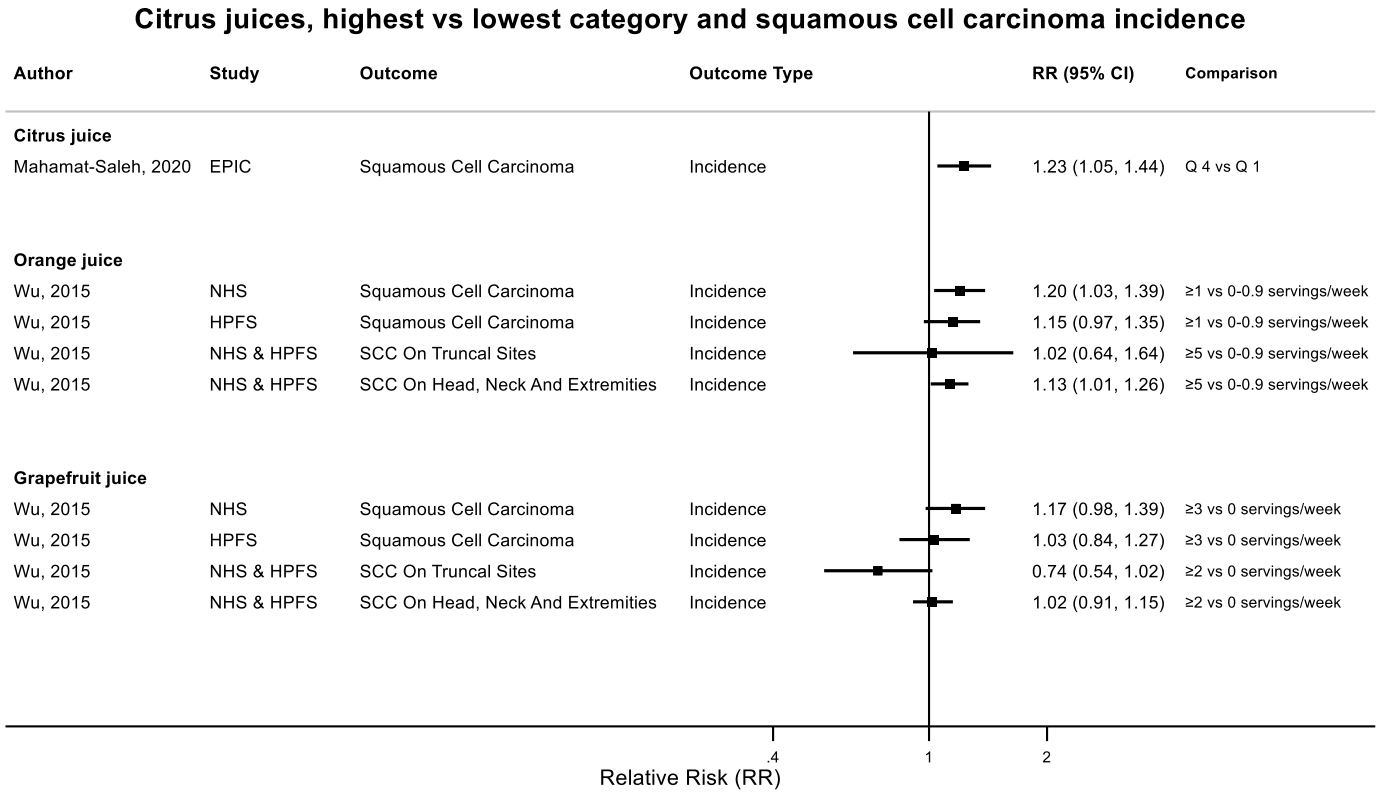


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Mahamat-Saleh, 2020[107], Wu, 2015[170]

Supplementary Figure 67. Highest versus the lowest category results from individual studies on juices and bladder cancer incidence and mortality.

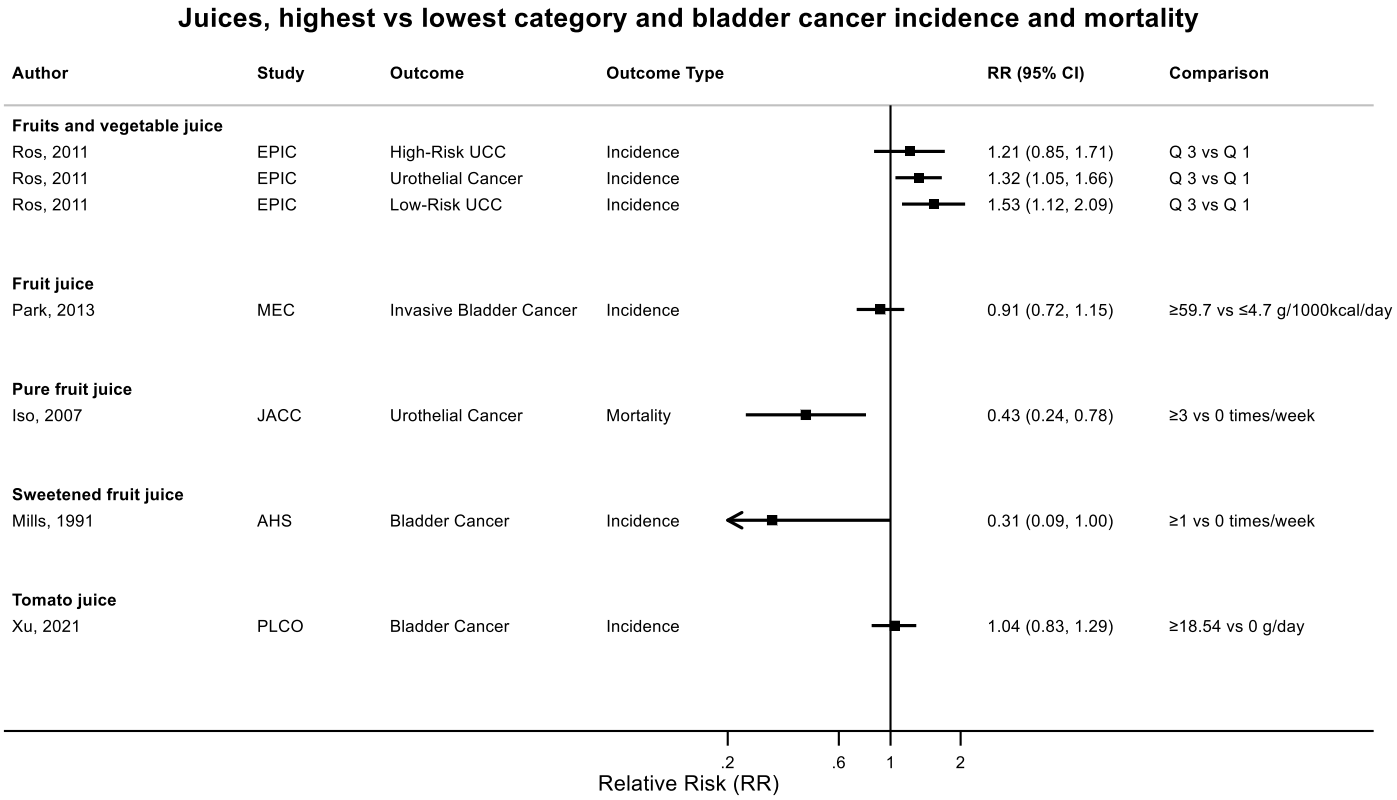


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; MEC, Multiethnic Cohort Study; JACC, Japan Collaborative Cohort study; AHS, Adventist Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Ros, 2011[147], Park, 2013[138], Iso, 2007[76], Mills, 1991[123], Xu, 2021[175]

Supplementary Figure 68. Highest versus the lowest category results from individual studies on juices and kidney cancer incidence and mortality.

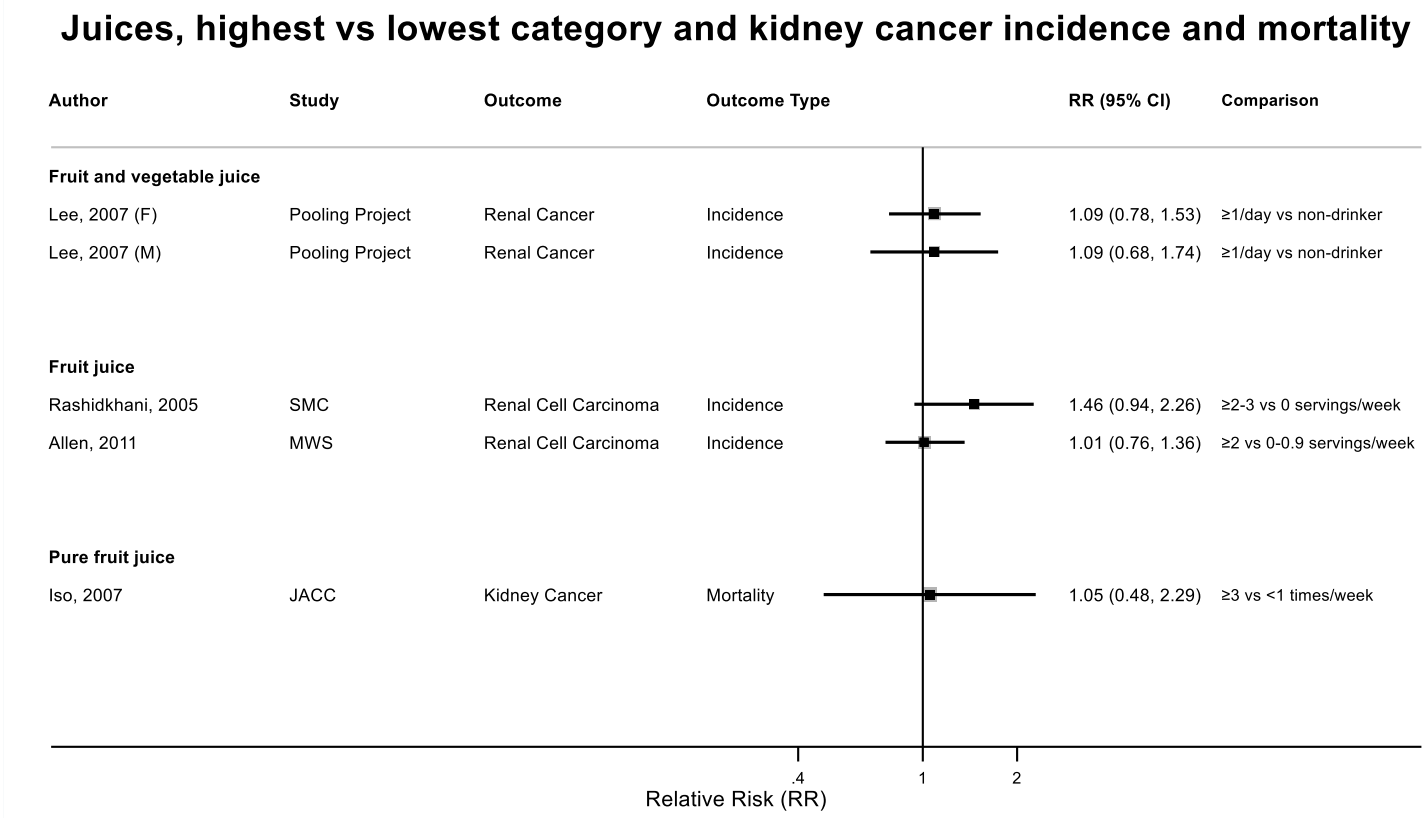


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer; SMC, Swedish Mammography Cohort; MWS, Million Women Study; JACC, Japan Collaborative Cohort study

Lee, 2007[26], Rashidkhani, 2005[142], Allen, 2011[36], Iso, 2007[76]

Supplementary Figure 69. Highest versus the lowest category results from individual studies on juices and lung cancer incidence and mortality.

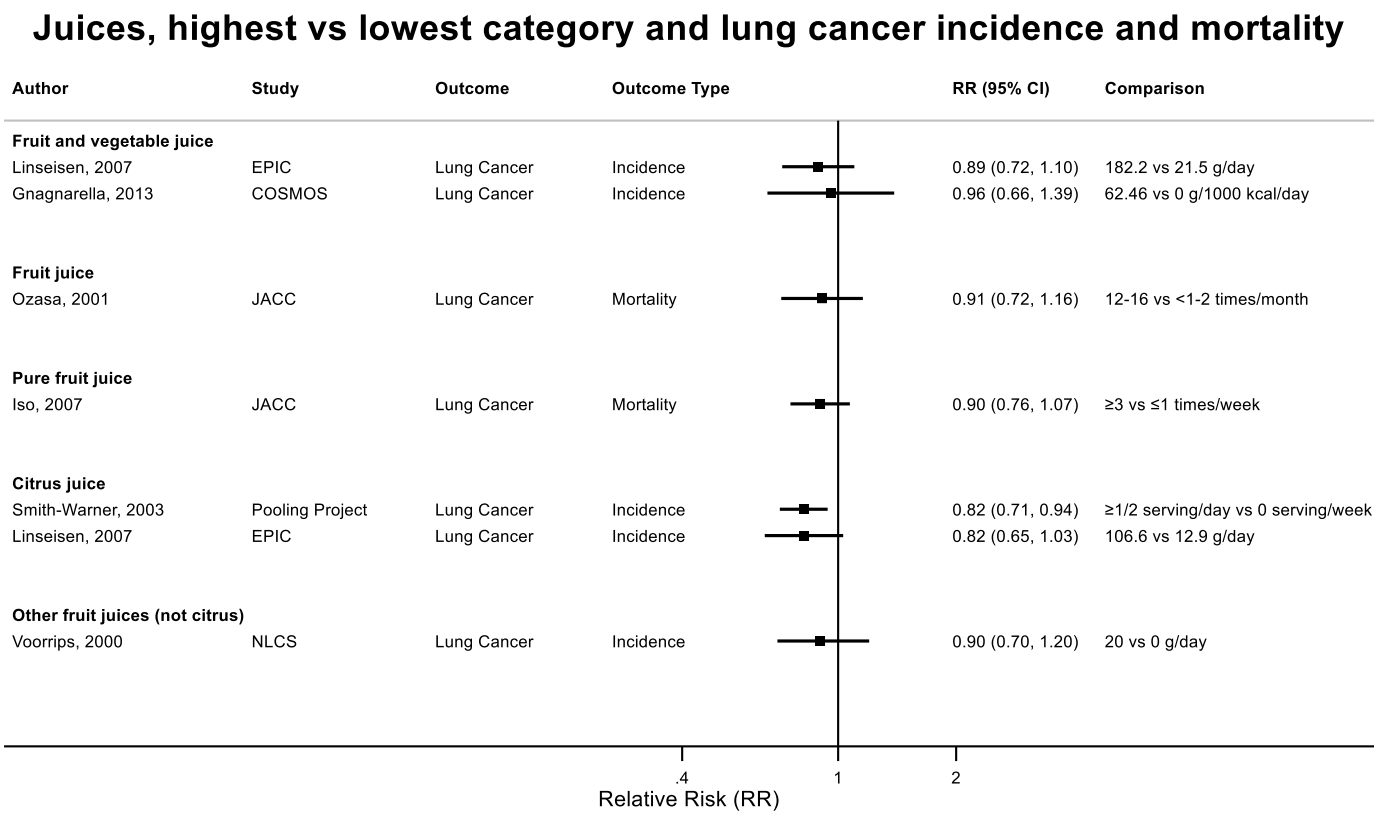


Figure legend: Forest plot shows the highest versus the lowest category results from the individual studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; COSMOS, Continuous Observation of Smoking Subjects Study; JACC, Japan Collaborative Cohort study; Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer; NLCS, Netherlands Cohort Study on Diet and Cancer

Linseisen, 2007[104], Gnagnarella, 2013[65], Ozasa, 2001[134], Iso, 2007[76], Smith-Warner, 2003[155], Voorrips, 2000[166]

Supplementary Figure 70. Linear dose-response meta-analysis of sugar sweetened beverages and ovarian cancer incidence.

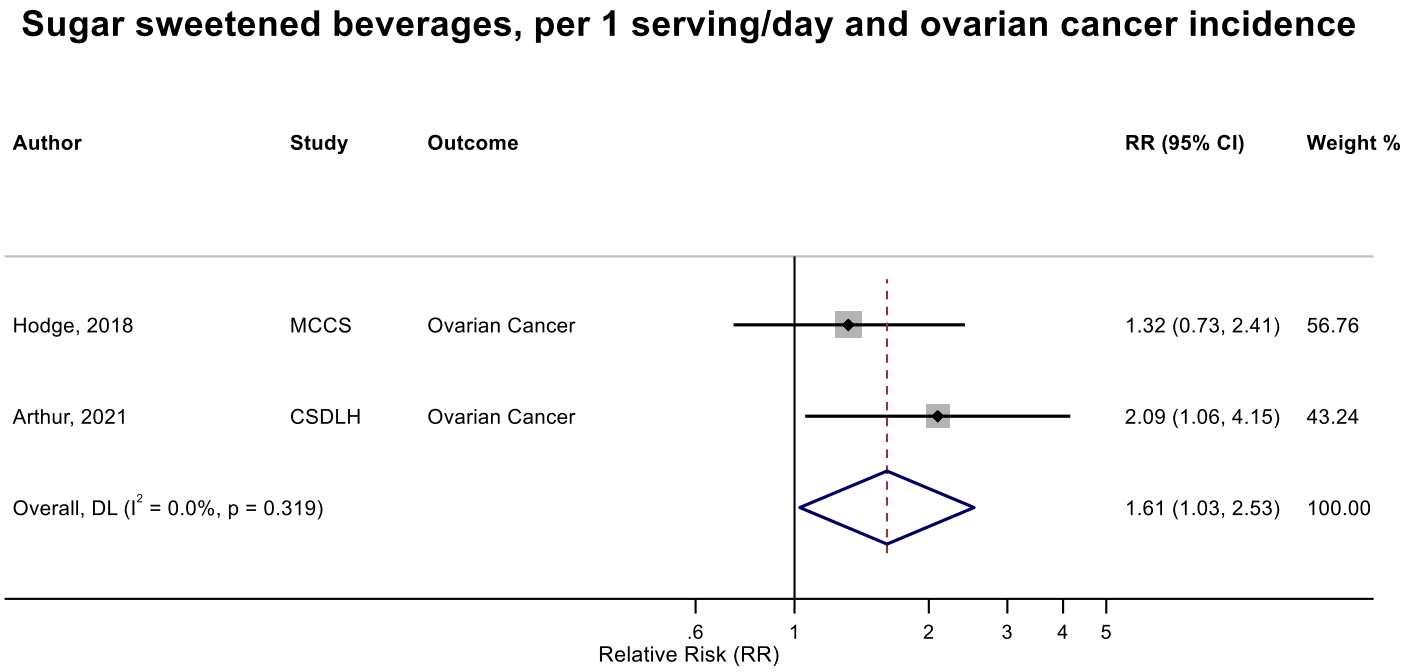


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CSDLH, Canadian Study of Diet, Lifestyle, and Health; MCCS, Melbourne Collaborative Cohort Study

Note: both studies excluded people with a history of diabetes at baseline.

Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 71. Linear dose-response meta-analysis of sugar sweetened beverages and endometrial cancer incidence.

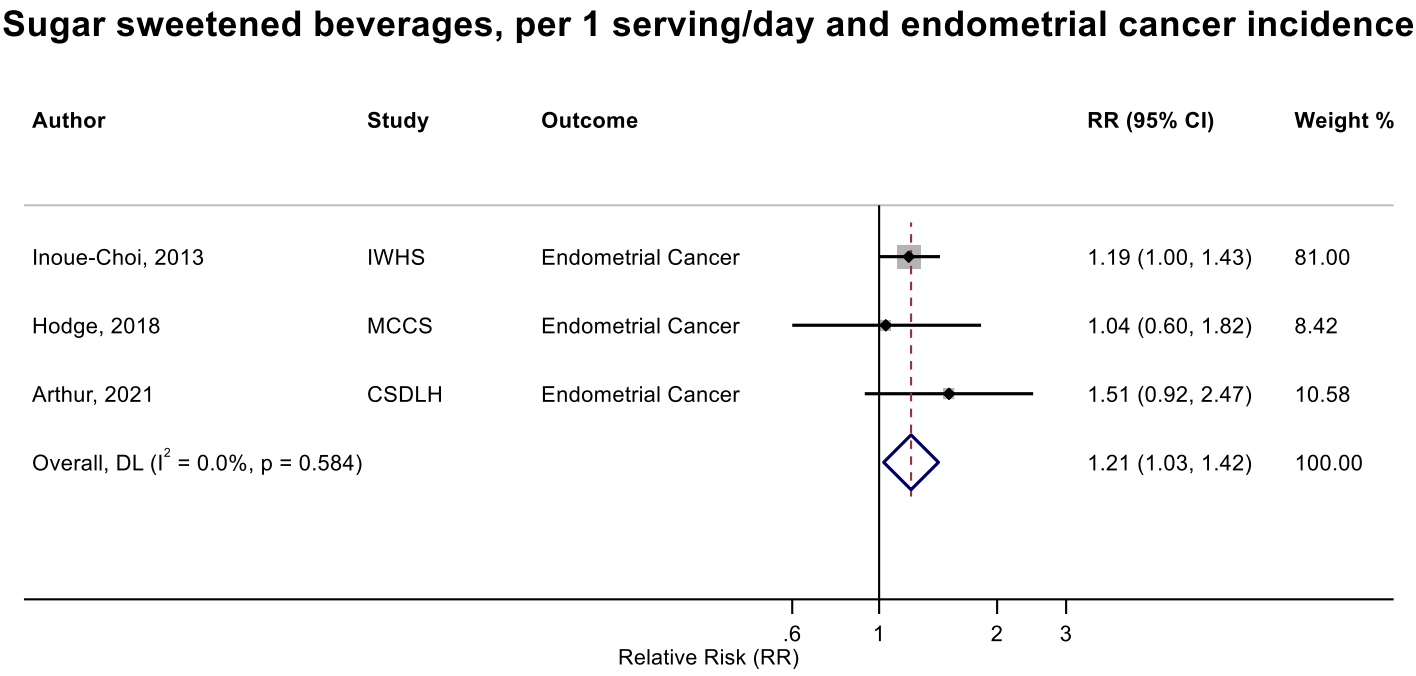


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI), and the diamond's horizontal line is the 95% prediction interval (PI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle, and Health

Note: All studies excluded people with a history of diabetes at baseline. In IWHS, we combined type I and II endometrial cancers using Hamling approach to calculate the estimate for total endometrial cancer.

Inoue-Choi, 2013[74], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 72. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and pancreatic cancer incidence.

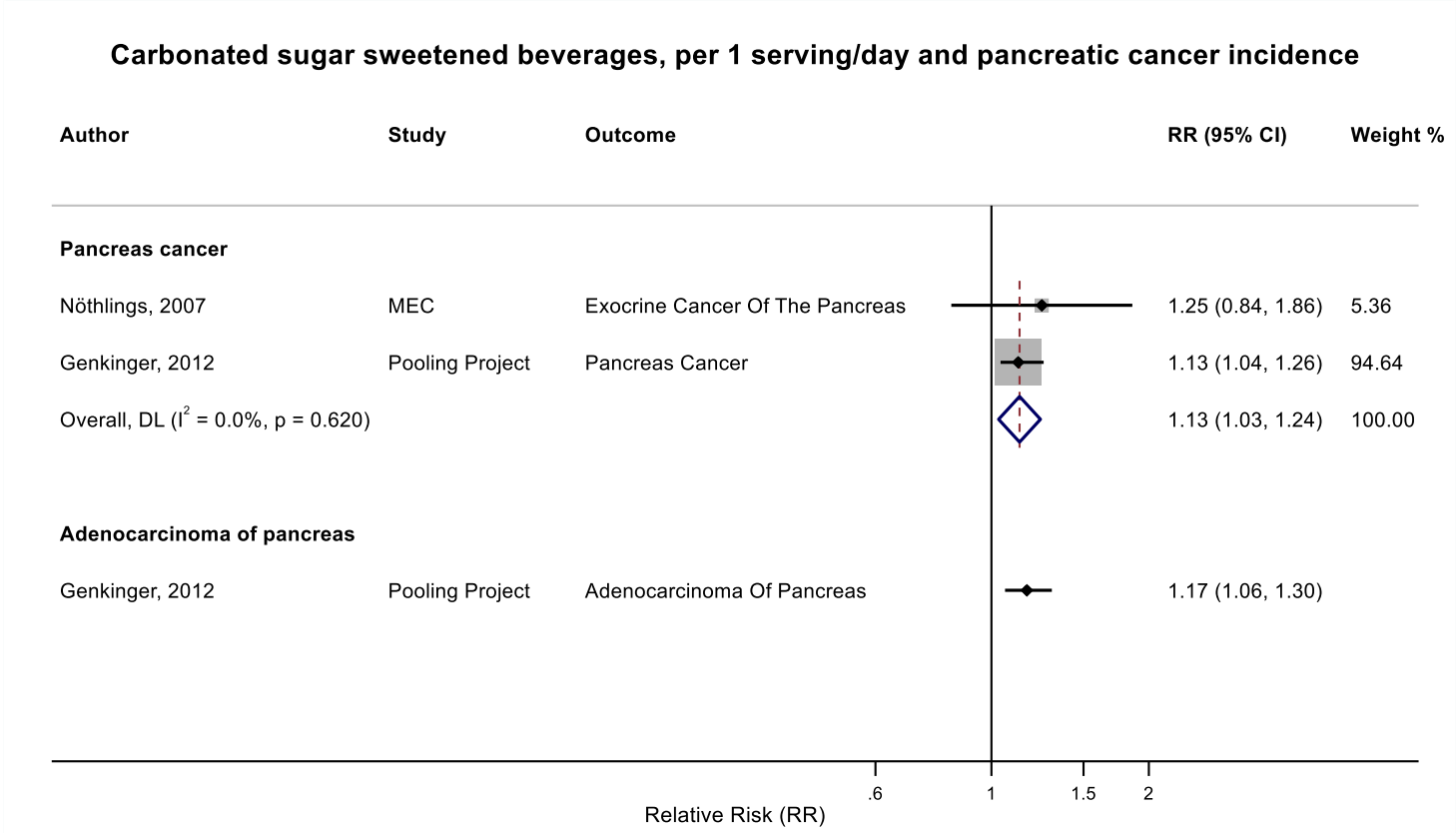


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverage /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MEC, Multiethnic Cohort Study; Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer

Nöthlings, 2007[131], Genkinger, 2012[64]

Supplementary Figure 73. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence.

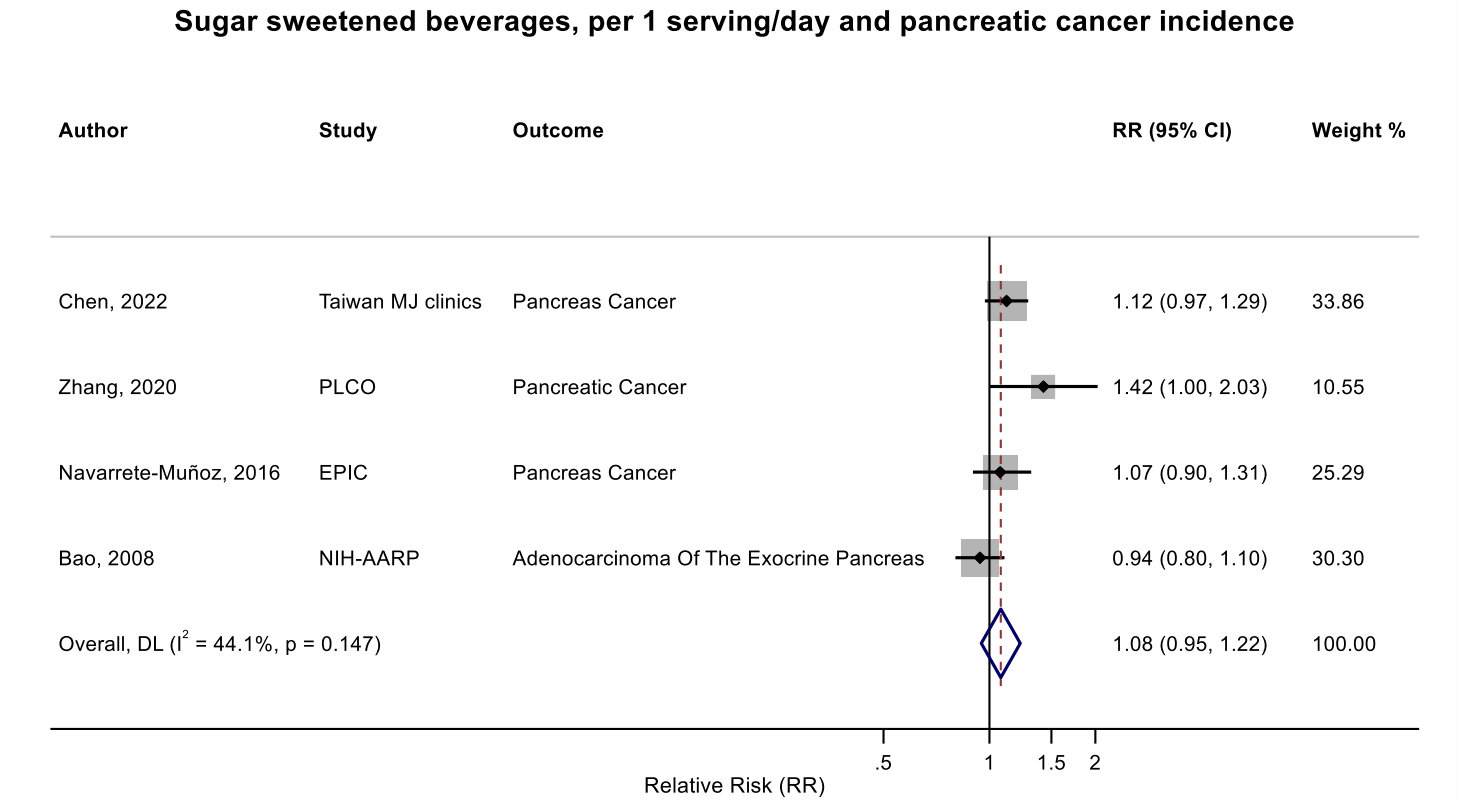


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; Taiwan MJ clinics, The Taiwan MJ Cohort Study

Note: We used a publication from NIH-AARP for the linear dose-response meta-analysis that had the most comprehensive definition of SSBs (regular soft drinks+regular fruit drinks). The RR for regular soft drinks without fruit drinks was 1.01 (95%CI: 77-1.31). Another publication of NIH-AARP that reported on SSBs+fruit juices, that could not be included in the linear dose-response meta-analysis due to insufficient data format, reported a slight positive association with pancreatic cancer (RR per a one-unit change in the AHEI-2010 component score: 1.01, 95%CI: 1.00-1.02; and in the DASH-Fung component score: 1.04, 95%CI: 1.01-1.06)[80]. There was another publication from PLCO[188] that could not be included in the dose-response meta-analysis because of insufficient data format and reported little evidence of an association for SSBs, as part of the unhealthful plant-based diet score, and pancreatic cancer incidence/mortality ($RR_{Q4\ vs\ Q1}$: 1.01, 95%CI: 0.76-1.33).

Bao, 2008[39], Navarrete-Muñoz, 2016[127], Zhang, 2020[184], Chen, 2022[45]

Supplementary Figure 74. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence and mortality combined.

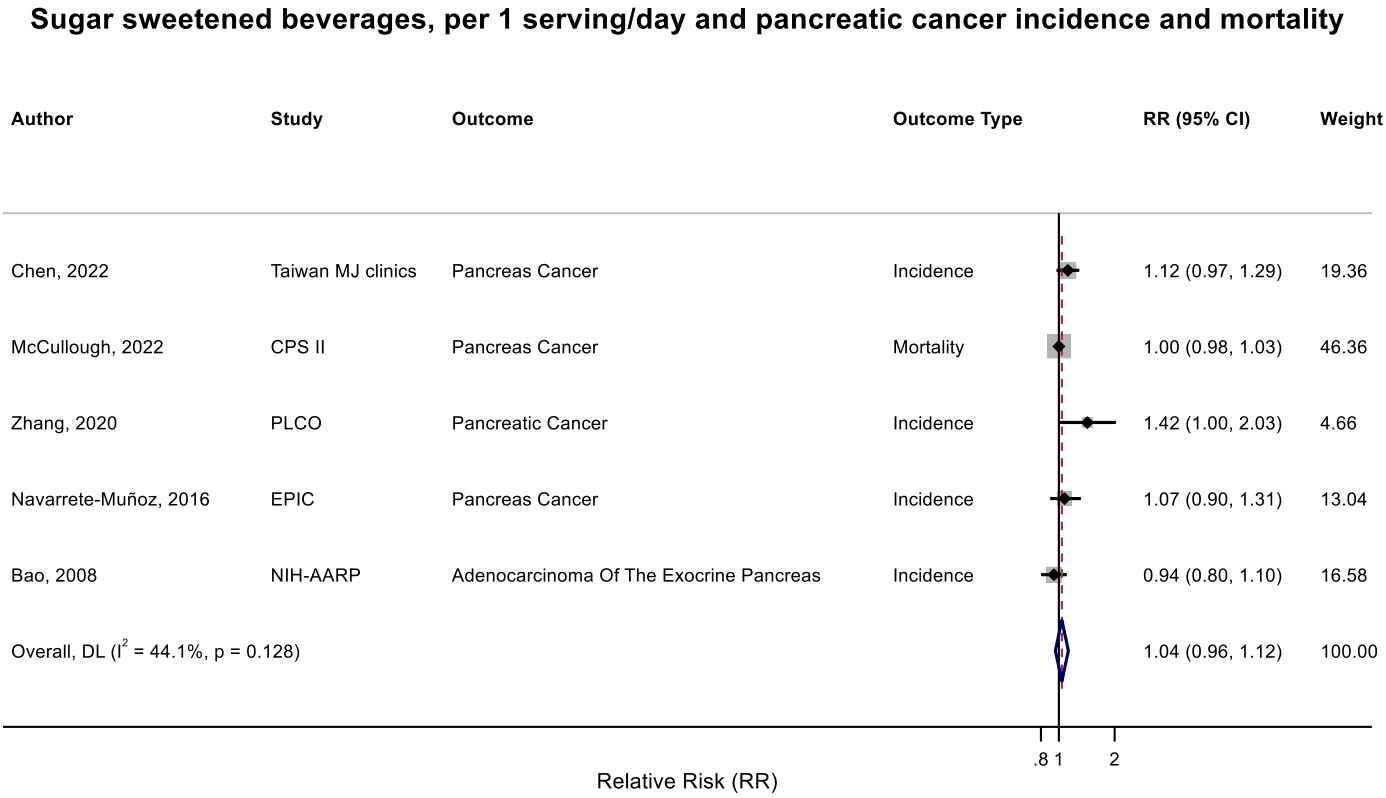


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; CPS II, Cancer Prevention Study II; Taiwan MJ clinics, The Taiwan MJ Cohort Study

Chen, 2022[45], McCullough, 2022[113], Zhang, 2020[184], Navarrete-Muñoz, 2016[127], Bao, 2008[39]

Supplementary Figure 75. Linear dose-response meta-analysis of sugar sweetened and carbonated sugar sweetened beverages and pancreatic cancer incidence.

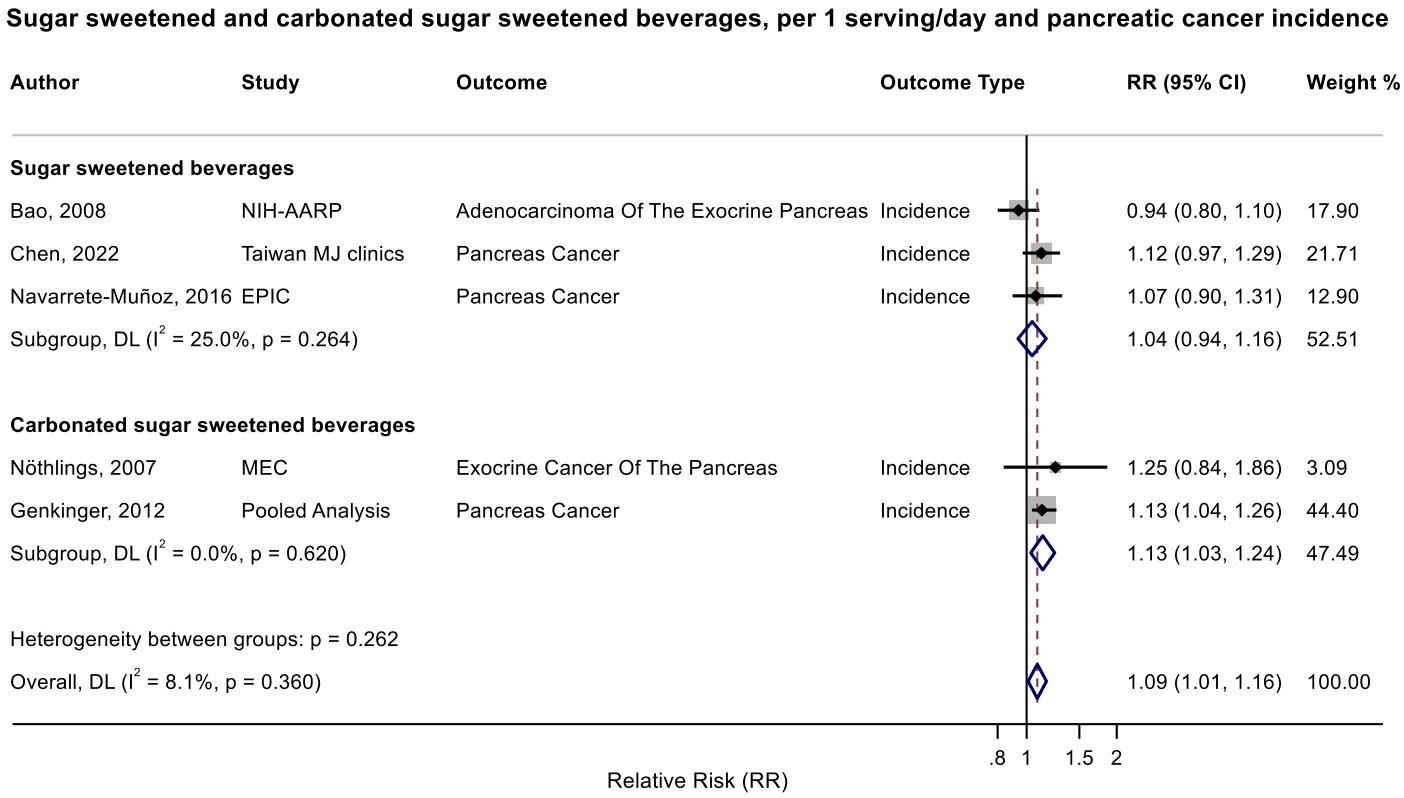


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; Taiwan MJ clinics, The Taiwan MJ Cohort Study; MEC, Multiethnic Cohort Study; Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer

Bao, 2008[39], Navarrete-Muñoz, 2016[127], Chen, 2022[45], Nöthlings, 2007[131], Genkinger, 2012[64]

Supplementary Figure 76. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence.

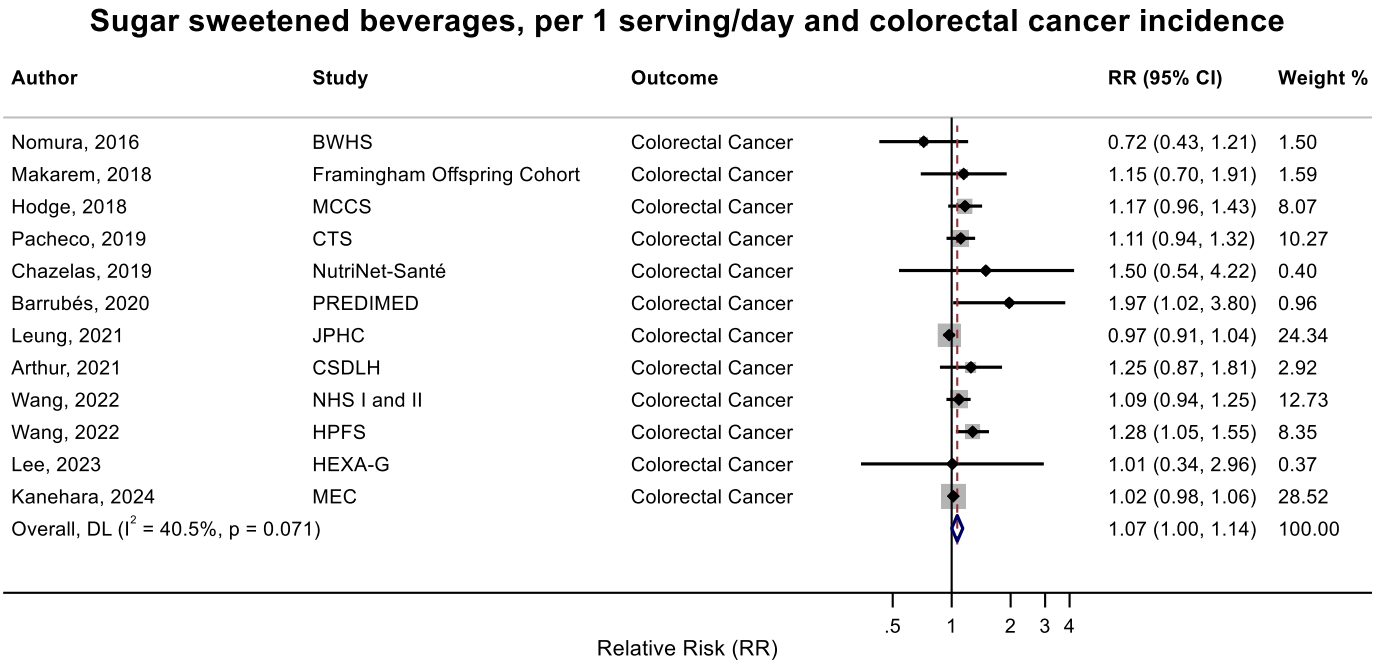


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; MCCS, Melbourne Collaborative Cohort Study; CTS, California Teachers Study; PREDIMED Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study

Note: The pooled RR and 95%CI with 4 decimal point are 1.0681 (1.0003-1.1404; p-value = 0.050). One additional study (NIH-AARP)[122] that could not be included in the dose-response meta-analysis because of insufficient data format reported limited evidence of an association between sugar sweetened beverages and colorectal cancer incidence in males (RR $_{Q5\ vs\ Q1}$: 0.94, 95%CI: 0.85-1.03) and females (RR $_{Q5\ vs\ Q1}$: 1.09, 95%CI: 0.93-1.26). Another study (UK Biobank) that could not be included in the dose-response meta-analysis because of insufficient data format[78] indicated no association (RR: 1.00, 95%CI: 0.95-1.05) per one standard deviation increase in sugary sweetened beverages intake.

Nomura, 2016[129], Makarem, 2018[108], Hodge, 2018[70], Pacheco, 2019[135], Chazelas, 2019[44], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81]

Supplementary Figure 77. Linear dose-response meta-analysis of sugar sweetened beverages and colon cancer incidence.

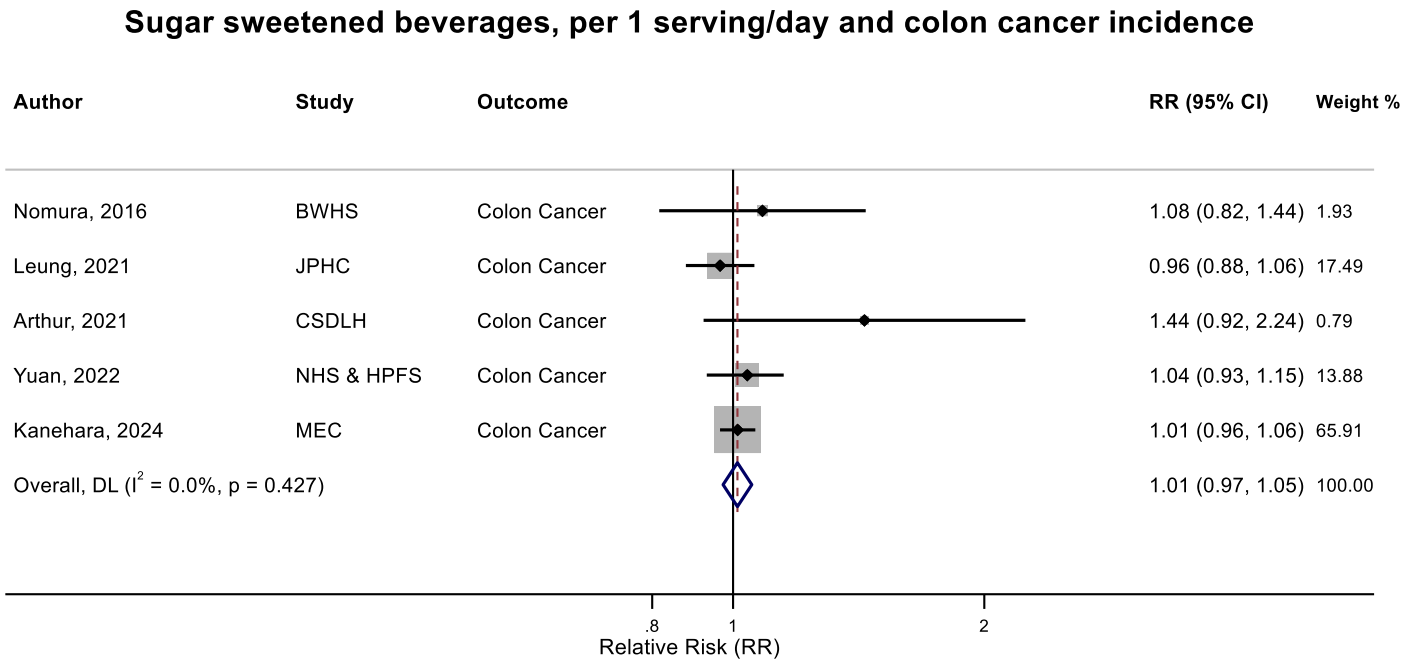


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Note: One additional study (UK biobank)[78] that could not be included in the dose-response meta-analysis because of insufficient data format indicated little evidence of an association (RR: 1.01, 95%CI: 0.94-1.08) per one standard deviation increase in sugary sweetened beverages intake.

Nomura, 2016[129], Leung, 2021[101], Arthur, 2021[38], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 78. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence.

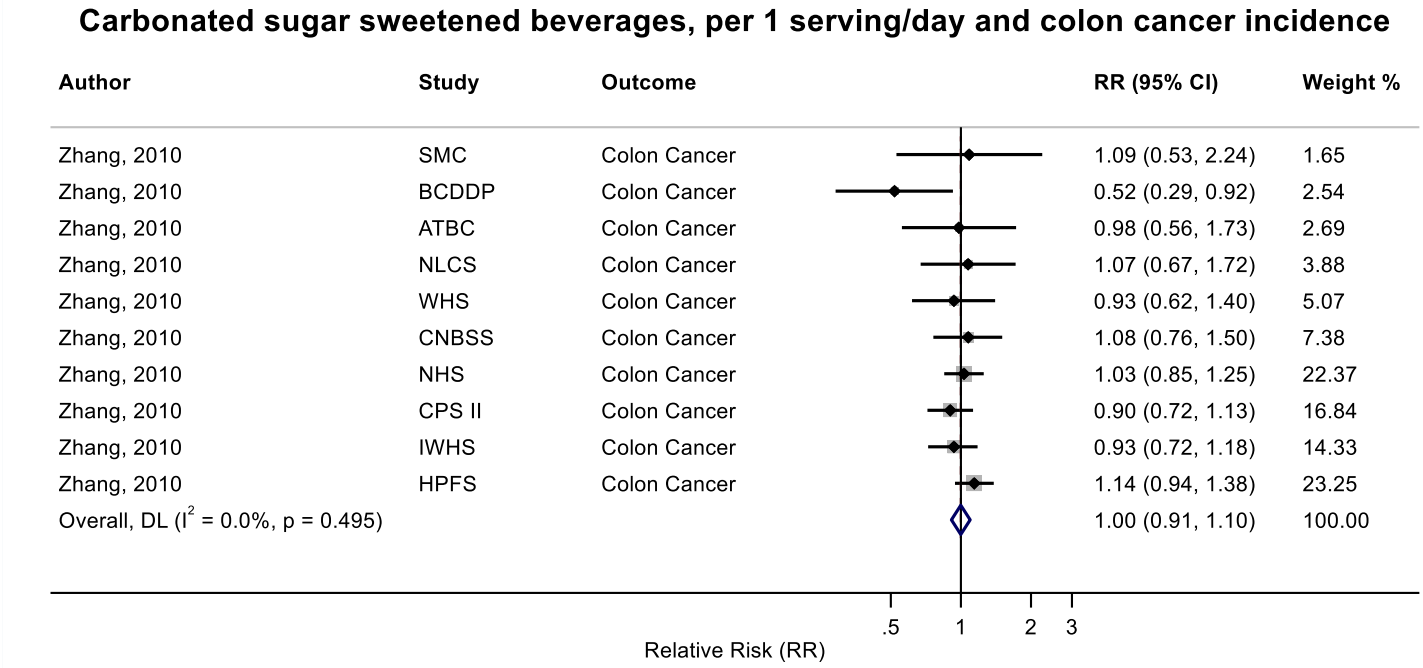


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; NLCS, Netherlands Cohort Study on Diet and Cancer; WHS, Women's Health Study; CNBSS, Canadian National Breast Screening Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II; IWHS, The Iowa Women's Health Study; HPFS, Health Professionals Follow-up Study

Note: Results are based on a pooled analysis of 10 cohort studies.

Zhang, 2010[182]

Supplementary Figure 79. Linear dose-response meta-analysis of sugar sweetened and carbonated sugar sweetened beverages and colon cancer incidence.

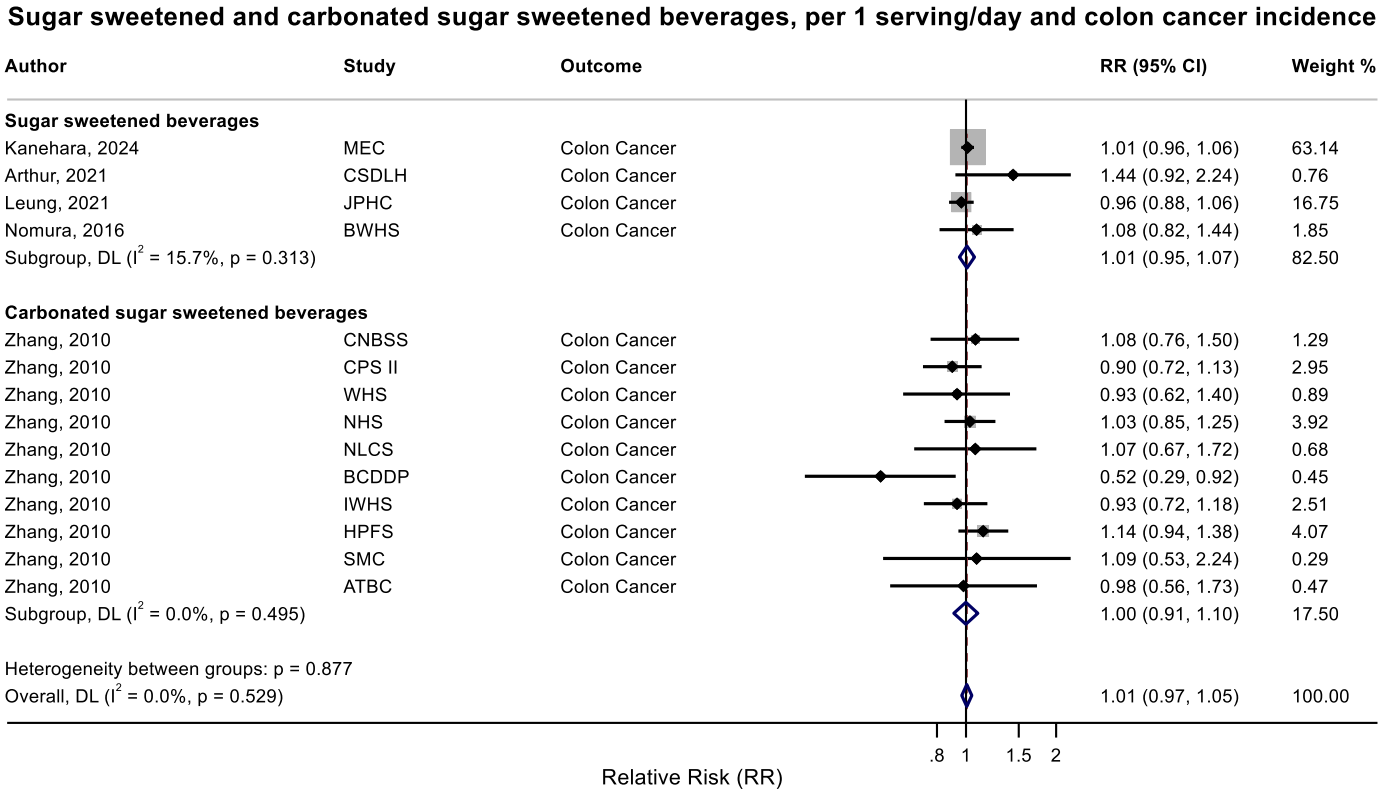


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; MEC, Multiethnic Cohort Study; SMC, Swedish Mammography Cohort; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; NLCS, Netherlands Cohort Study on Diet and Cancer; WHS, Women's Health Study; CNBSS, Canadian National Breast Screening Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II; IWHS, The Iowa Women's Health Study; HPFS, Health Professionals Follow-up Study

Note: One additional study (UK biobank)[78] that could not be included in the dose-response meta-analysis because of insufficient data format indicated little evidence of an association (RR: 1.01, 95%CI: 0.94-1.08) per one standard deviation increase in sugary sweetened beverages intake.

Nomura, 2016[129], Leung, 2021[101], Arthur, 2021[38], Kanehara, 2024[81], Zhang, 2010[182]

Supplementary Figure 80. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence.

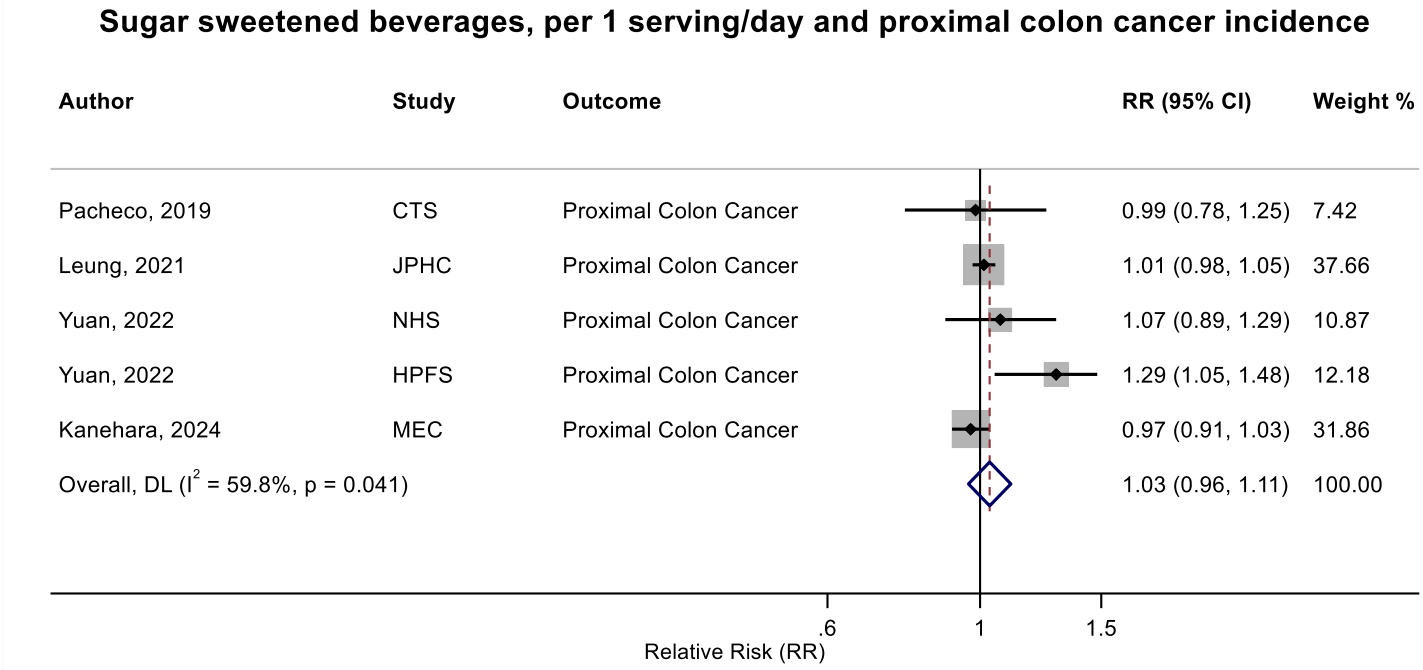


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Pacheco, 2019[135], Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 81. Linear dose-response meta-analysis of sugar sweetened beverages and distal colon cancer incidence.

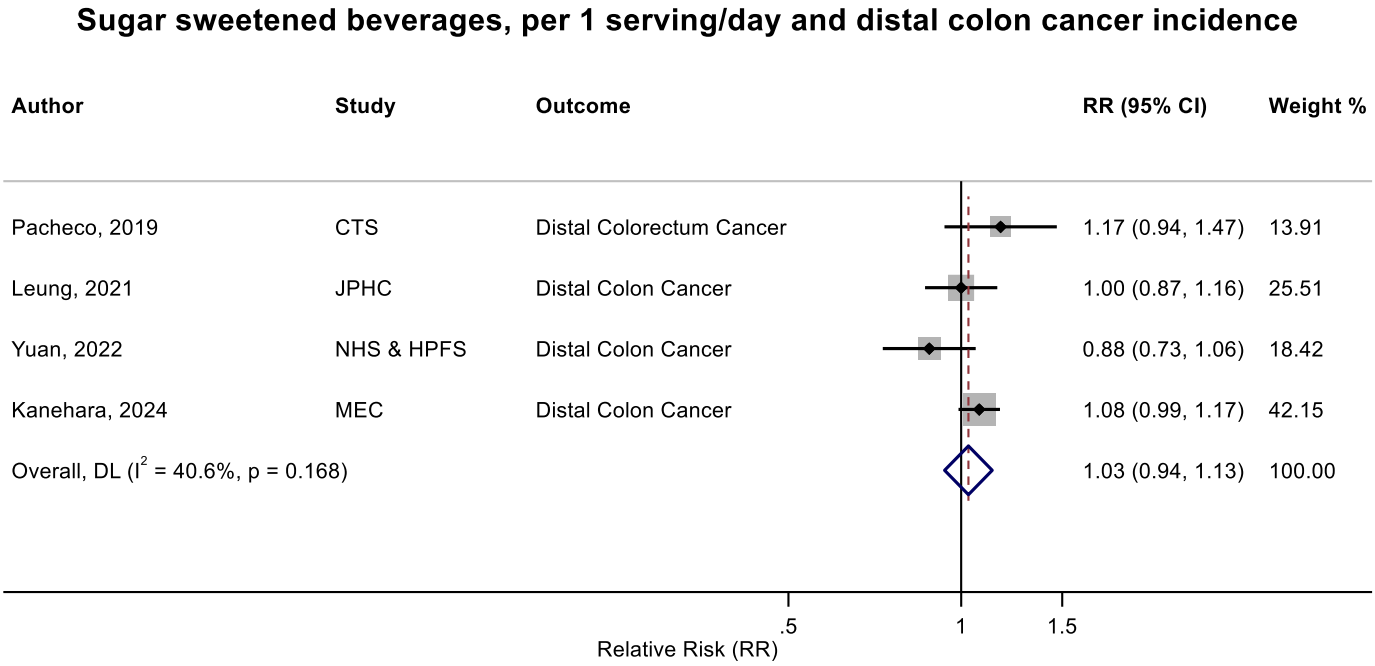


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Pacheco, 2019[135], Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 82. Linear dose-response meta-analysis of sugar sweetened beverages and rectal cancer incidence.

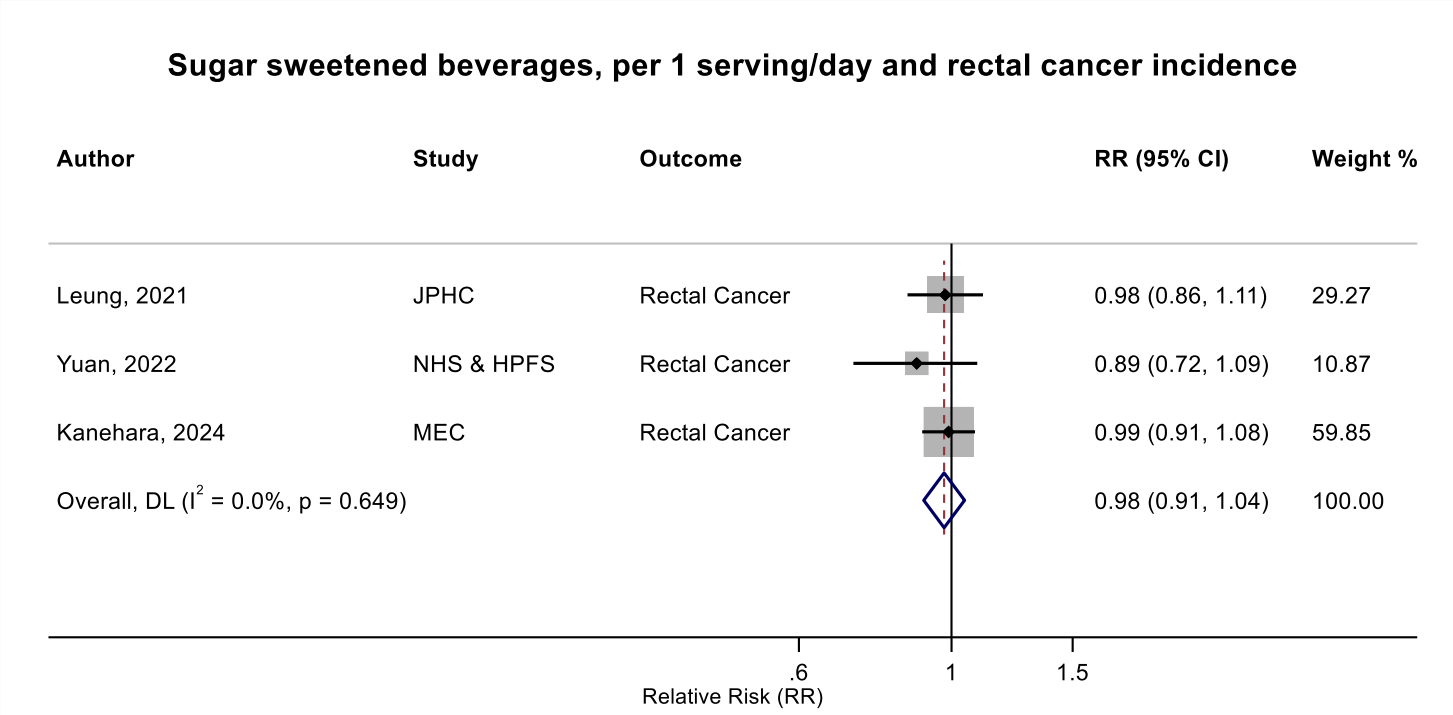


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Note: One additional study (UK biobank)[78] that could not be included in the dose-response meta-analysis because of insufficient data format indicated little evidence of an association (RR: 1.01, 95%CI: 0.90-1.12) per one standard deviation increase in sugary sweetened beverages intake.

Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 83. Substitution of sugar sweetened beverages with artificially sweetened beverages and proximal colon cancer incidence and mortality.

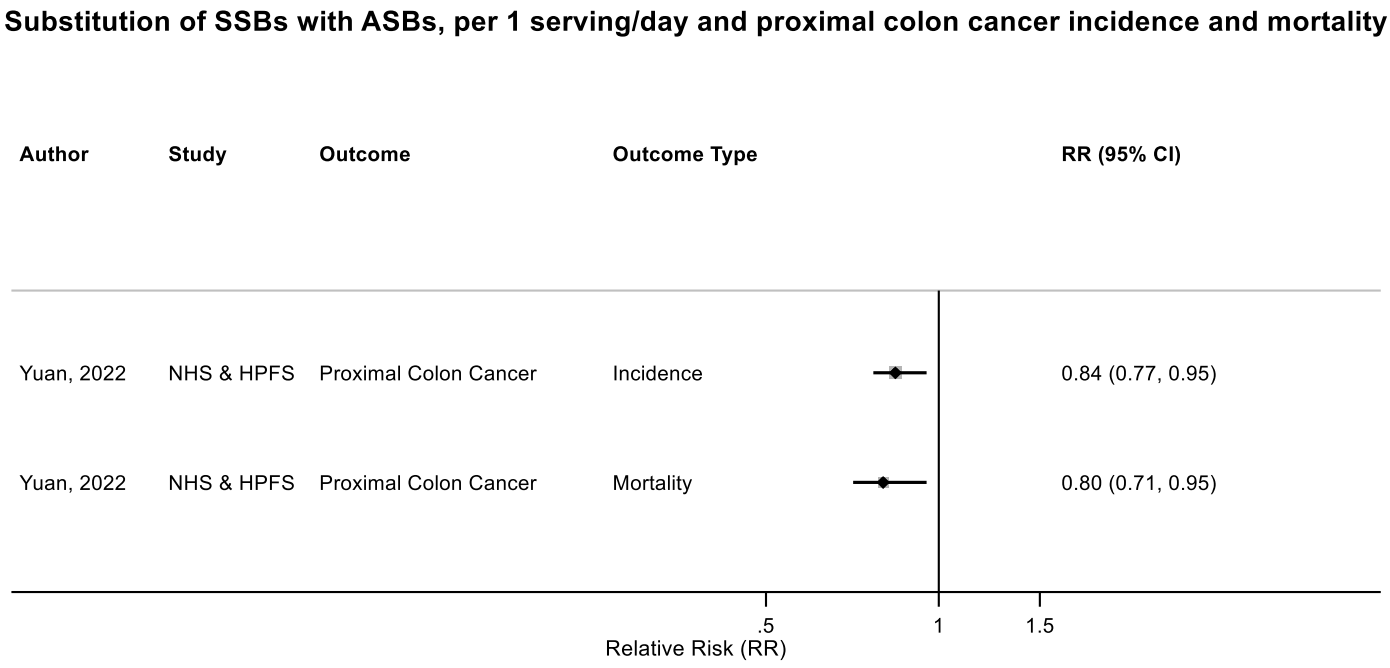


Figure legend: Forest plot shows the linear dose-response results (per substitution of 1 serving [355 mL] of sugar sweetened beverages/day with equal amount of artificially sweetened beverages) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Yuan, 2022[178]

Supplementary Figure 84. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence.

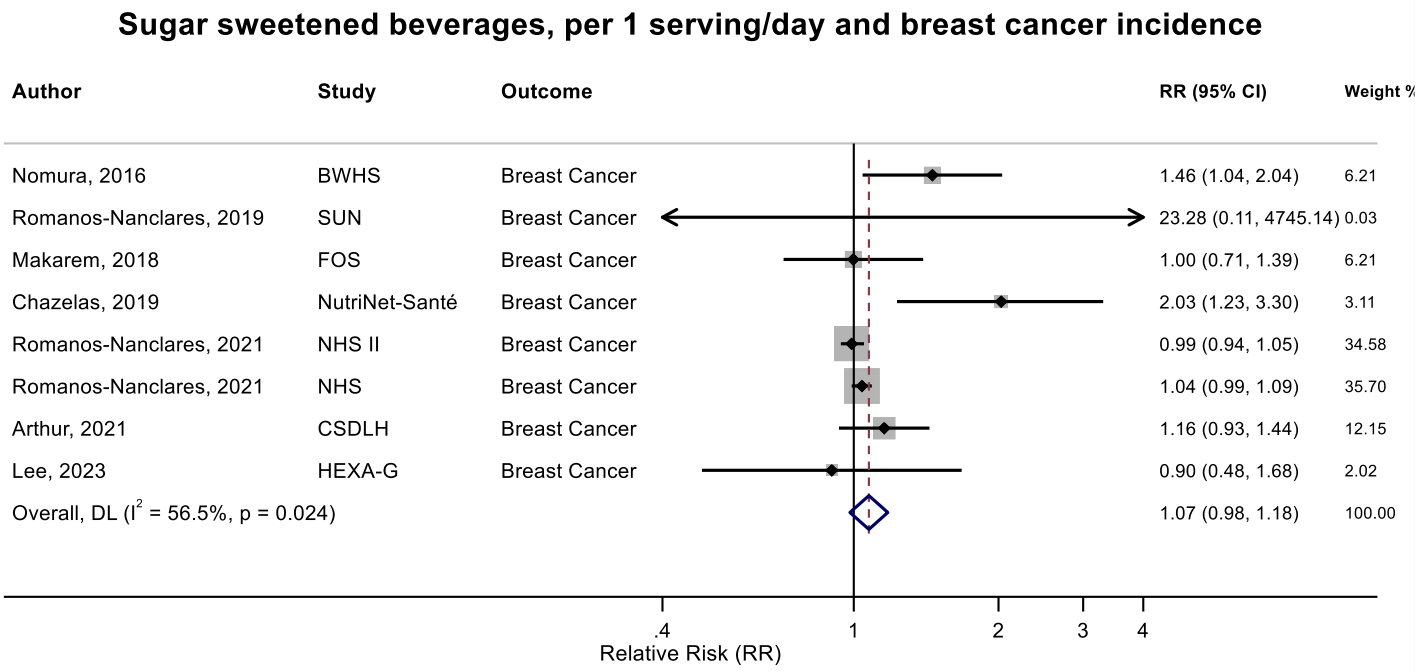


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; SUN, Seguimiento Universidad de Navarra Cohort Study; FOS, Framingham Heart Study-Offspring Cohort; NHS II, Nurses' Health Study II; NHS, Nurses' Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; HEXA-G, Health Examinees-Gem study

Note: One additional study (National Health Interview Survey)[169] could not be included in the dose-response meta-analysis due to insufficient format of data reported little evidence of an association for risk of breast cancer incidence with the consumption of sugar sweetened beverages ($RR_{\text{intake vs no intake}}$: 1.46, 95%CI: 0.96-2.21), which was consistent to other studies in general.

Nomura, 2016[128], Romanos-Nanclares, 2019[146], Makarem, 2018[108], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Arthur, 2021[38], Lee, 2023[97]

Supplementary Figure 85. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence by menopausal status.

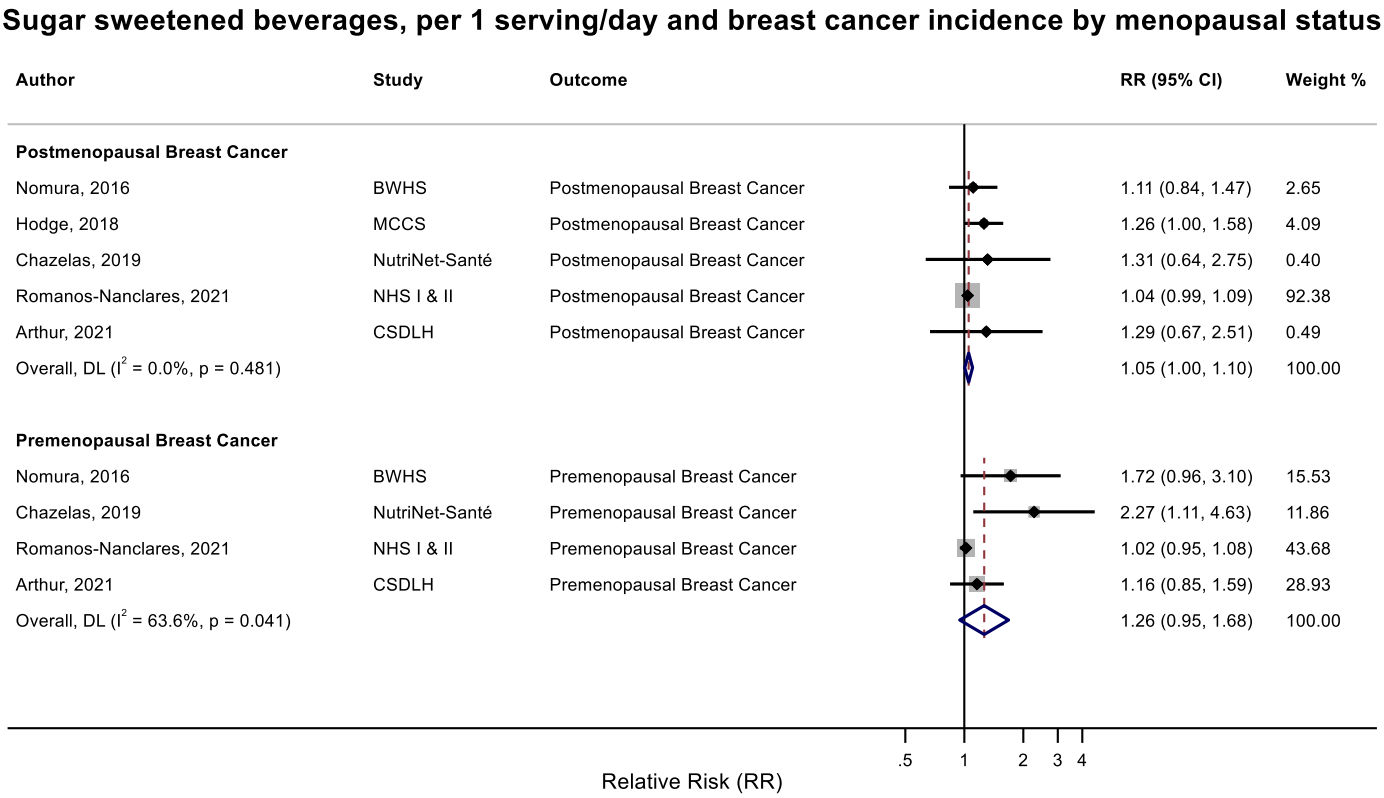


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health

Note: The pooled RR and 95%CI of postmenopausal breast cancer with 3 decimal point are 1.052 (1.005-1.102). One additional study (IWHS) that could not be included in the dose-response meta-analysis because of insufficient data format reported little evidence of a difference in risk of postmenopausal breast cancer for those who adhered to WCRF sugar beverages guideline (0 g/day) compared with those who did not adhere to the guideline (≥250 g/day) (risk difference 0.001, 95% CI:-0.010 to 0.013, P=0.80)[130]. Another study (SUN)[146] that could not be included in the dose-response meta-analysis because of insufficient data format reported an increased risk of postmenopausal breast cancer incidence with a higher sugar sweetened beverages intake ($RR_{0.05\ serving/day\ vs\ 0}$: 2.12, 95%CI: 1.01-4.41). The SUN cohort reported no association with premenopausal breast cancer incidence ($RR_{0.05\ serving/day\ vs\ 0}$: 1.16, 95%CI: 0.66-2.07).

Nomura, 2016[128], Hodge, 2018[70], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Arthur, 2021[38]

Supplementary Figure 86. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer subtypes incidence.

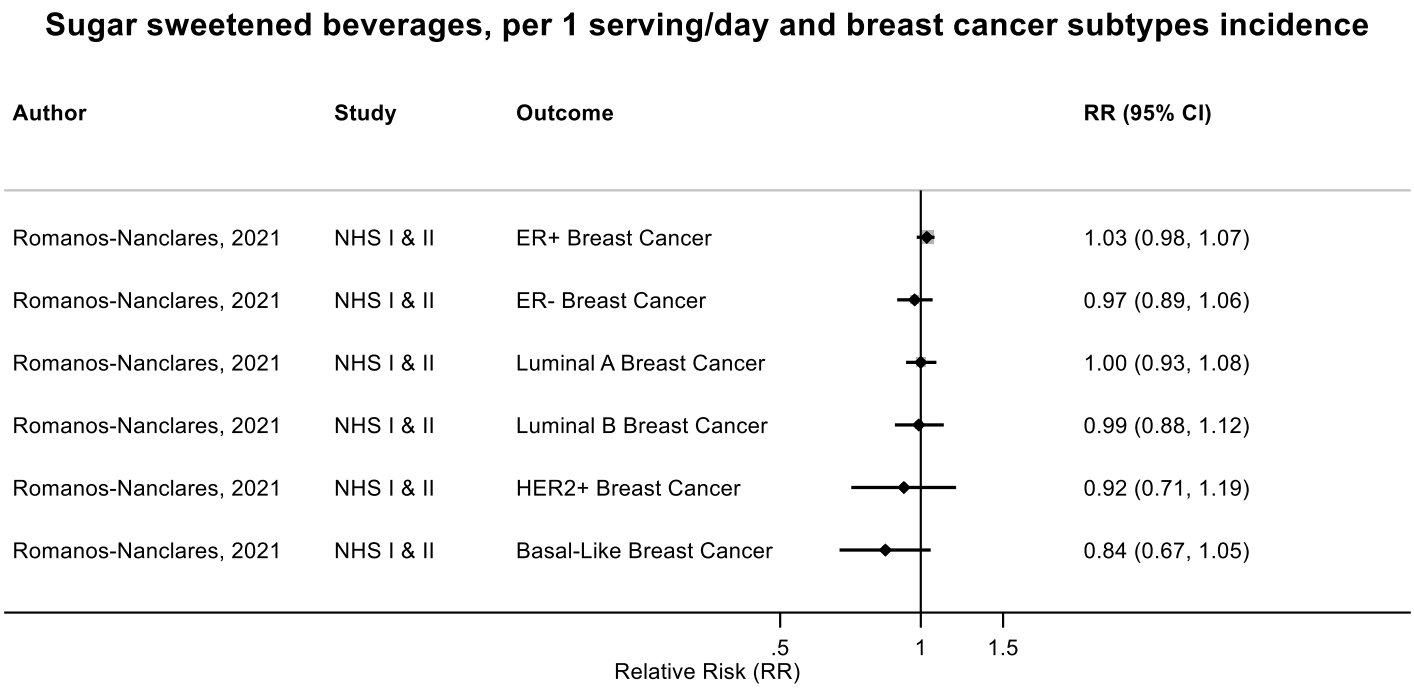


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II

Romanos-Nanclares, 2021[145]

Supplementary Figure 87. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer incidence.

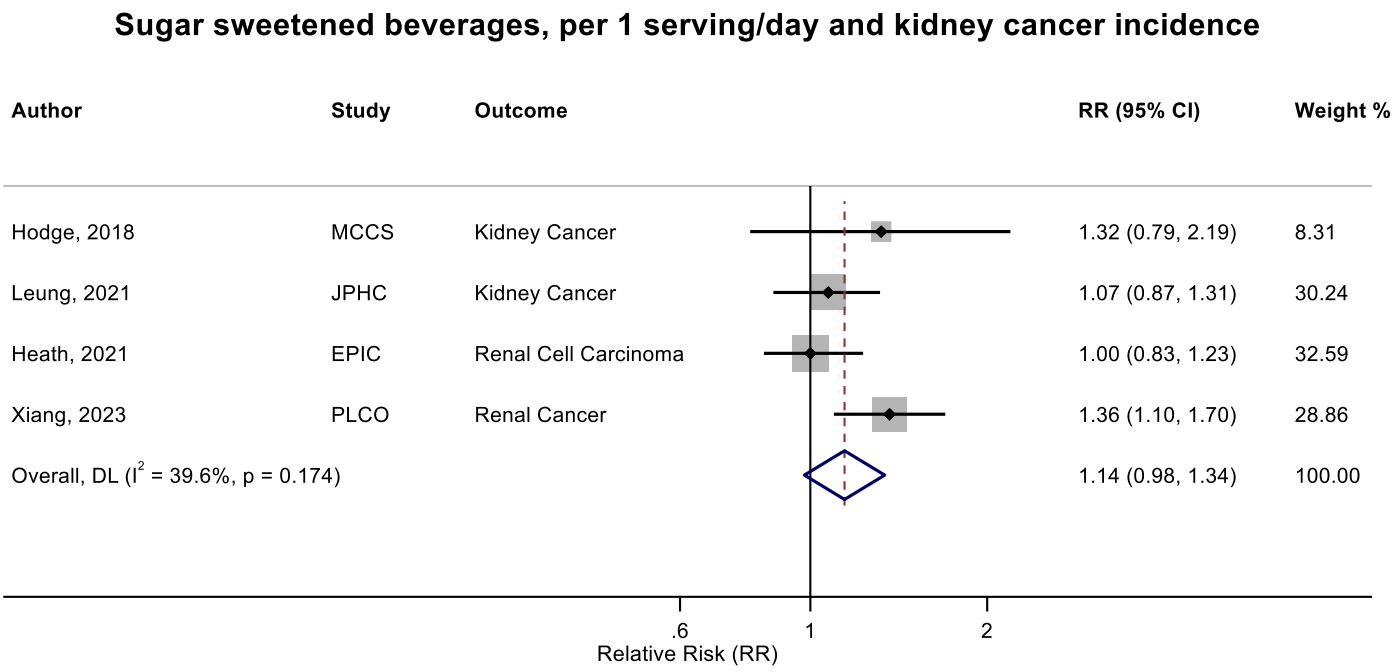


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Hodge, 2018[70], Leung, 2021[100], Heath, 2021[66], Xiang, 2023[173]

Supplementary Figure 88. Linear dose-response meta-analysis of sugar sweetened and carbonated sugar sweetened beverages and kidney cancer incidence.

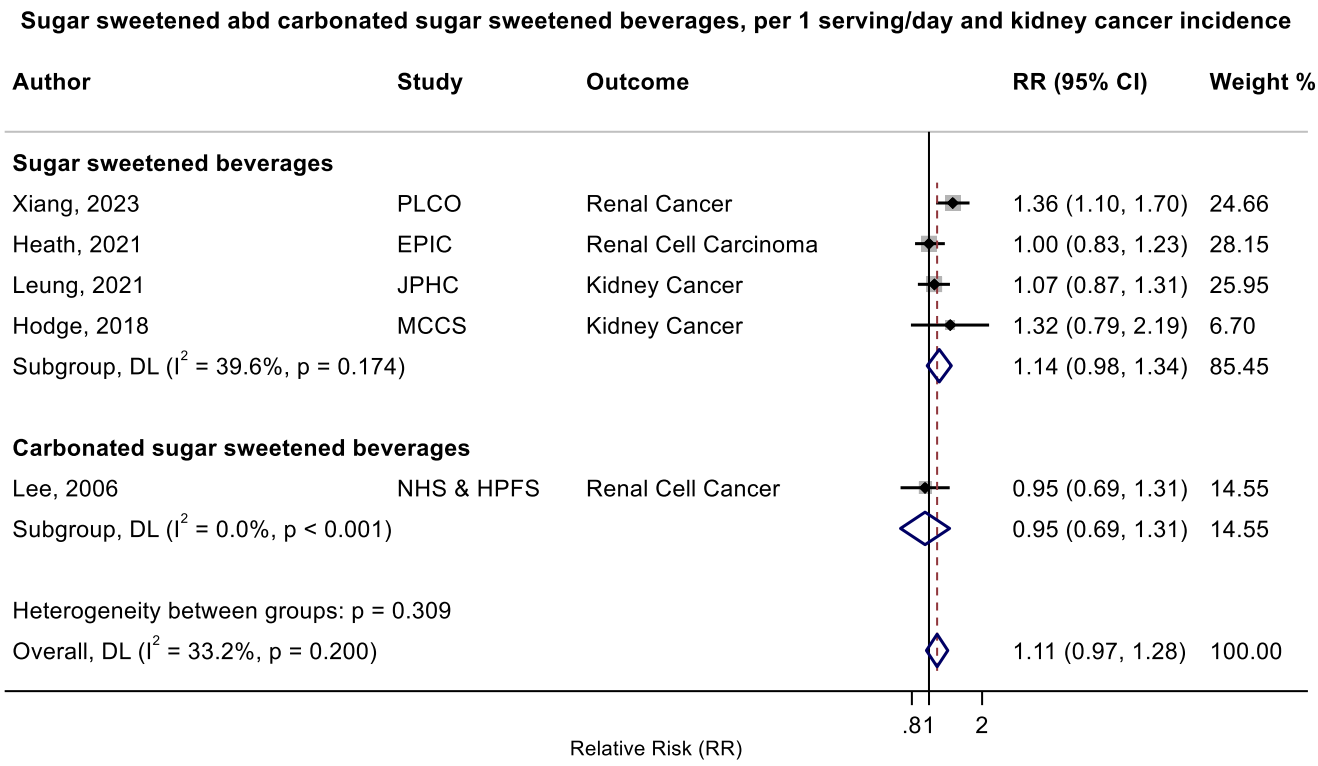


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; NHS, Nurse's Health study; HPFs, Health Professionals Follow-up Study

Hodge, 2018[70], Leung, 2021[100], Heath, 2021[66], Xiang, 2023[173], Lee, 2006[98]

Supplementary Figure 89. Linear dose-response meta-analysis of sugar sweetened beverages and lung cancer incidence.

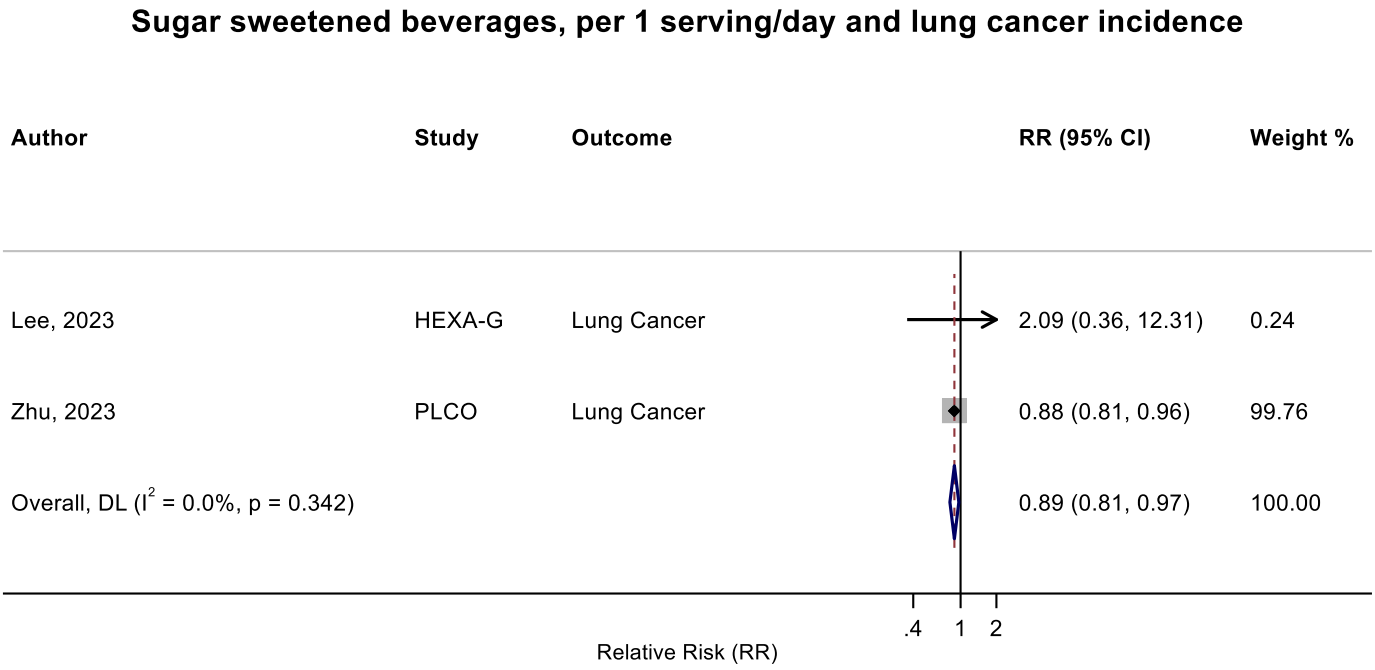


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HEXA-G, Health Examinees-Gem study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Note: One additional study (NIH-AARP)[37] that could not be included in the dose-response meta-analysis because of insufficient data format reported no association or a borderline positive association between sugar sweetened beverages intake and lung cancer incidence per a one-unit change in the component score of the Healthy Eating Index-2010 (RR: 1.00, 95%CI: 0.99-1.00), Alternative Healthy Eating Index-2010 (RR: 1.01, 95%CI: 1.00-1.02), and Dietary Approaches to Stop Hypertension (RR: 1.03, 95%CI: 1.00-1.05).

Lee, 2023[97], Zhu, 2023[190]

Supplementary Figure 90. Linear dose-response meta-analysis of sugar sweetened beverages and lung cancer incidence and mortality combined.

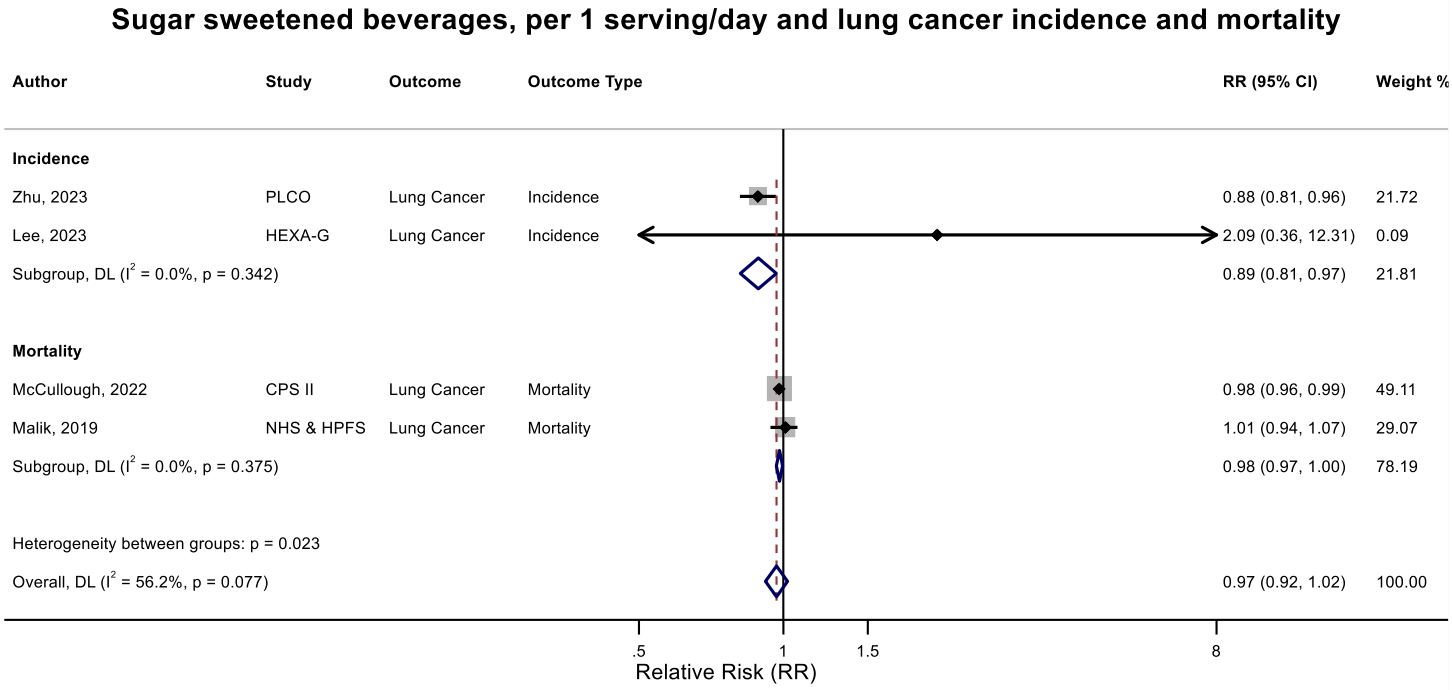


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HEXA-G, Health Examinees-Gem study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial, NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Note: One additional study (NIH-AARP)[178] that could not be included in the dose-response meta-analysis because of insufficient data format reported no association or a borderline positive association between sugar sweetened beverages intake and lung cancer incidence per a one-unit change in the component score of the Healthy Eating Index-2010 (RR: 1.00, 95%CI: 0.99-1.00), Alternative Healthy Eating Index-2010 (RR: 1.01, 95%CI: 1.00-1.02), and Dietary Approaches to Stop Hypertension (RR: 1.03, 95%CI: 1.00-1.05).

Lee, 2023[97], Zhu, 2023[190], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 91. Linear dose-response meta-analysis of sugar sweetened beverages and stomach cancer incidence.

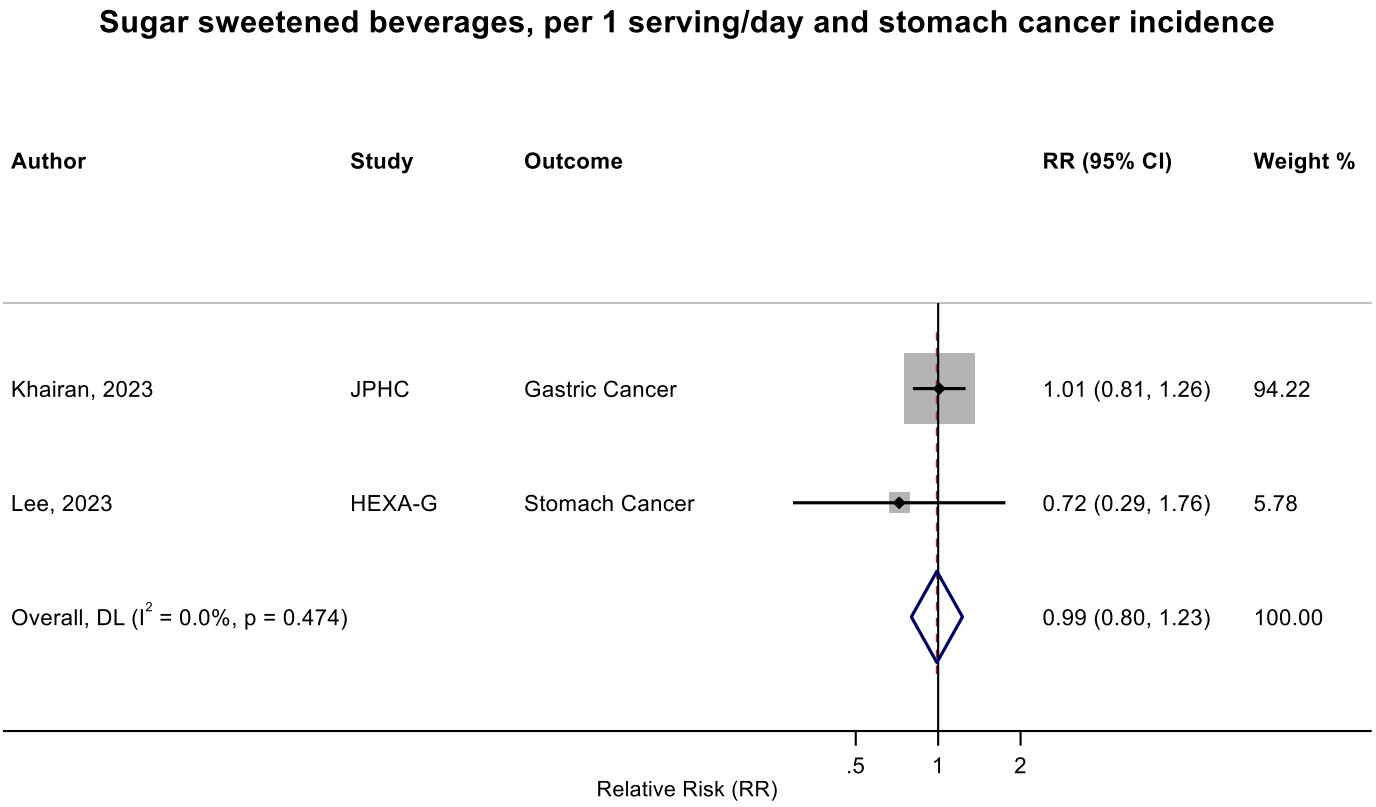


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; HEXA-G, Health Examinees-Gem study

Khairan, 2023[84], Lee, 2023[97]

Supplementary Figure 92. Linear dose-response meta-analysis of sugar sweetened beverages and stomach cardia cancer incidence.

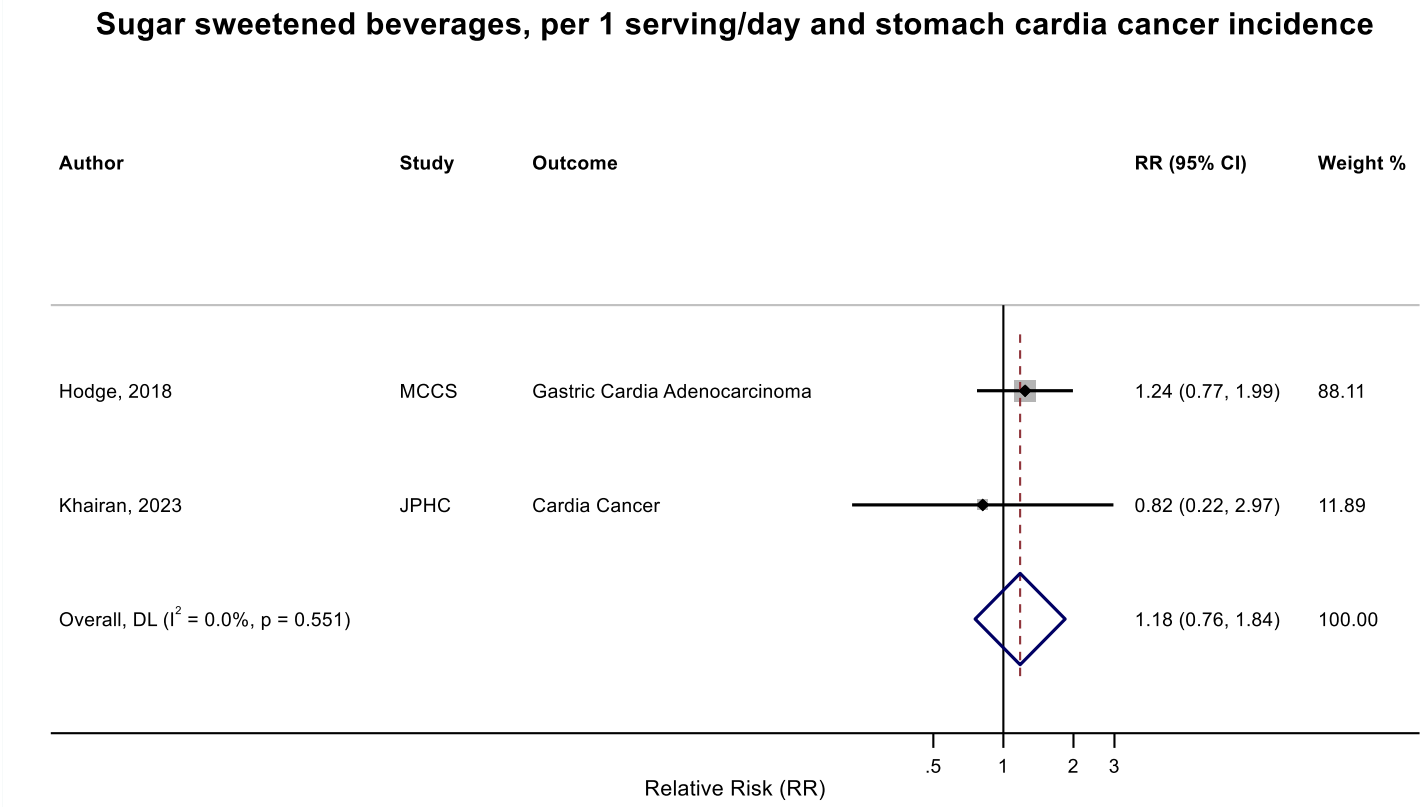


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study

Hodge, 2018[70], Khairan, 2023[84]

Supplementary Figure 93. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer incidence.

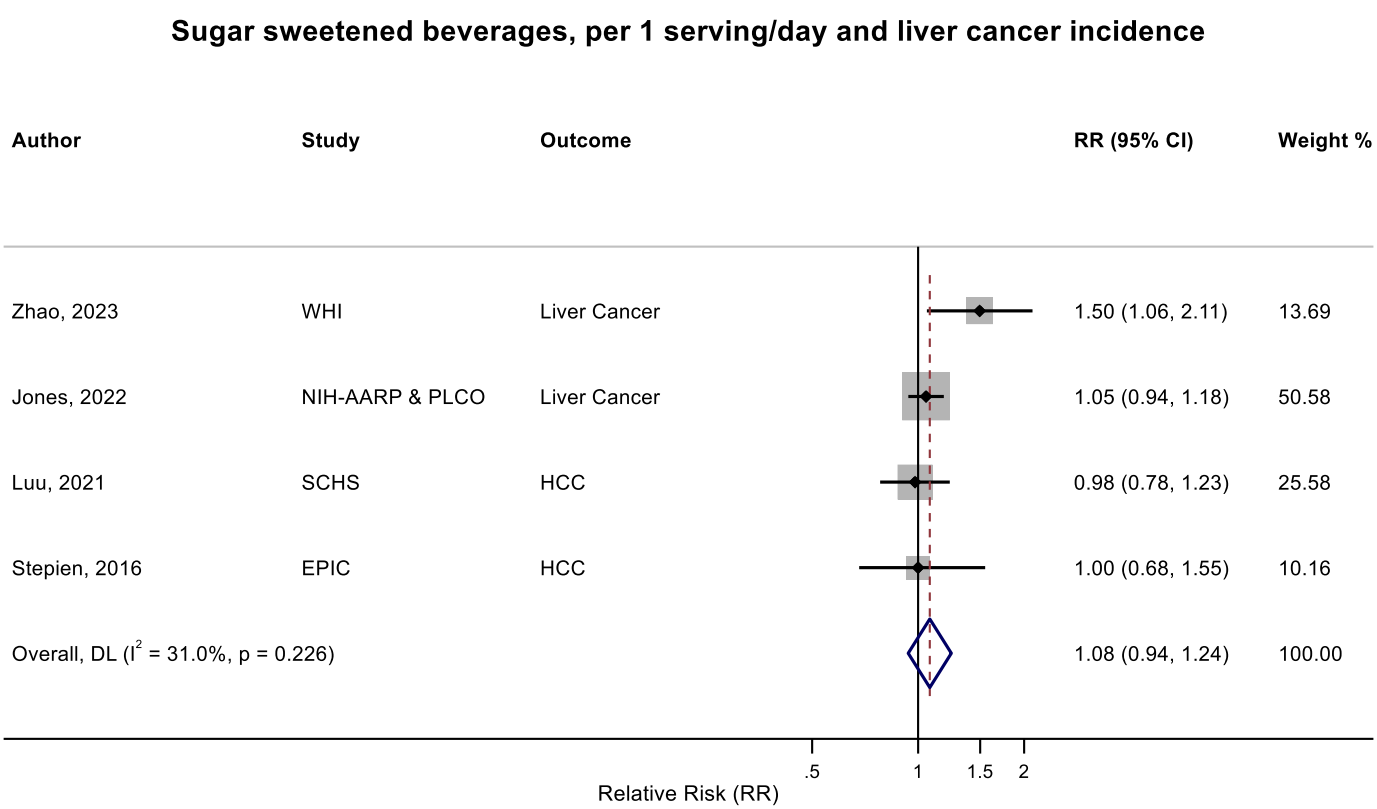


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; HCC, hepatocellular carcinoma, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; SCHS, Singapore Chinese Health study; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Note: One additional pooled analysis of the Nurse's Health Study and Health Professionals Follow-up Study that could not be included in the dose-response meta-analysis because of the insufficient data format reported little evidence of an association for sugar sweetened beverages ($RR_{Q4\ vs\ Q1}$: 1.26, 95%CI: 0.79-2.01)[105] and sugar sweetened beverages plus fruit juices, as part of the Alternative Healthy Eating Index-2010 score (RR per 1-point change in the score for the component: 0.99, 95%CI: 0.93 – 1.06)[222].

Stepien, 2016[159], Luu, 2021[106], Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 94. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer incidence and mortality combined.

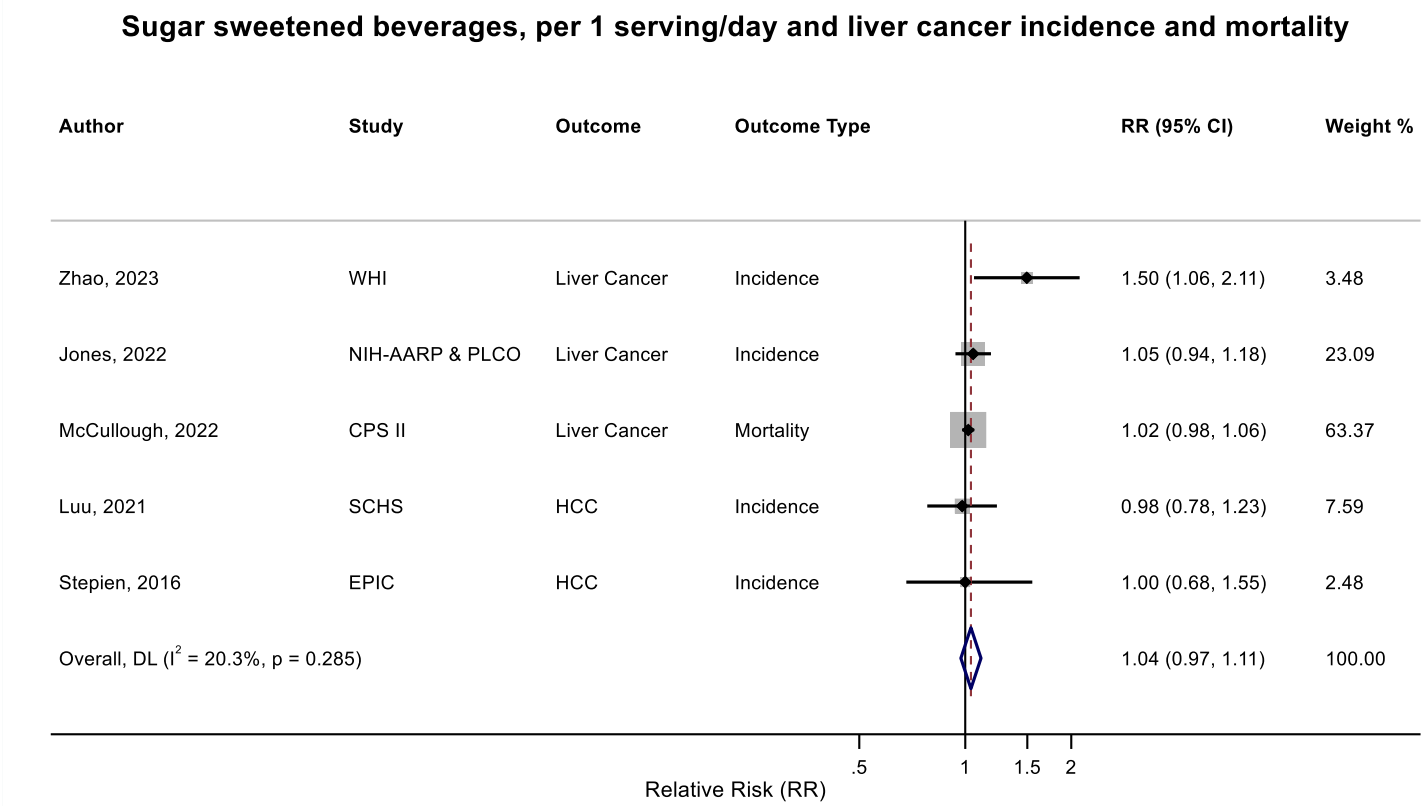


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; HCC, hepatocellular carcinoma, RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; SCHS, Singapore Chinese Health study; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study; CPS II; Cancer Prevention Study II

Zhao, 2022[186], Jones, 2022[79], McCullough, 2022[113], Luu, 2021[106], Stepien, 2016[159]

Supplementary Figure 95. Linear dose-response meta-analysis of sugar sweetened beverages components and liver cancer incidence.

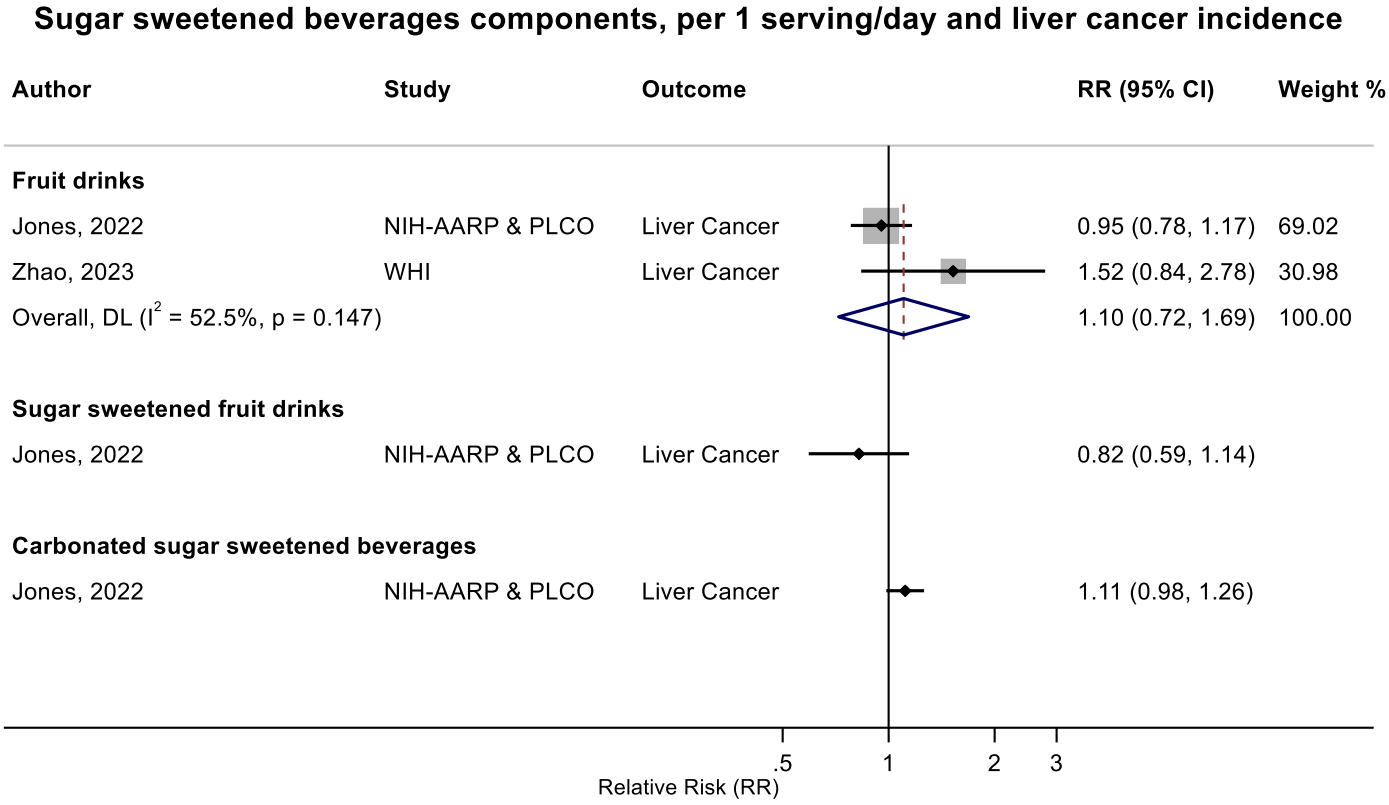


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages components/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Note: One additional study (The Southern Community Cohort)[187] that could not be included in the dose-response meta-analysis because of insufficient data format indicated a borderline inverse association between carbonated sugar sweetened beverages and liver cancer (RR $_{\geq \text{median vs non-consumers}}$: 0.78, 95%CI: 0.58-1.05), and a positive association but with 95%CI crossing the null value between sweetened fruit drinks and liver cancer (RR $_{\geq \text{median vs non-consumers}}$: 1.11, 95%CI: 0.86-1.45).

Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 96. Linear dose-response meta-analysis of sugar sweetened cola and pancreatic cancer incidence.

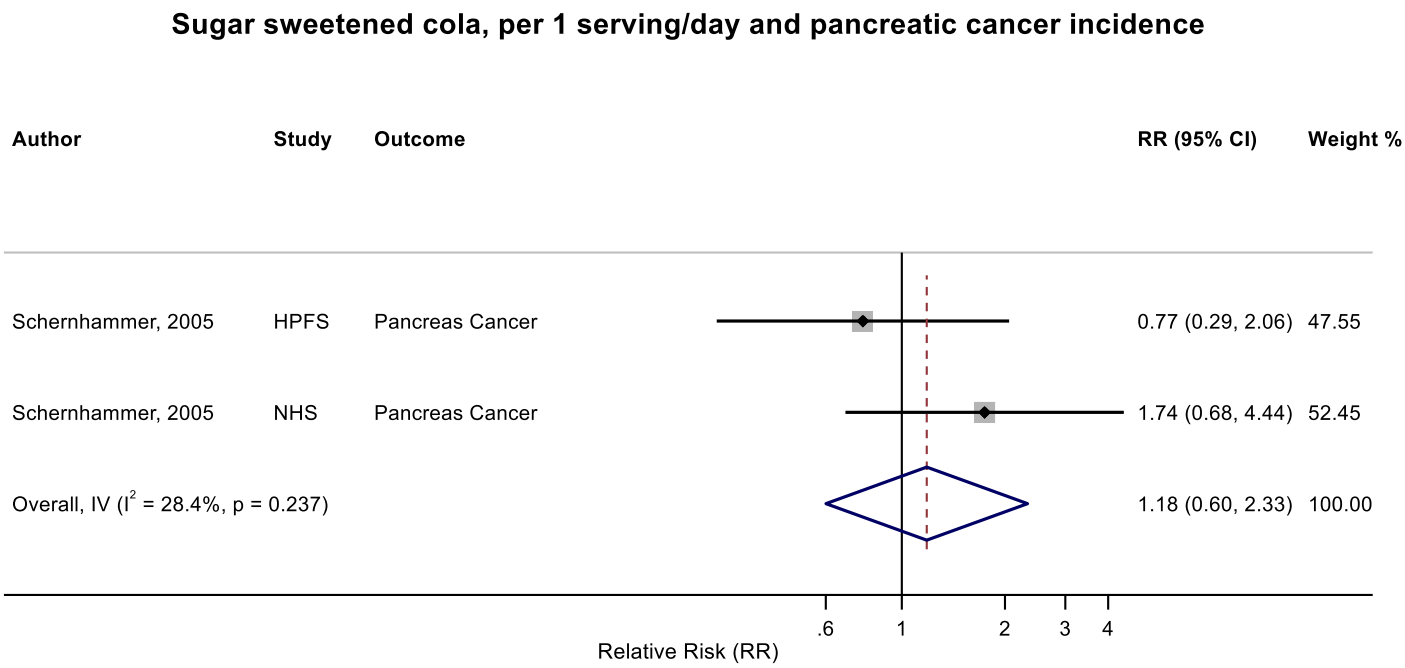


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened cola/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Schernhammer, 2005[151]

Supplementary Figure 97. Linear dose-response meta-analysis of sugar sweetened beverages and type I endometrial cancer incidence.

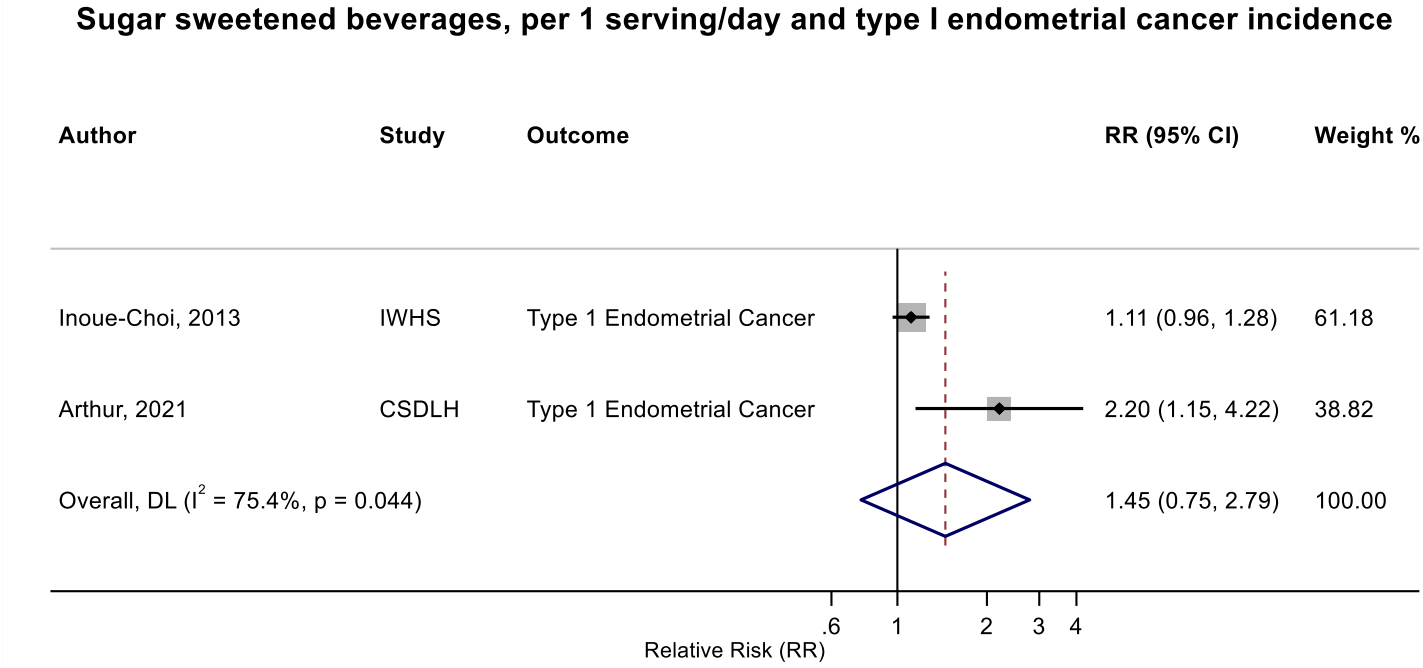


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Inoue-Choi, 2013[74], Arthur, 2021[38]

Supplementary Figure 98. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer incidence.

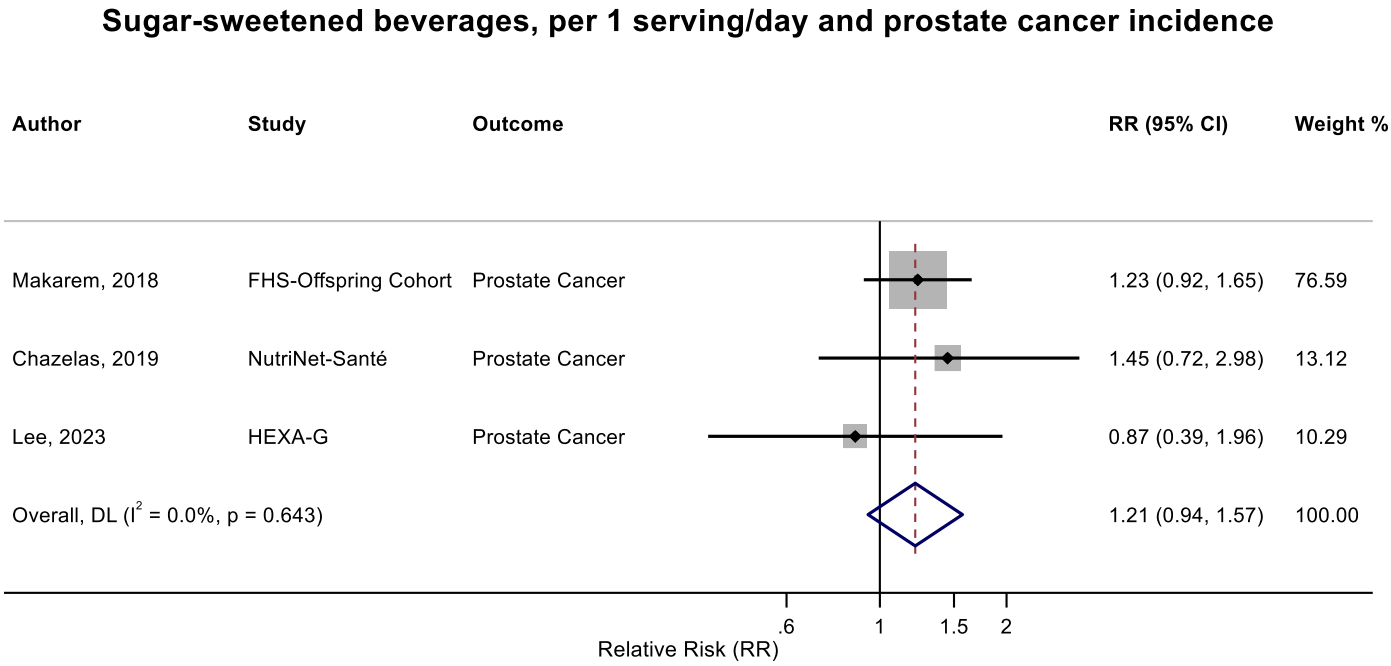


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; HEXA-G, Health Examinees-Gem study

Note: One additional study (Malmö Diet and Cancer cohort)[47] that could not be included in the dose-response meta-analysis because of insufficient data format reported a borderline increased risk of prostate cancer incidence with a higher intake of sugar sweetened beverages (RR $_{297.8 \text{ vs } 0 \text{ g/day}}$: 1.13, 95%CI: 0.92-1.38).

Makarem, 2018[108], Chazelas, 2019[44], Lee, 2023[97]

Supplementary Figure 99. Categorical highest versus the lowest meta-analysis of sugar sweetened beverages and high-risk/aggressive prostate cancer incidence.

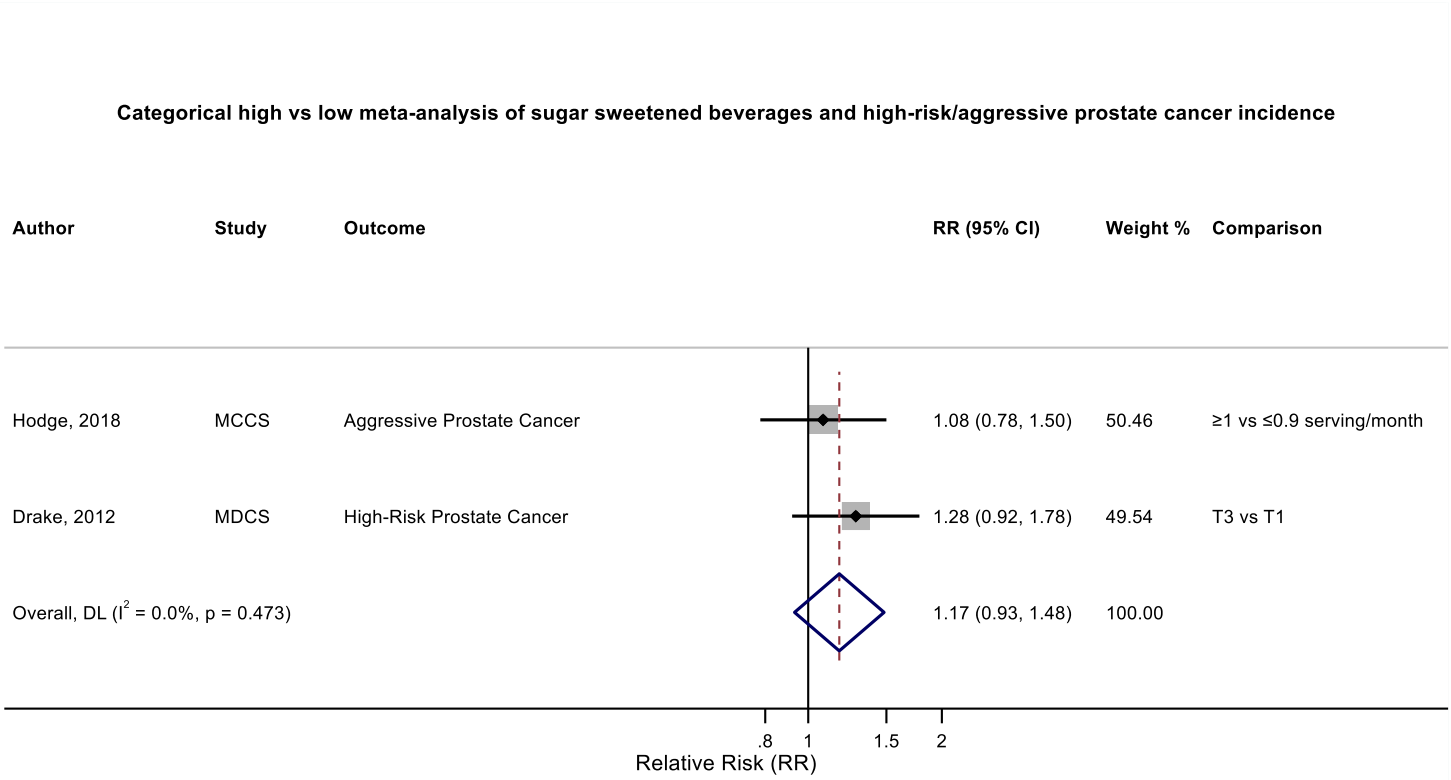


Figure legend: Forest plot shows the highest versus the lowest category results of sugar sweetened beverages from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: MCCS, Melborn Collaborative Cohort Study; MDCS, Malmo Diet and Cancer Study

Hodge, 2018[70], Drake 2012[47]

Note: This analysis was conducted as an additional analysis combining high grade, aggressive and advanced prostate cancer cases. One study (MDCS) was not eligible for the linear dose-response meta-analysis, so we performed a categorical high vs low meta-analysis.

Supplementary Figure 100. Categorical highest versus the lowest meta-analysis of sugar sweetened beverages and bladder cancer incidence.

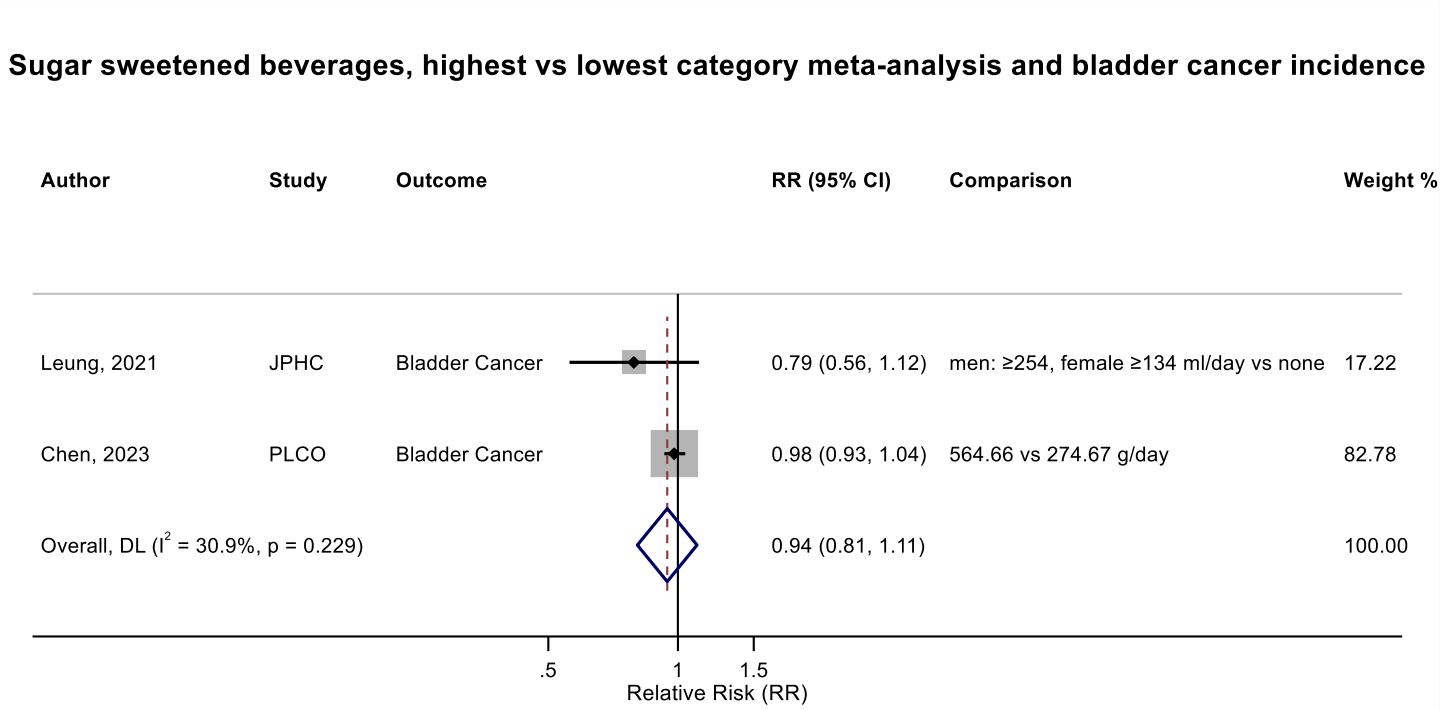


Figure legend: Forest plot shows the highest versus the lowest category results of sugar sweetened beverages from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Leung, 2021[173], Chen, 2023[46]

Note: JPHC study was not eligible for the linear dose-response meta-analysis, so we performed a categorical high vs low meta-analysis.

Supplementary Figure 101. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and leukaemia incidence.

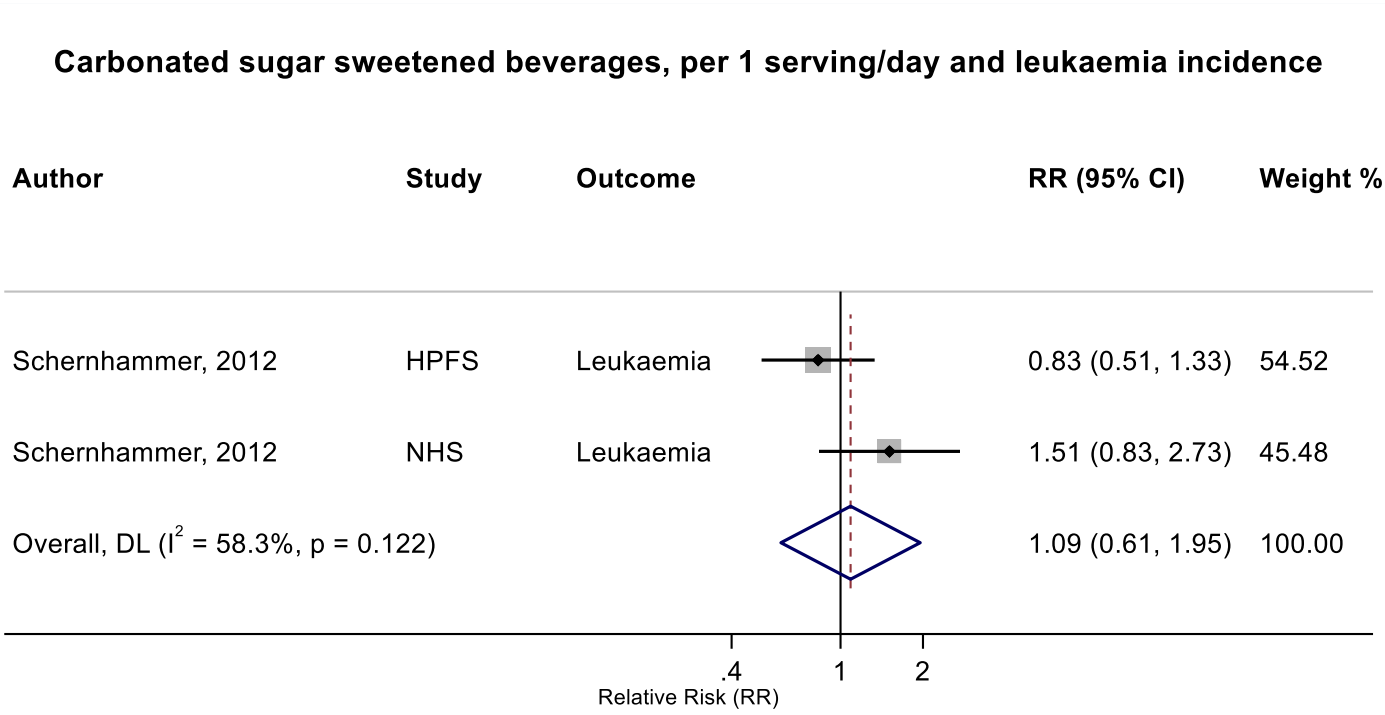


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Schernhammer, 2012[150]

Supplementary Figure 102. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and multiple myeloma incidence.

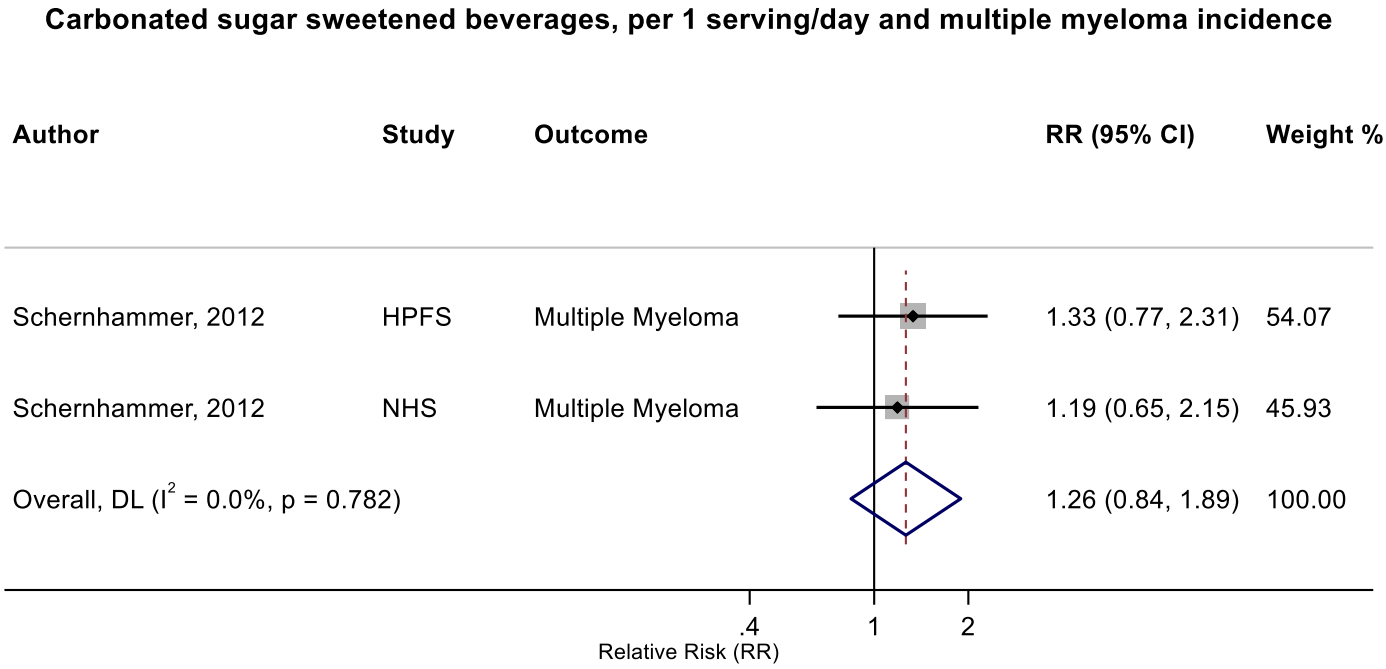


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Schernhammer, 2012[150]

Supplementary Figure 103. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and non-Hodgkin lymphoma incidence.

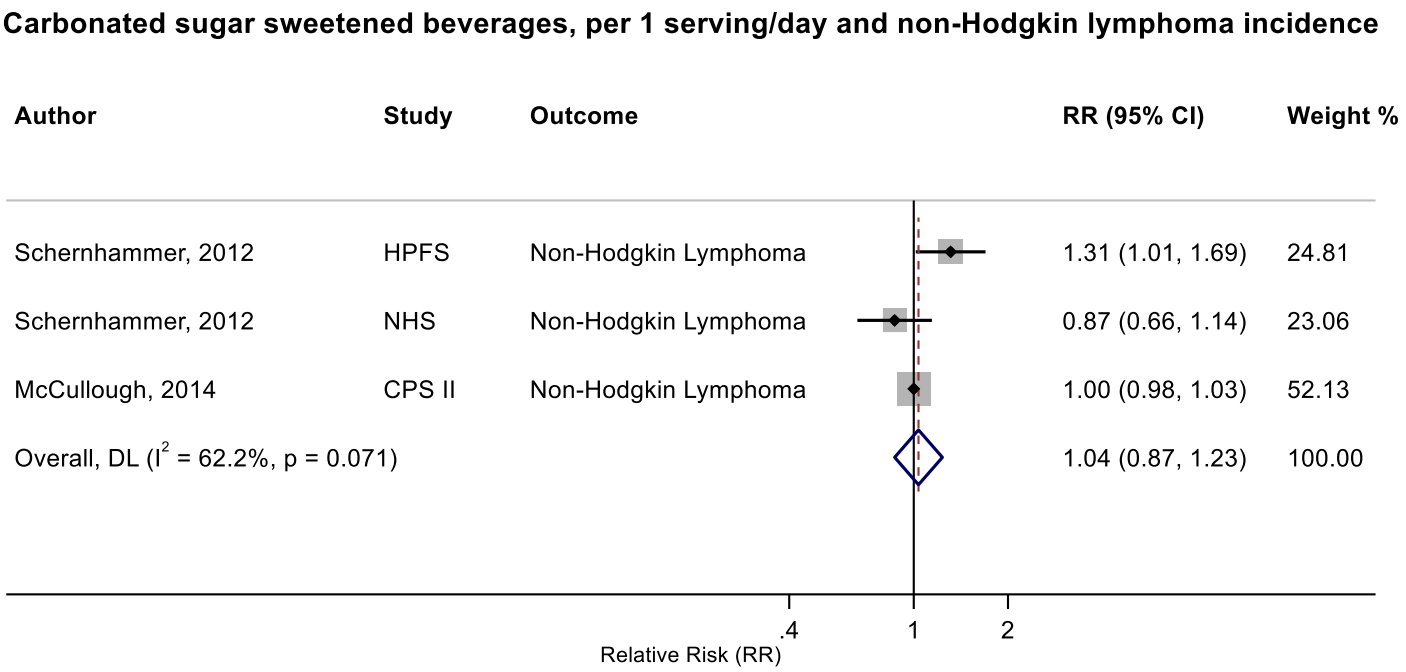


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Schernhammer, 2012[150], McCullough, 2014[114]

Supplementary Figure 104. Categorical highest versus the lowest meta-analysis of sugar sweetened beverages and thyroid cancer incidence.

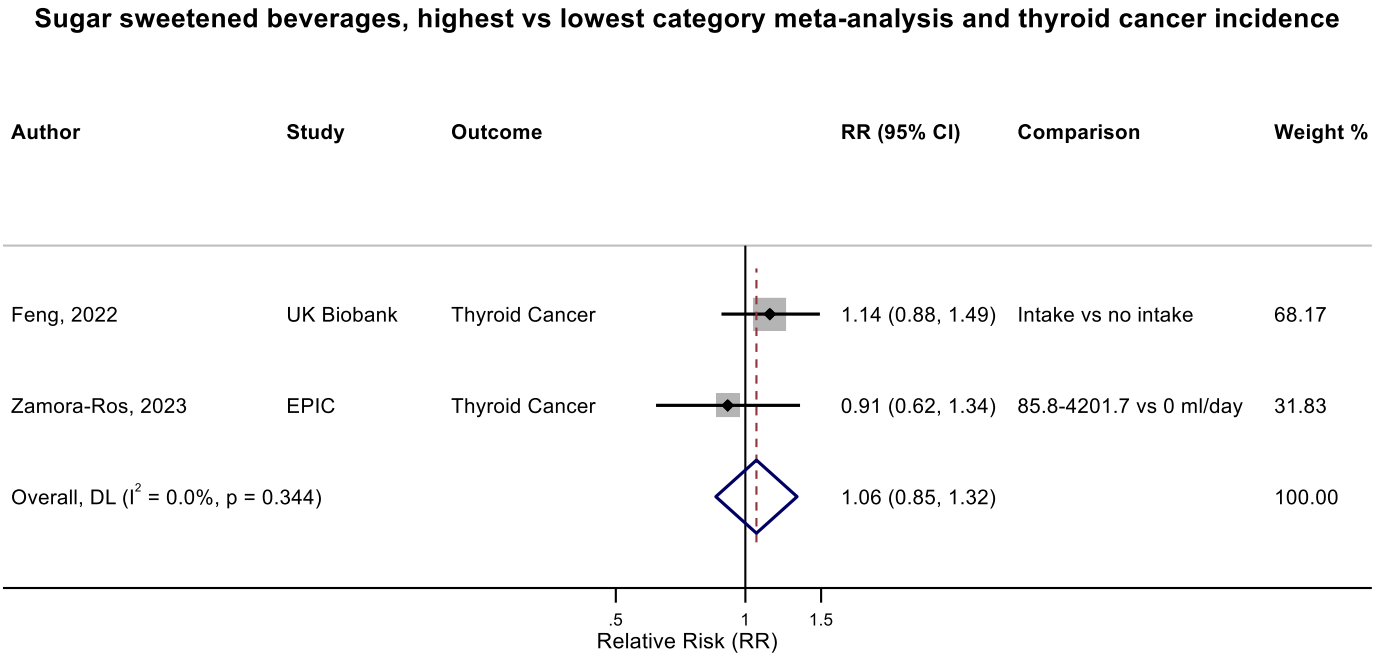


Figure legend: Forest plot shows the highest versus the lowest category results of sugar sweetened beverages from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

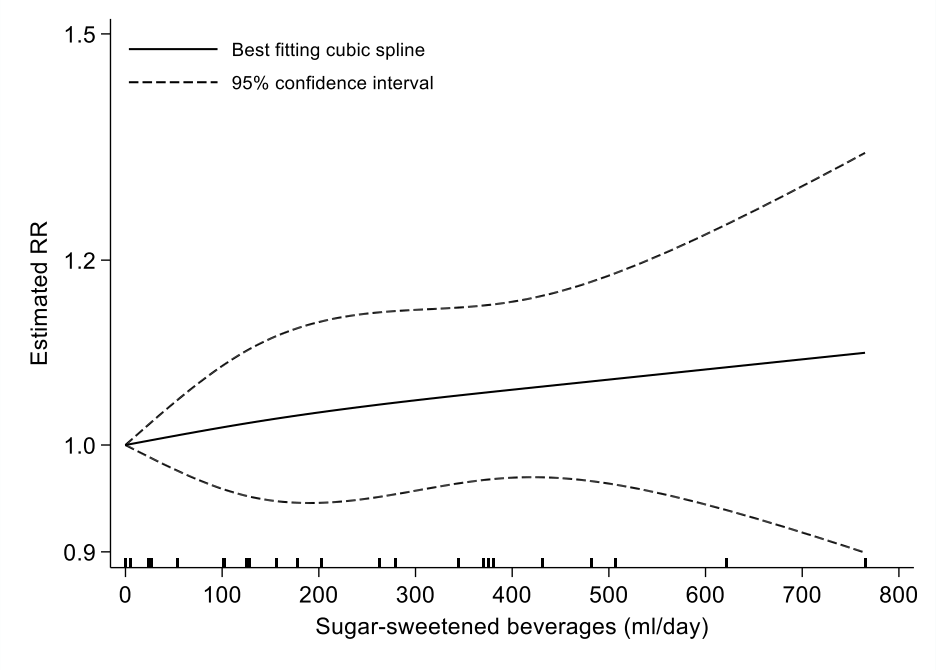
Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: UK Biobank, United Kingdom Biobank Study; EPIC, European Prospective Investigation into Cancer and nutrition

Feng, 2022[53], Zamora-Ros, 2023[180]

Note: The UK Biobank study was not eligible for the linear dose-response meta-analysis, so we performed a categorical high vs low meta-analysis.

Supplementary Figure 105. Nonlinear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence.



SSB intake (mL/day)	RR estimates (95%CI)
0	1 (reference)
100	1.01 (0.96-1.08)
200	1.03 (0.94-1.12)
300	1.04 (0.95-1.14)
400	1.05 (0.97-1.15)
500	1.07 (0.96-1.18)
600	1.08 (0.94-1.24)
700	1.09 (0.92-1.23)
800	1.11 (0.89-1.37)

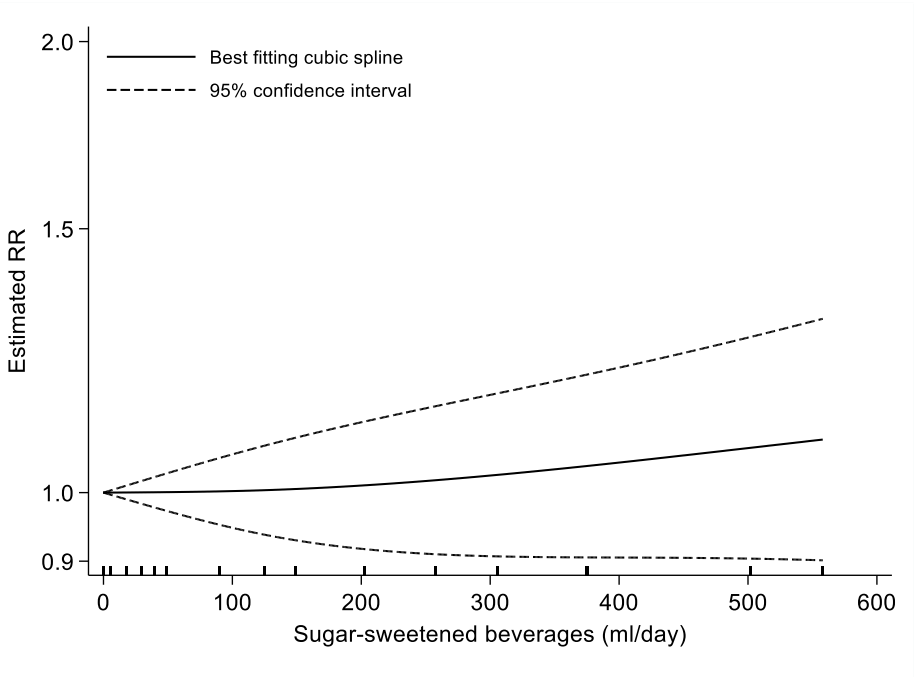
P non-linearity = 0.52

Figure legend: Non-linear curve was estimated using restricted cubic spline regression with three knots at 10th, 50th and 90th percentiles of distribution of the exposure and pooled in random-effects meta-analysis. The table shows the estimated RRs and 95% CIs for selected sugar sweetened beverages values comparing to no consumption as reference.

Abbreviations: CI, confidence interval; RR, relative risk.

Arthur, 2021[38], Barrubés, 2020[40], Hodge, 2018[70], Kanehara, 2024[81], Lee, 2023[97], Leung, 2021[101], Makarem, 2018[108], Nomura, 2016[129], Pacheco, 2019[135], Yuan, 2022[178]

Supplementary Figure 106. Nonlinear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence.



SSB intake (mL/day)	RR estimates (95%CI)
0	1 (reference)
100	1.00 (0.95-1.06)
200	1.01 (0.92-1.11)
300	1.03 (0.91-1.16)
400	1.05 (0.91-1.21)
500	1.07 (0.90-1.27)
550	1.08 (0.89-1.30)

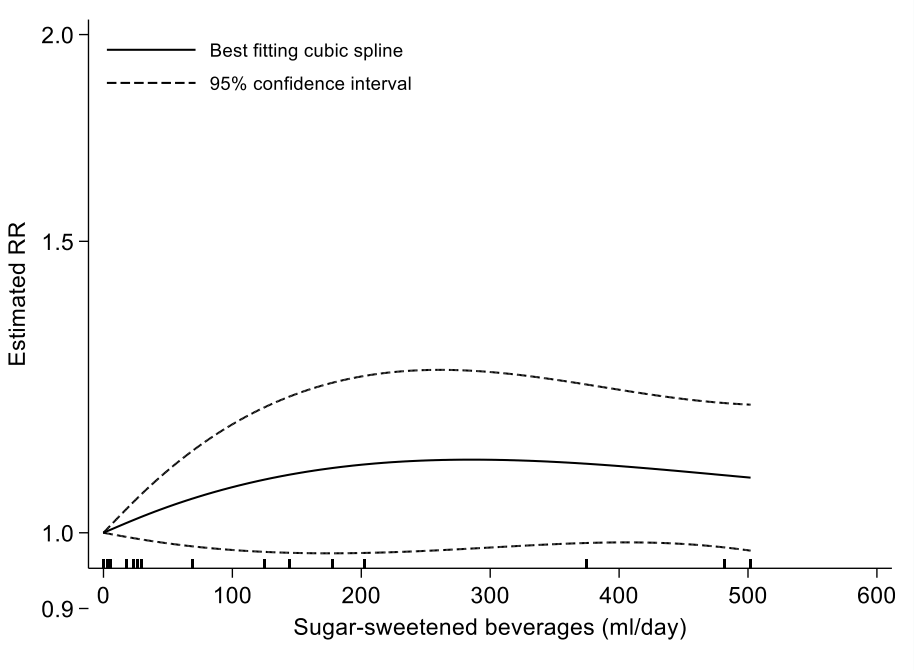
P non-linearity = 0.25

Figure legend: Non-linear curve was estimated using restricted cubic spline regression with three knots at 10th, 50th and 90th percentiles of distribution of the exposure and pooled in random-effects meta-analysis. The table shows the estimated RRs and 95% CIs for selected sugar sweetened beverages values comparing to no consumption as reference.

Abbreviations: CI, confidence interval; RR, relative risk.

Arthur, 2021[38], Lee, 2023[97], Makarem, 2018[108], Nomura, 2016[128], Romanos-Nanclares, 2021[145], Romanos-Nanclares, 2019[146]

Supplementary Figure 107. Nonlinear dose-response meta-analysis of sugar sweetened beverages and postmenopausal breast cancer incidence.



SSB intake (ml/day)	RR estimates (95%CI)
0	1 (reference)
100	1.07 (0.98-1.16)
200	1.10 (0.97-1.24)
300	1.11 (0.98-1.25)
400	1.10 (0.99-1.22)
500	1.08 (0.98-1.02)

P non-linearity = 0.61

Figure legend: Non-linear curve was estimated using restricted cubic spline regression with three knots at 10th, 50th and 90th percentiles of distribution of the exposure and pooled in random-effects meta-analysis. The table shows the estimated RRs and 95% CIs for selected sugar sweetened beverages values comparing to no consumption as reference.

Abbreviations: CI, confidence interval; RR, relative risk.

Arthur, 2021[38], Hodge, 2018[70], Nomura, 2016[128], Romanos-Nanclares, 2021[145], Romanos-Nanclares, 2019[146]

Supplementary Figure 108.Linear dose-response meta-analysis of sugar sweetened beverages and stomach cancer incidence by sex.

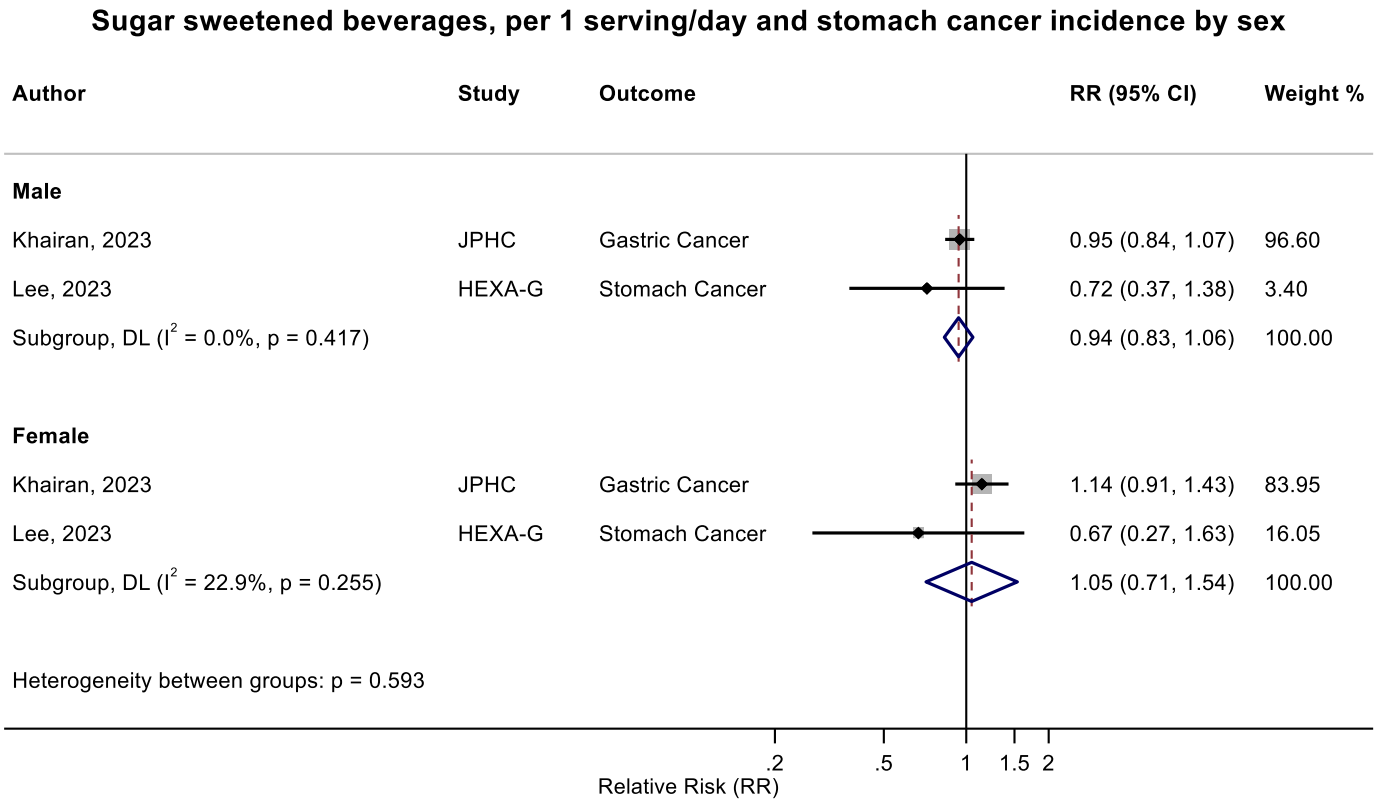


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; HEXA-G, Health Examinees-Gem study

Khairan, 2023[84], Lee, 2023[97]

Supplementary Figure 109. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by geographical region.

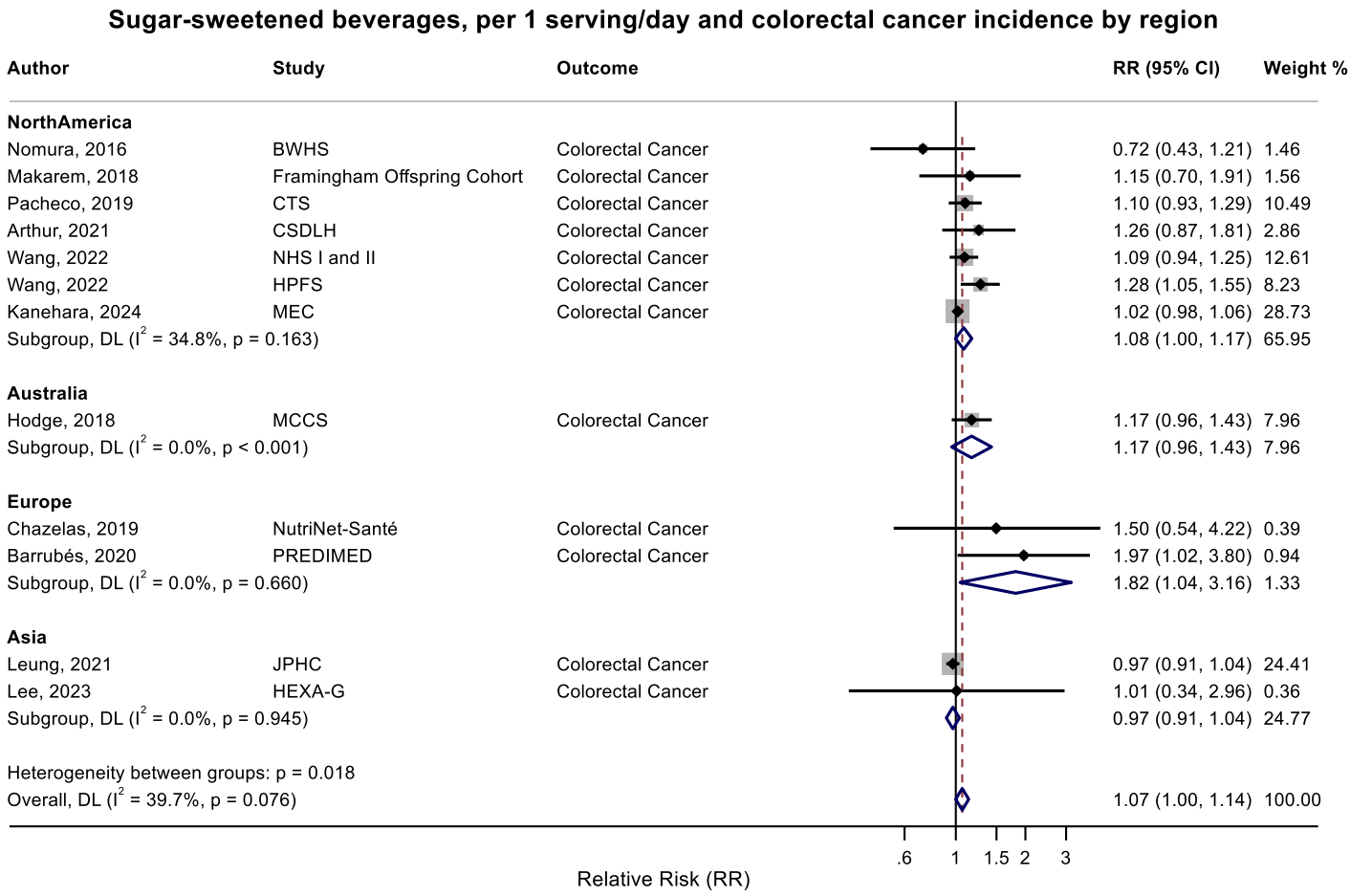


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; PREDIMED, Prevención con Dieta Mediterránea study; CTS, California Teachers Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study; MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study; HEXA-G, Health Examinees-Gem study

Nomura, 2016[129], Chazelas, 2019[44], Barrubés, 2020[40], Makarem, 2018[108], Pacheco, 2019[135], Arthur, 2021[38], Wang, 2022[168], Kanehara, 2024[81],
Hodge, 2018[70], Leung, 2021[101], Lee, 2023[97]

Supplementary Figure 110. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by follow-up duration.

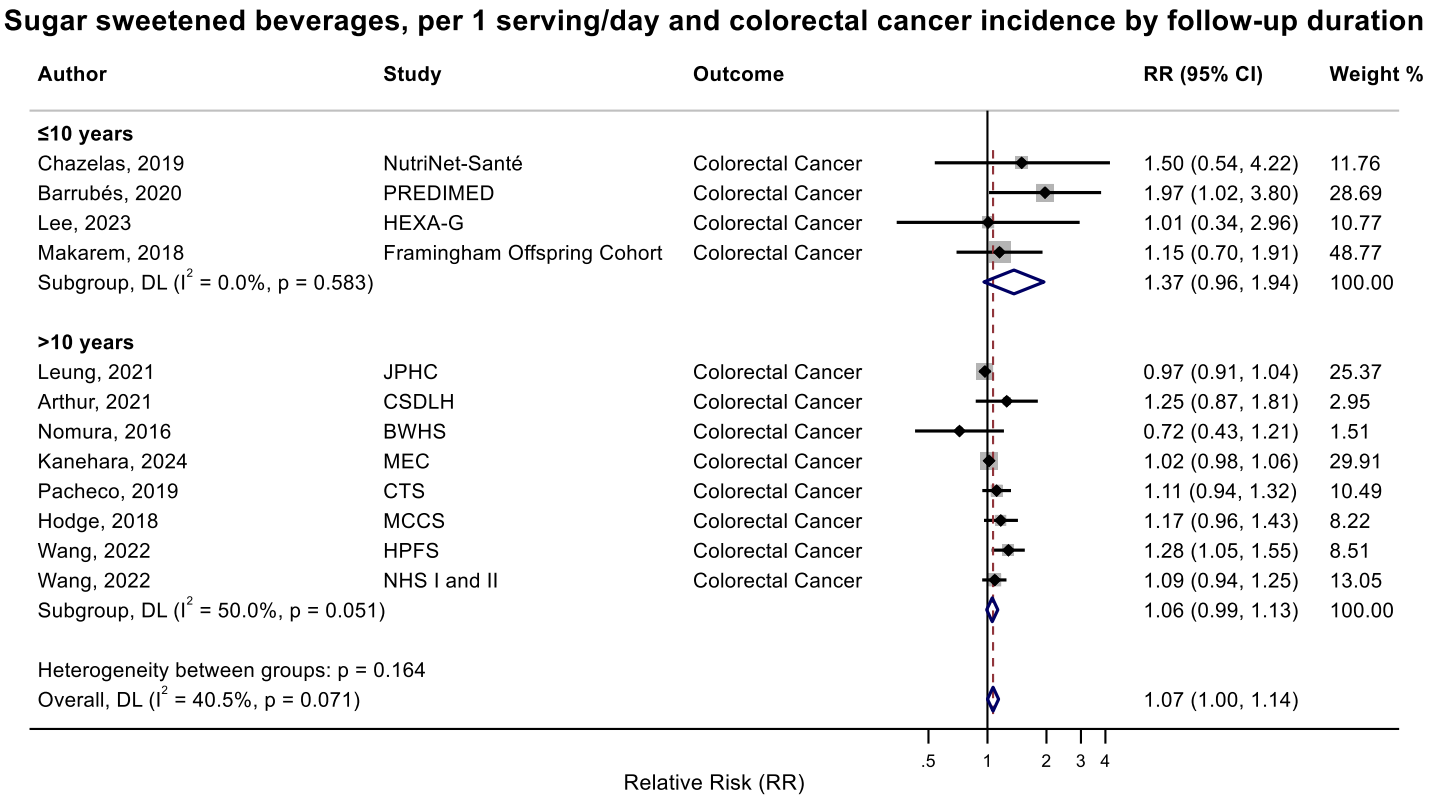


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PREDIMED, Prevención con Dieta Mediterránea study; HEXA-G, Health Examinees-Gem study; FOS, Framingham Heart Study-Offspring Cohort; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; BWHS, Black Women's Health Study; MEC, Multiethnic Cohort Study; CTS, California Teachers Study; MCCS, Melbourne Collaborative Cohort Study; HPFS, Health Professionals Follow-up Study; NHS I and II, Nurses' Health Study I and II

Nomura, 2016[129], Chazelas, 2019[44], Barrubés, 2020[40], Makarem, 2018[108], Pacheco, 2019[135], Arthur, 2021[38], Wang, 2022[168], Kanehara, 2024[81],
Hodge, 2018[70], Leung, 2021[101], Lee, 2023[97]

Supplementary Figure 111. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by sex.

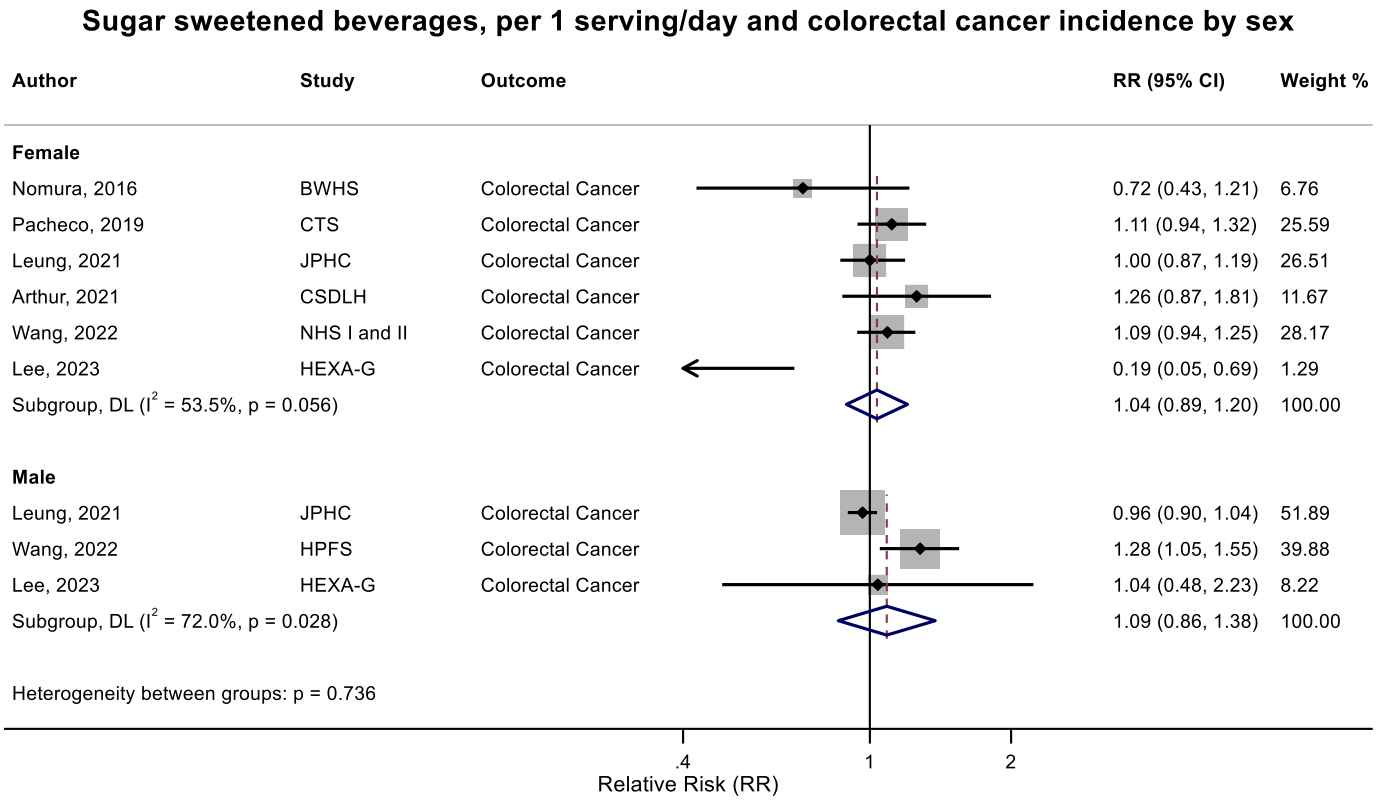


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HEXA-G, Health Examinees-Gem study; HPFS, Health Professionals Follow-up Study

Nomura, 2016[129], Pacheco, 2019[135], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[169], Lee, 2023[97]

Supplementary Figure 112. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by inclusion of fruit juice.

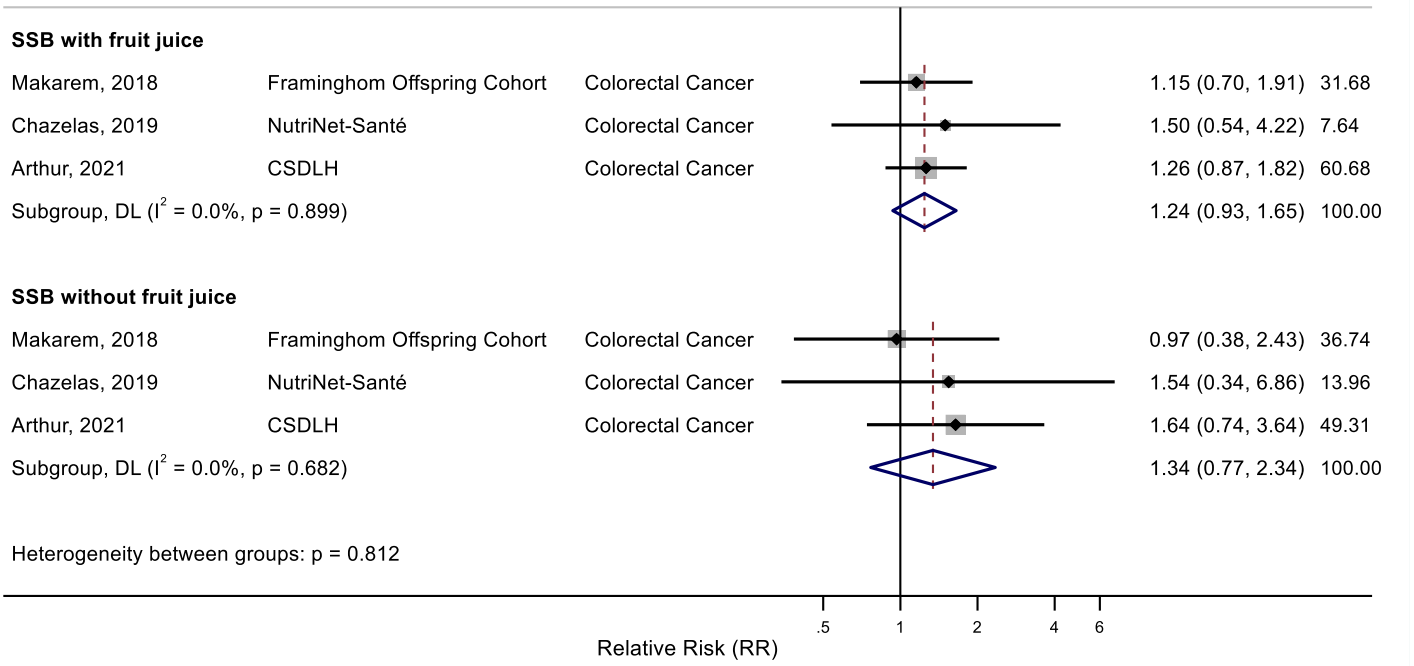


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk, SSB, sugar sweetened beverages.

Study abbreviations: FOS, Framingham Heart Study-Offspring Cohort; CSDLH, Canadian Study of Diet, Lifestyle and Health

Note: This subgroup analysis is based on within study comparisons in three studies reporting results for sugar sweetened beverages with and without fruit juices.

Makarem, 2018[108], Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 113. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by frequency of dietary assessment.

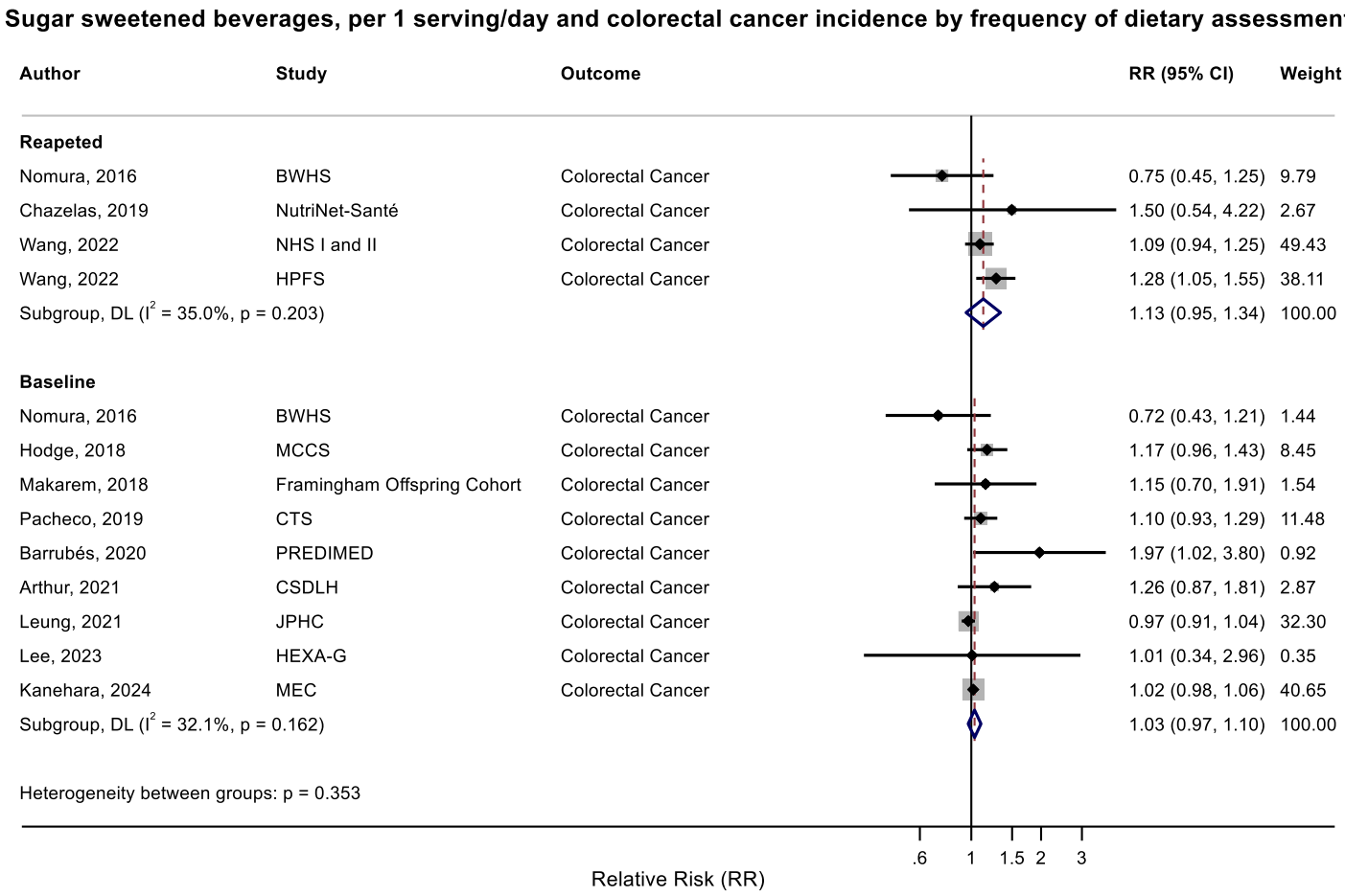


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; MCCS, Melbourne Collaborative Cohort Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study

Note: The Black Women's Health Study reported results for both baseline and time-varying measurements

Nomura, 2016[129], Chazelas, 2019[44], Wang, 2022[168], Makarem, 2018[108], Hodge, 2018[70], Pacheco, 2019[135], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Lee, 2023[97], Kanehara, 2024[81]

Supplementary Figure 114. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by exclusion of people with diabetes at baseline.

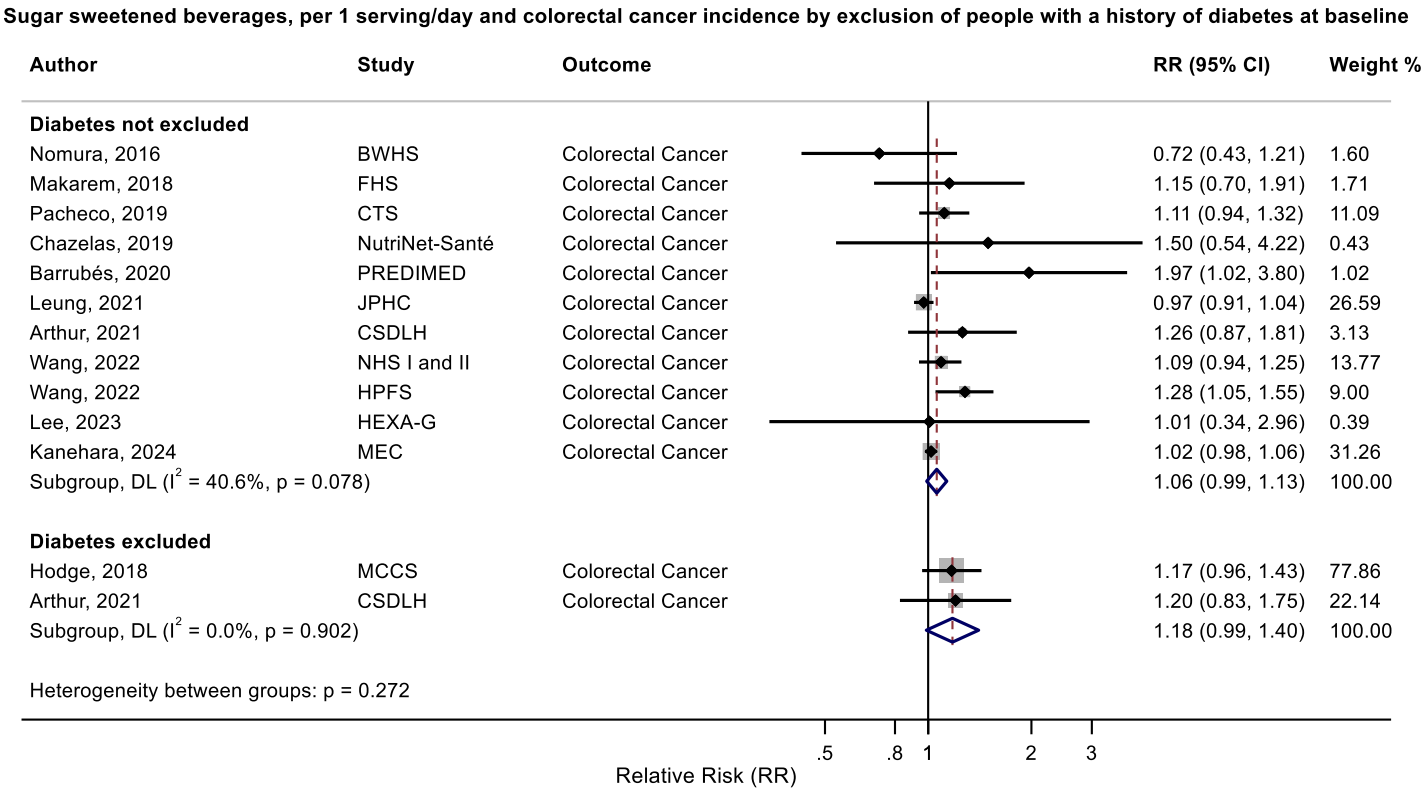


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS, Framingham Heart Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study; MCCS, Melbourne Collaborative Cohort Study

Note: The Canadian Study of Diet, Lifestyle and Health reported results for both before and after exclusion of people with a history of diabetes at baseline.

Nomura, 2016[129], Makarem, 2018[108], Pacheco, 2019[135], Chazelas, 2019[44], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81], Hodge, 2018[70]

Supplementary Figure 115. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by bias related to confounding.

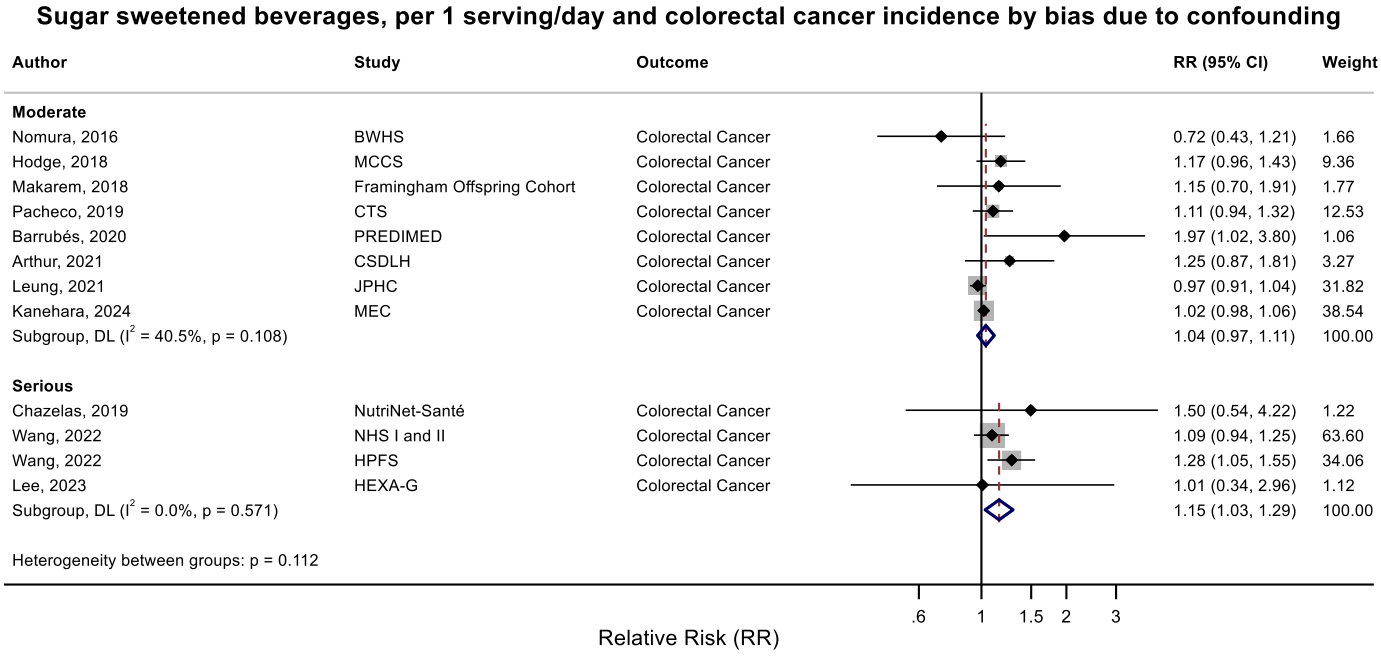


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS, Framingham Heart Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study; MCCS, Melbourne Collaborative Cohort Study

Nomura, 2016[129], Makarem, 2018[108], Pacheco, 2019[135], Chazelas, 2019[44], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81], Hodge, 2018[70]

Supplementary Figure 116. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence by bias related to departure from intended exposure.

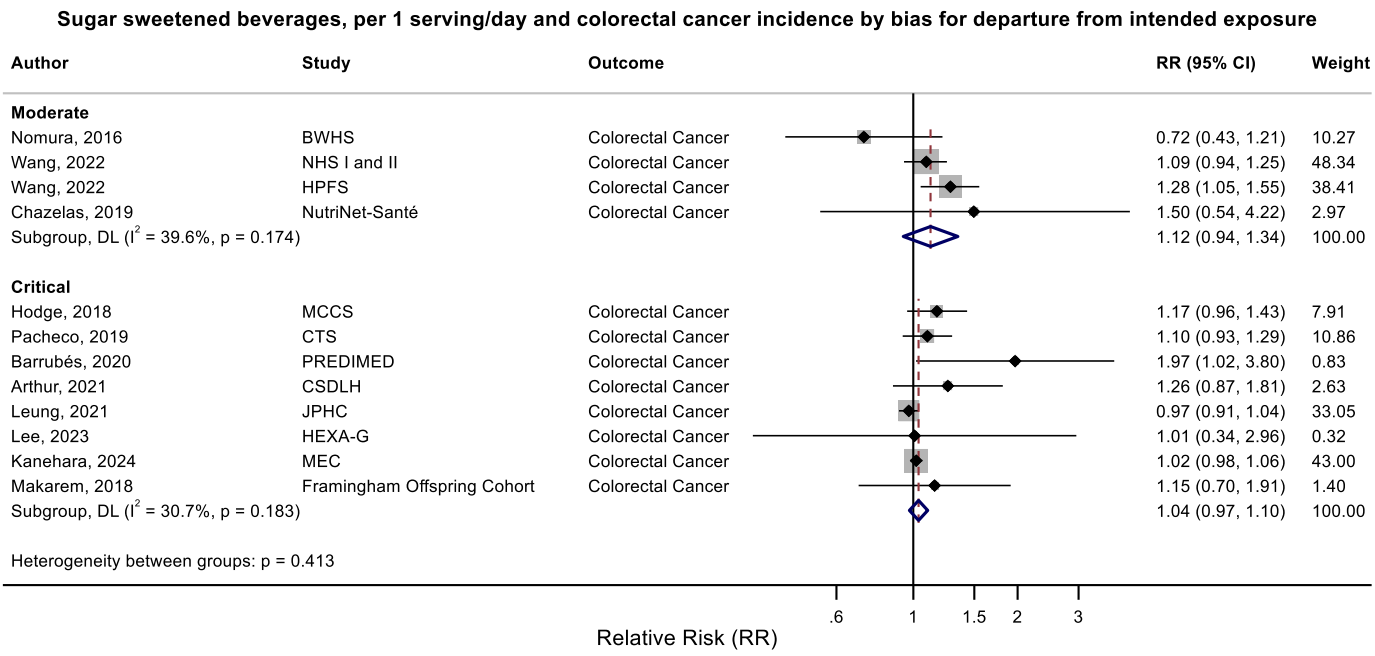


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS, Framingham Heart Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study; MCCS, Melbourne Collaborative Cohort Study

Nomura, 2016[129], Makarem, 2018[108], Pacheco, 2019[135], Chazelas, 2019[44], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81], Hodge, 2018[70]

Supplementary Figure 117. Linear dose-response meta-analysis of sugar sweetened beverages and colon cancer incidence by sex.

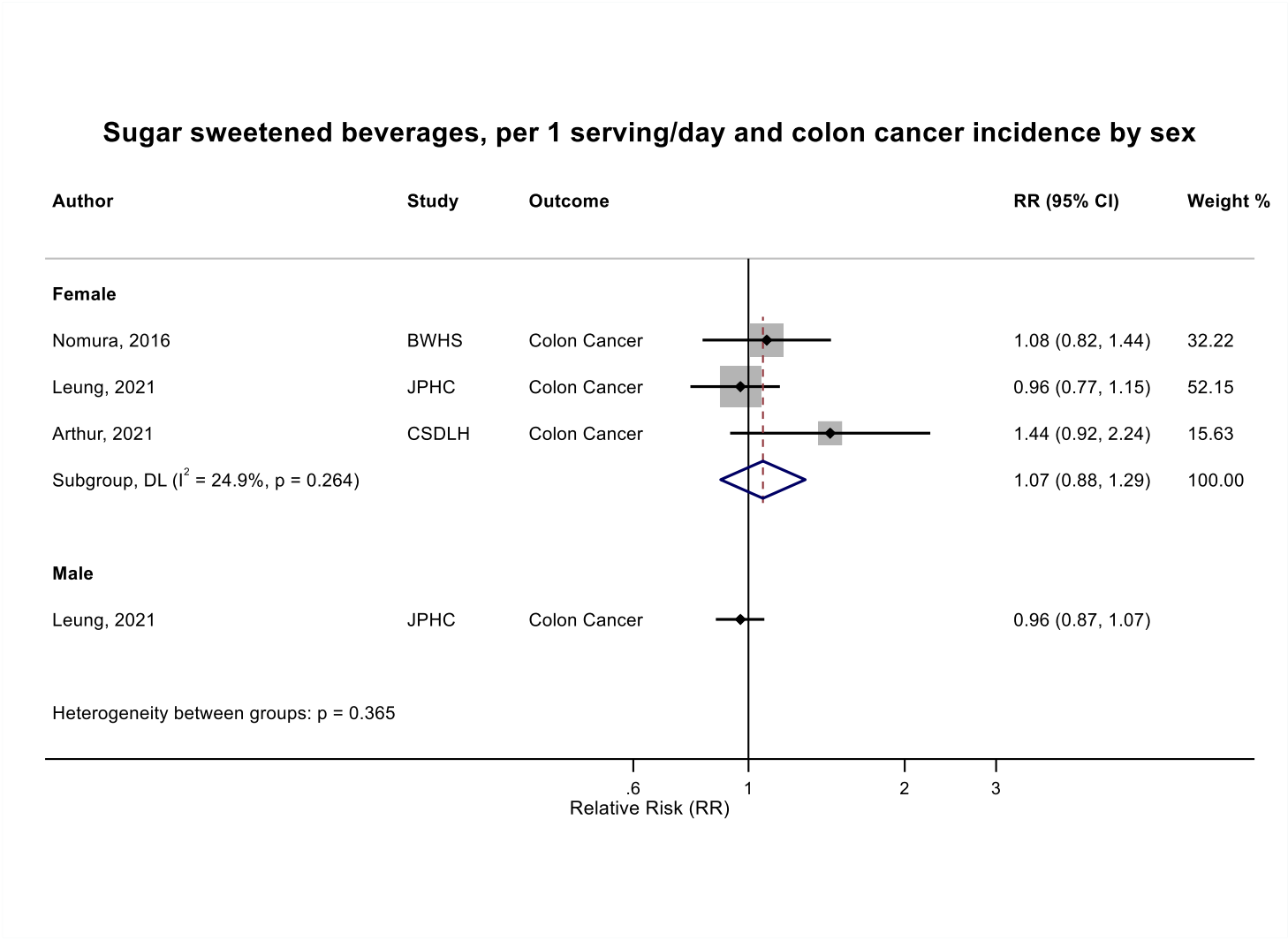


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[129], Leung, 2021[101], Arthur, 2021[38]

Supplementary Figure 118. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by sex.

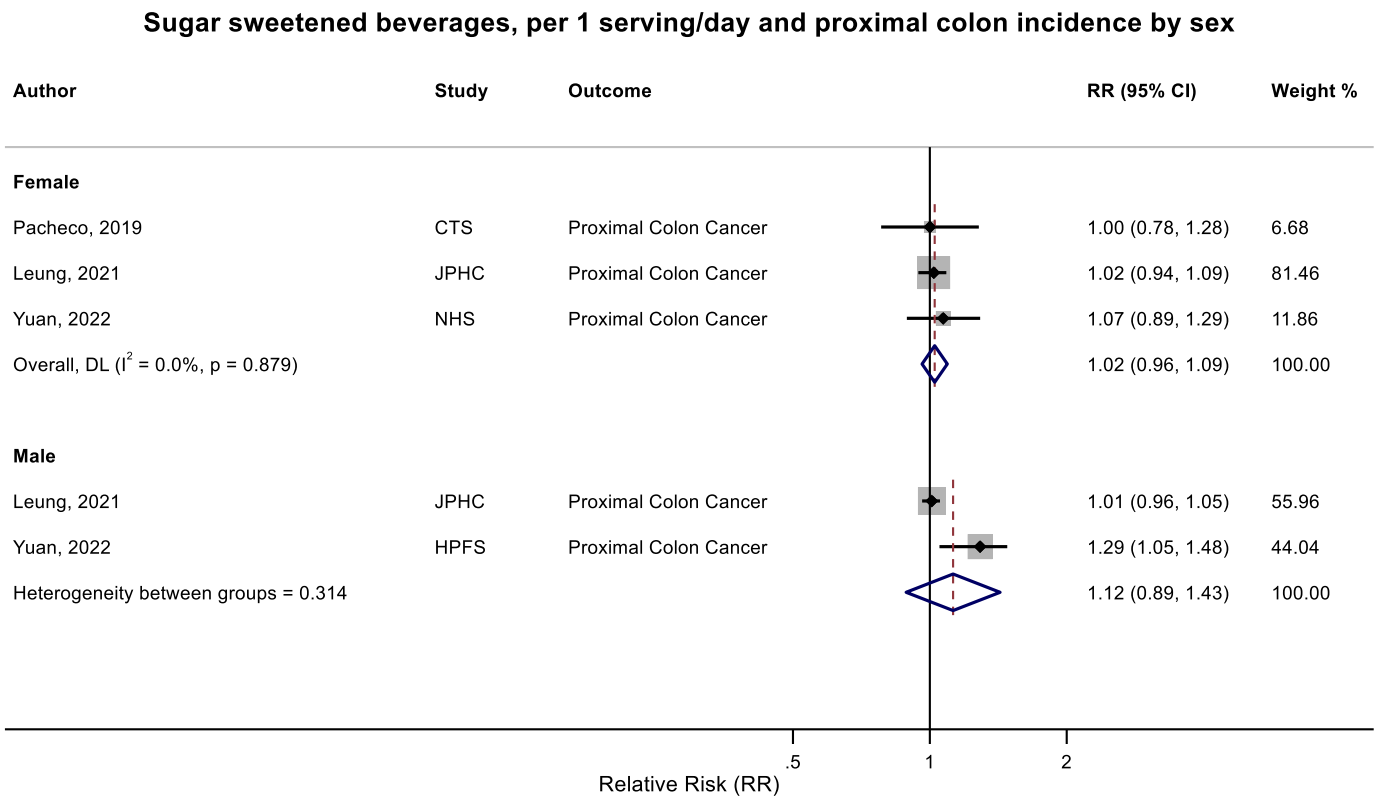


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study

Pacheco, 2019[135], Leung, 2021[101], Yuan, 2022[178]

Supplementary Figure 119. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by frequency of dietary assessment.

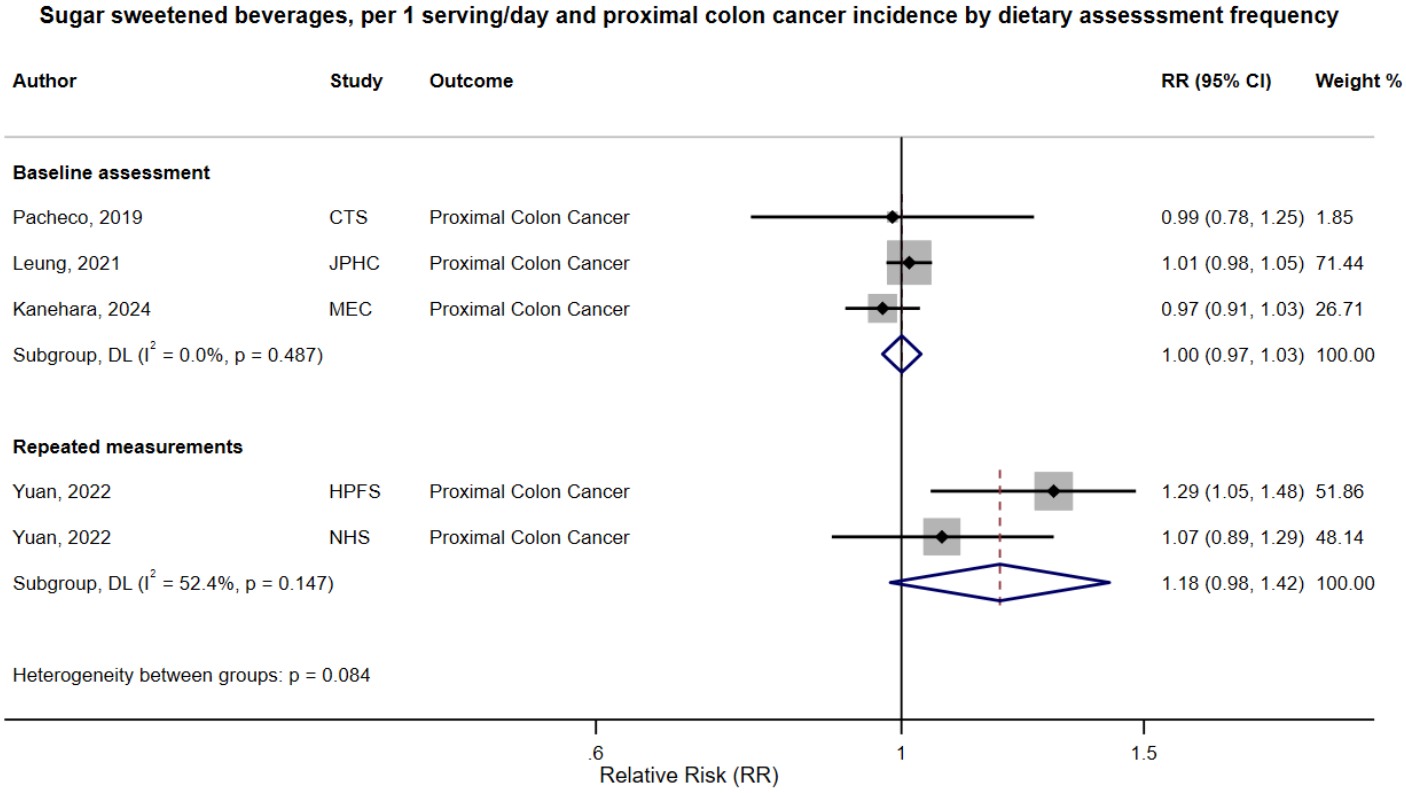


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; MEC, Multiethnic Cohort Study; HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Pacheco, 2019[135], Leung, 2021[101], Kanehara, 2024[81], Yuan, 2022[178]

Supplementary Figure 120. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by smoking status.

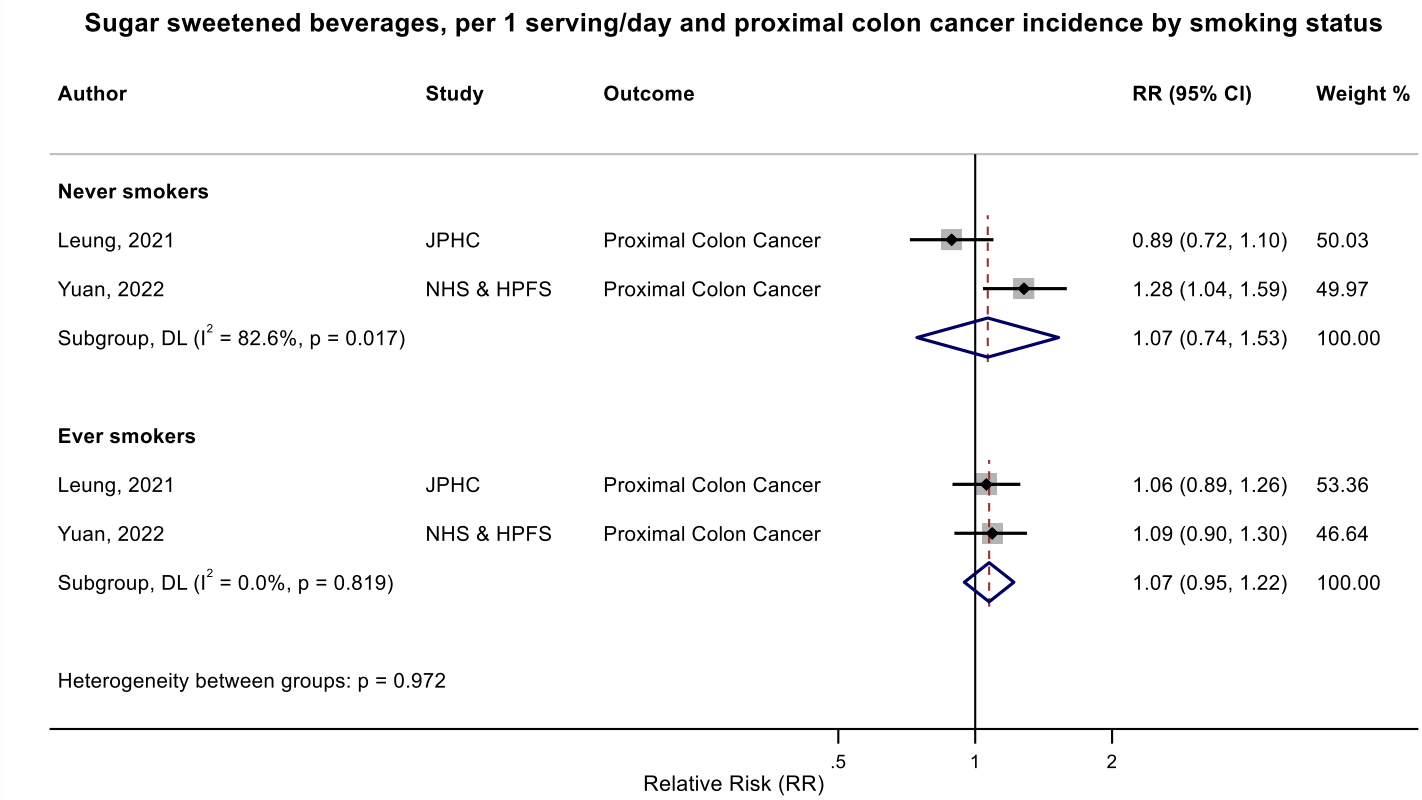


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Leung, 2021[101], Yuan, 2022[178]

Supplementary Figure 121. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by alcohol drinking status.

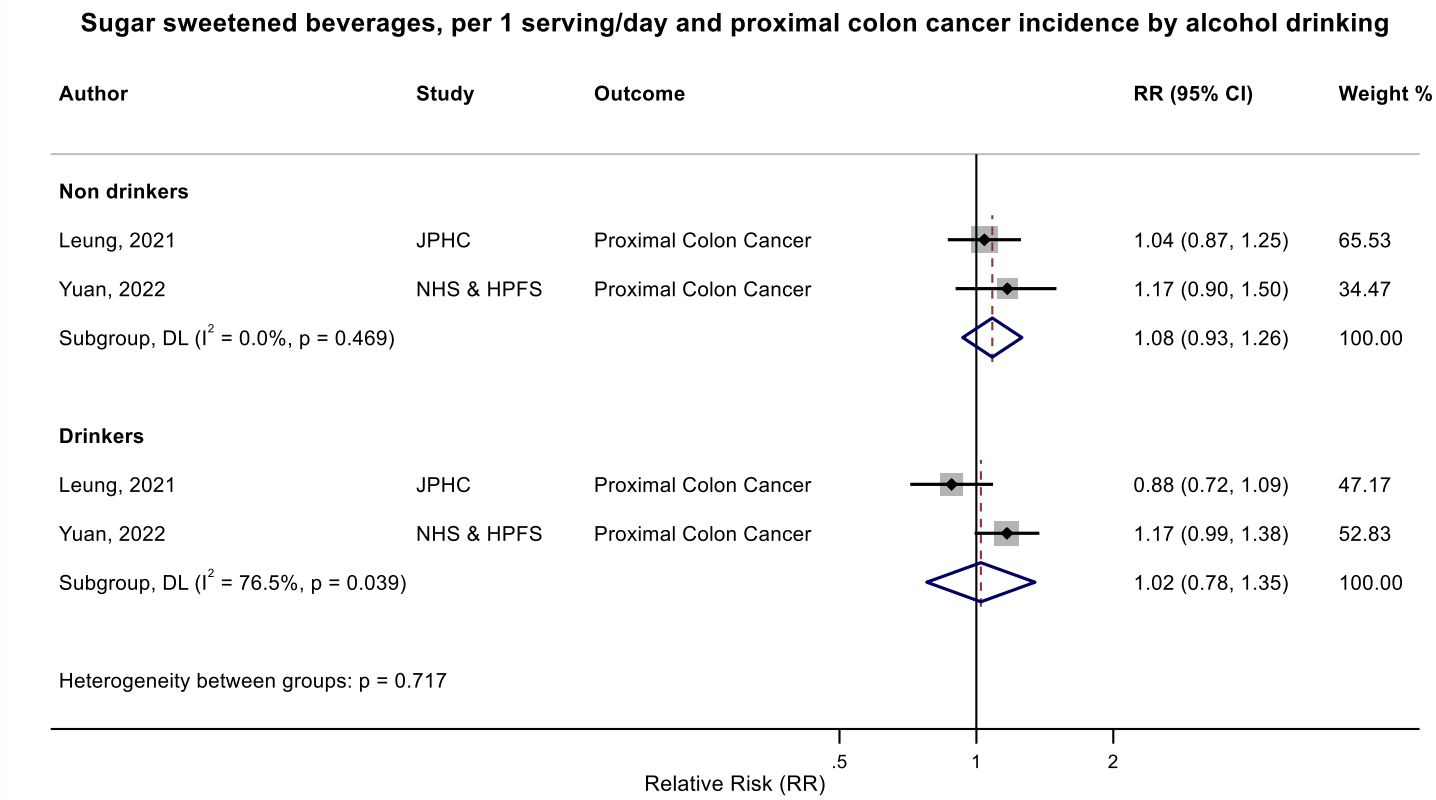


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Leung, 2021[101], Yuan, 2022[178]

Supplementary Figure 122. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by physical activity status.

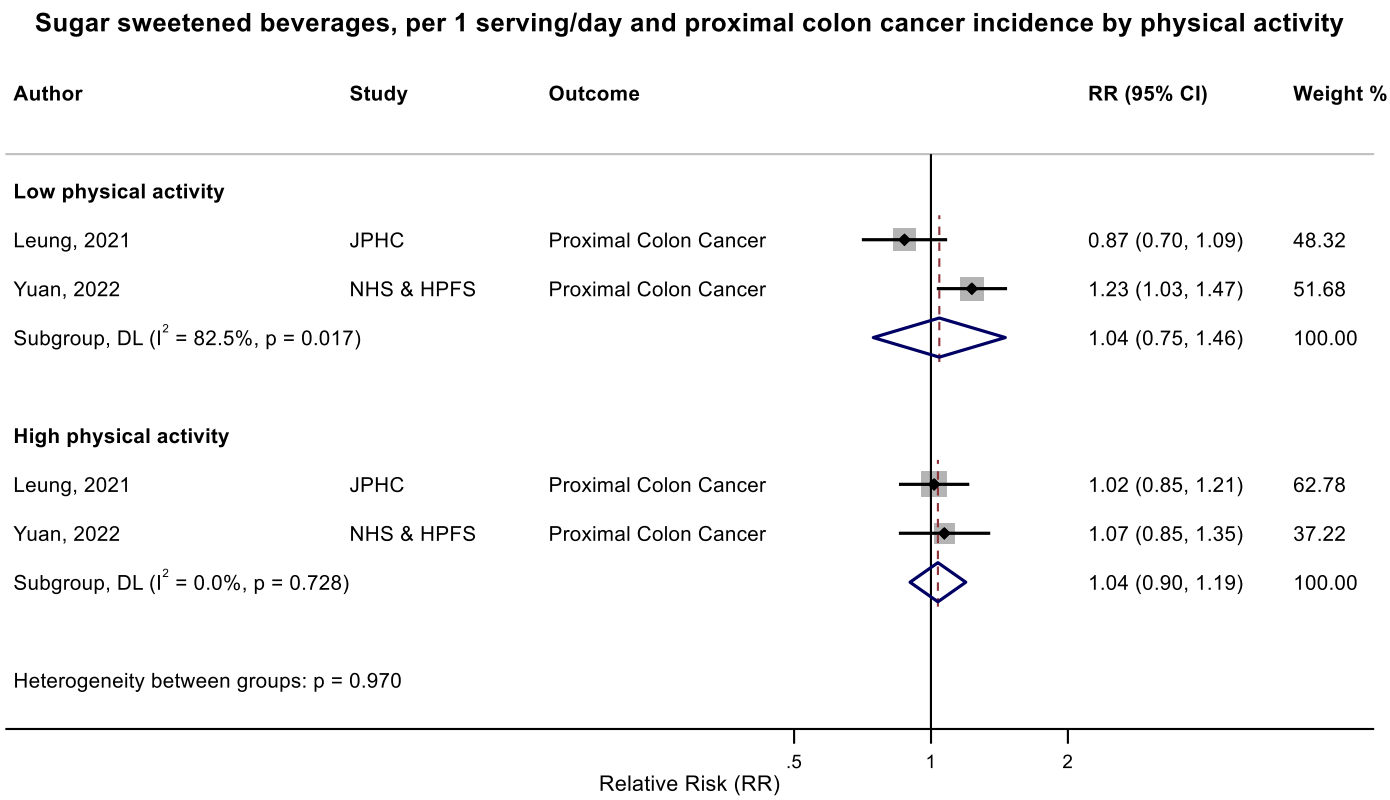


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Leung, 2021[101], Yuan, 2022[178]

Supplementary Figure 123. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence by body mass index.

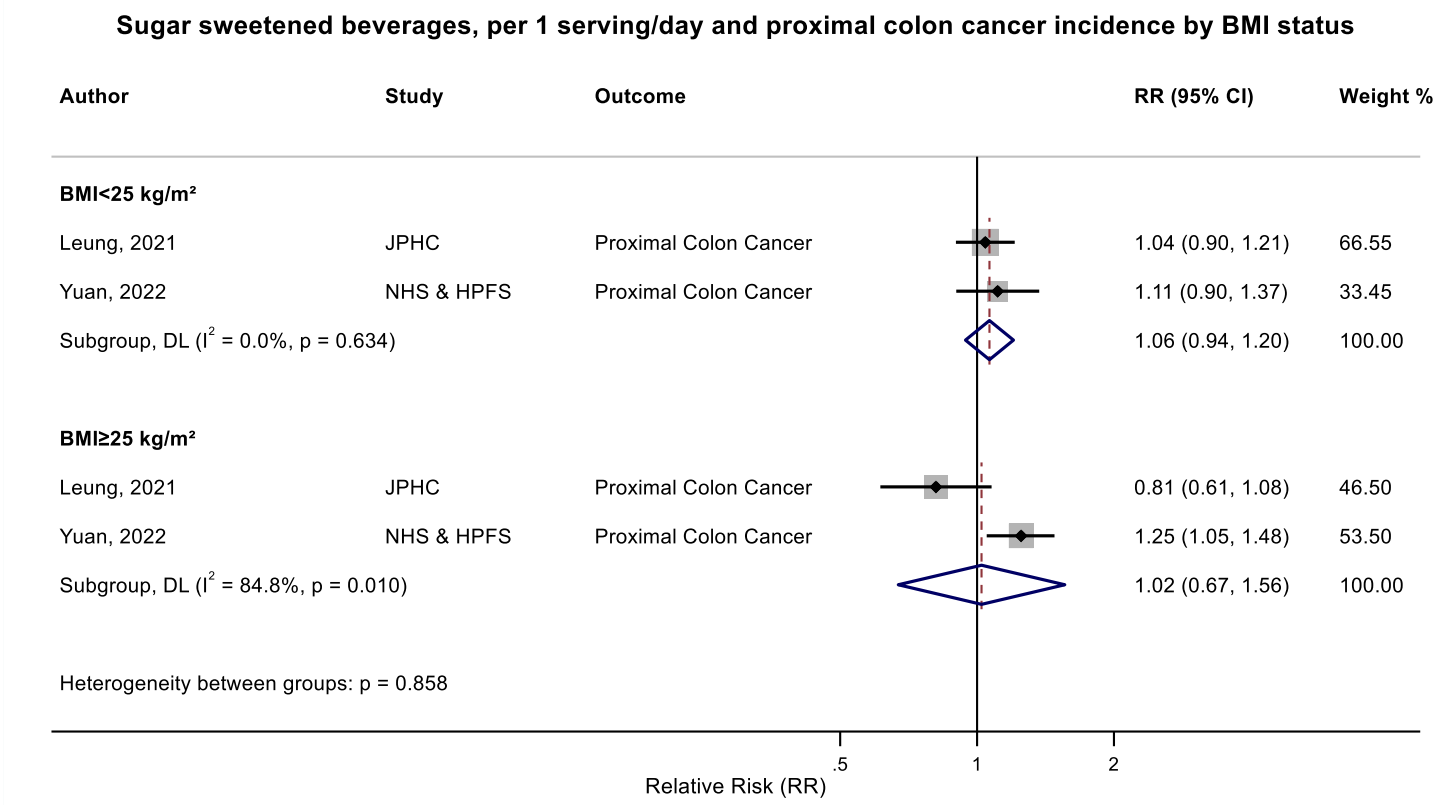


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: BMI, body mass index, CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Leung, 2021[101], Yuan, 2022[178]

Supplementary Figure 124. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence by follow-up duration.

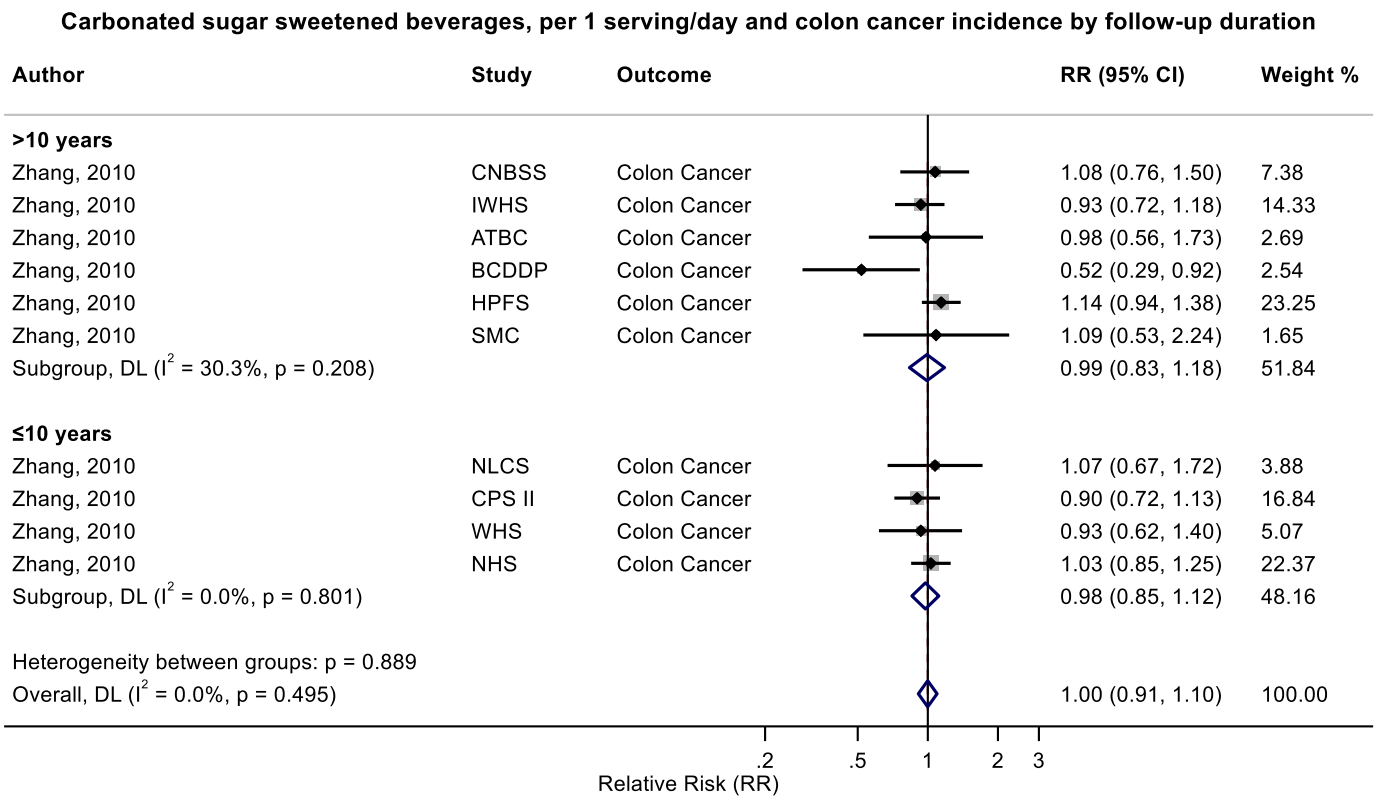


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CNBSS, Canadian National Breast Screening Study; IWHS, The Iowa Women's Health Study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; HPFS, Health Professionals Follow-up Study; SMC, Swedish Mammography Cohort; NLCS, Netherlands Cohort Study on Diet and Cancer; CPS II, Cancer Prevention Study II; WHS, Women's Health Study; NHS, Nurses' Health Study

Zhang, 2010[182]

Supplementary Figure 125. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence by geographical region.

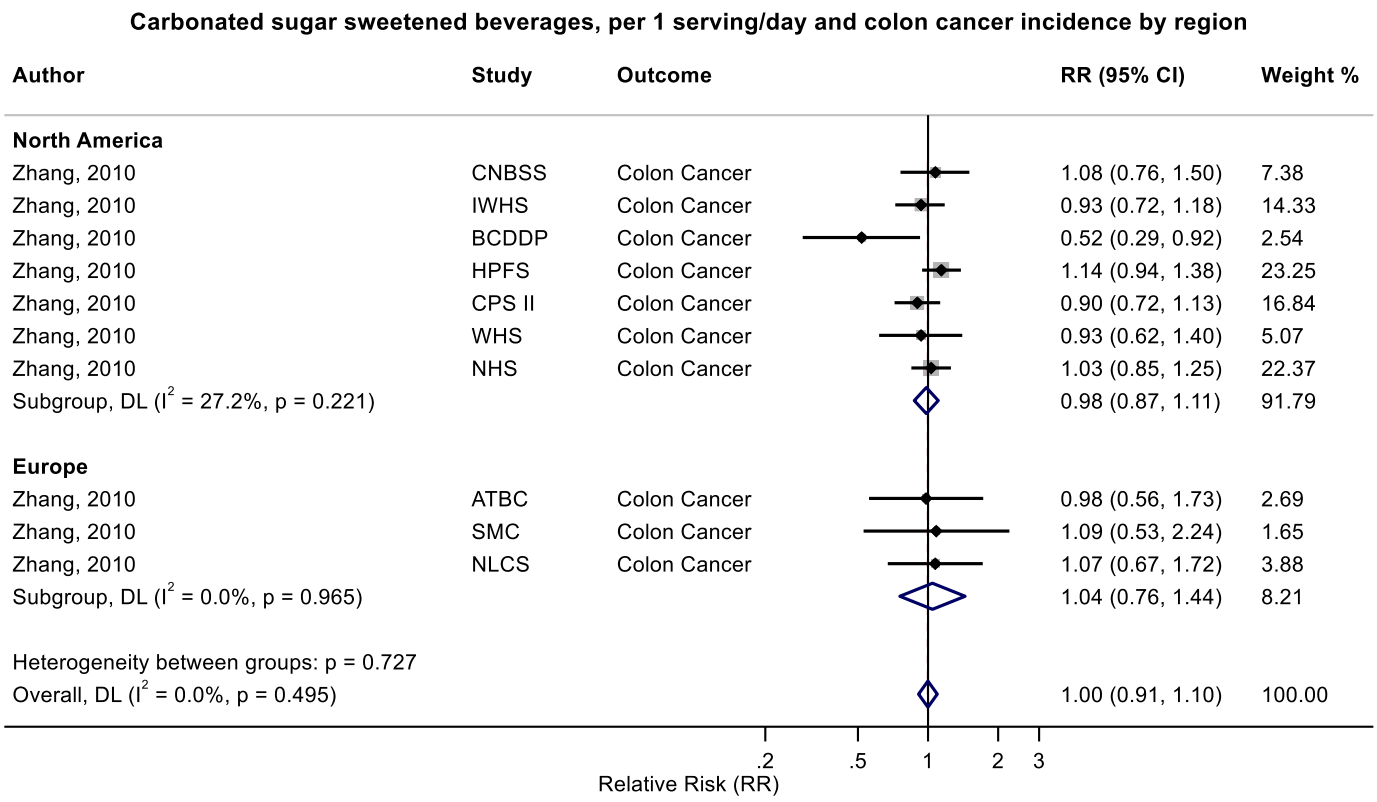


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CNBSS, Canadian National Breast Screening Study; IWHS, The Iowa Women's Health Study; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II; WHS, Women's Health Study; NHS, Nurses' Health Study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; SMC, Swedish Mammography Cohort; NLCS, Netherlands Cohort Study on Diet and Cancer

Note: The results have been extracted from a pooled analysis.

Zhang, 2010[182]

Supplementary Figure 126. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence by frequency of dietary assessment.

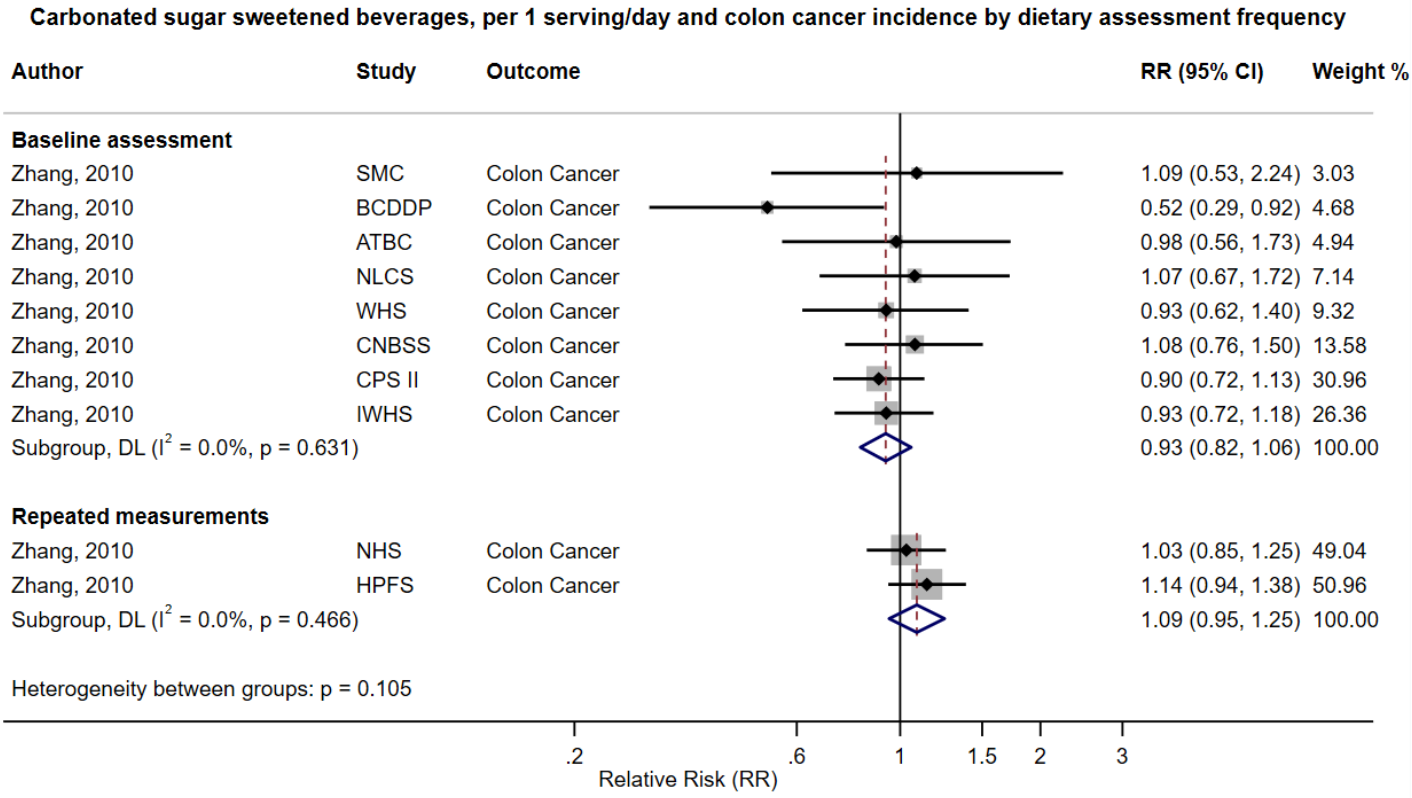


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; NLCS, Netherlands Cohort Study on Diet and Cancer; WHS, Women's Health Study; CNBSS, Canadian National Breast Screening Study; CPS II, Cancer Prevention Study II; IWHS, The Iowa Women's Health Study; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study

Note: The results have been extracted from a published pooled analysis.

Zhang, 2010[182]

Supplementary Figure 127. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence by various factors.

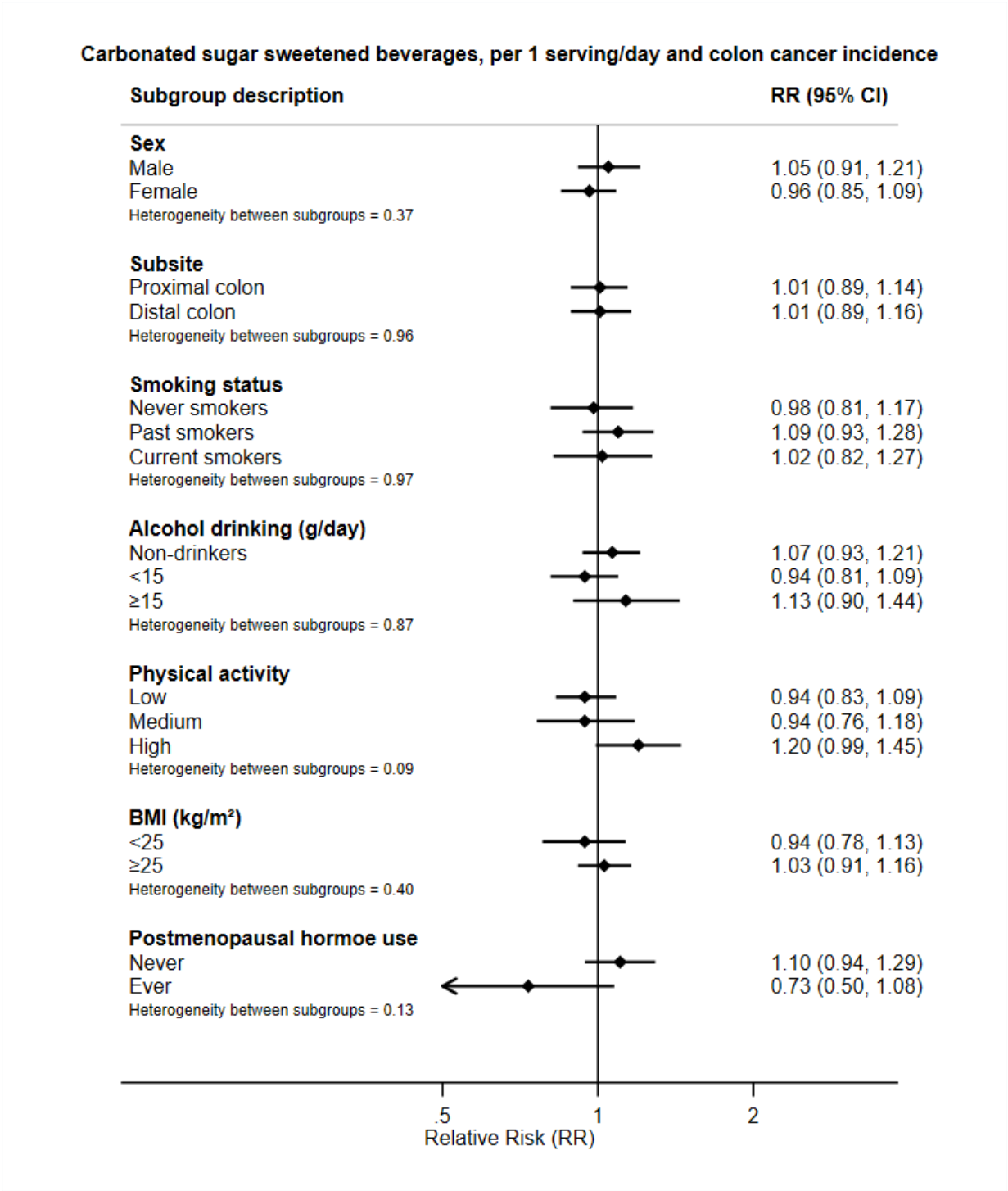


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Note: The results have been extracted from a published pooled analysis.

Zhang, 2010[182]

Supplementary Figure 128. Linear dose-response meta-analysis of sugar sweetened beverages and distal colon cancer incidence by frequency of dietary assessment.

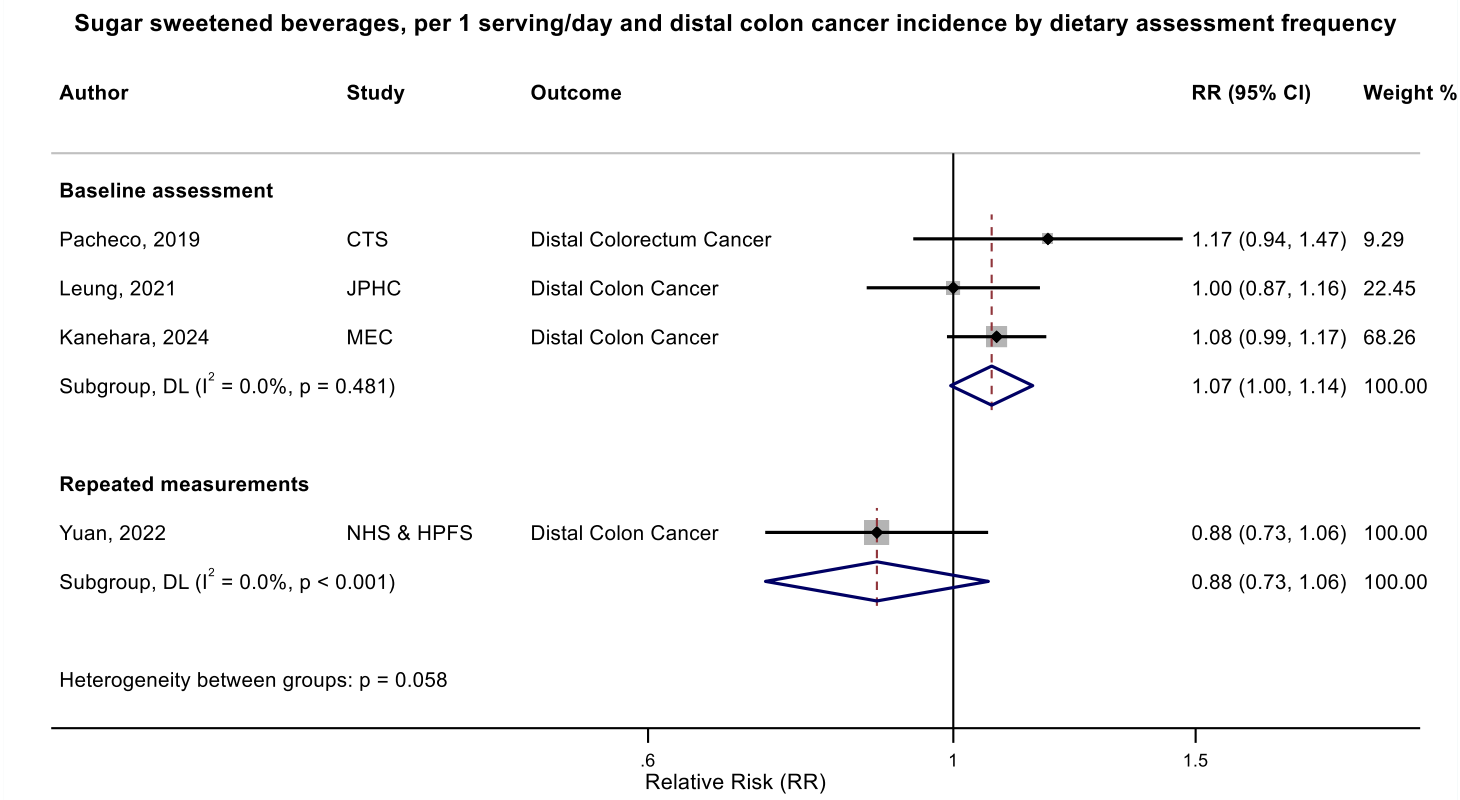


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; MEC, Multiethnic Cohort Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Pacheco, 2019[135], Leung, 2021[101], Kanehara, 2024[81], Yuan, 2022[178]

Supplementary Figure 129. Linear dose-response meta-analysis of sugar sweetened beverages and rectal cancer incidence by frequency of dietary assessment.

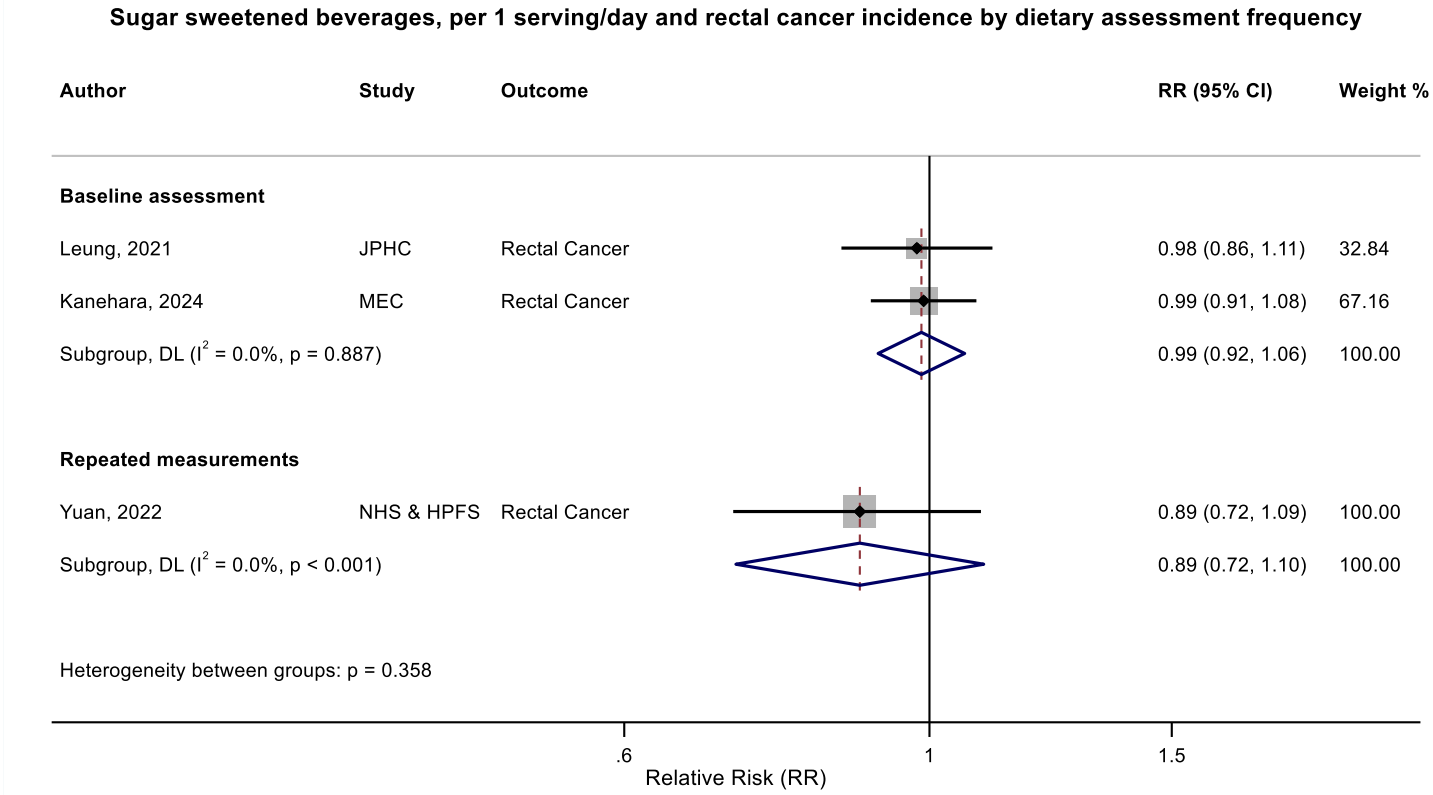


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; MEC, Multiethnic Cohort Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Leung, 2021[101], Kanehara, 2024[81], Yuan, 2022[178]

Supplementary Figure 130. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer by outcome type.

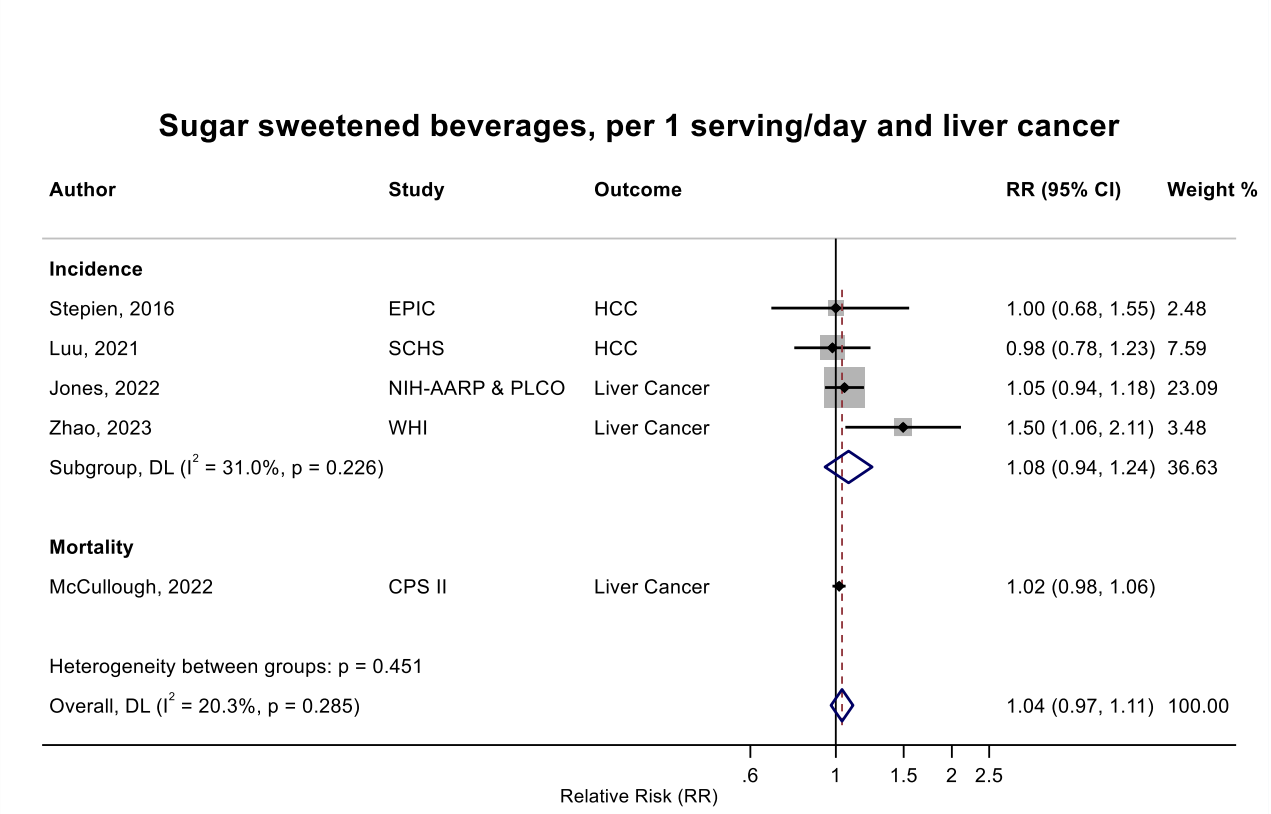


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SCHS, Singapore Chinese Health study; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study; CPS II, Cancer Prevention Study II

Luu, 2021[106], Jones, 2022[79], Zhao, 2023[186], McCullough, 2022[113]

Supplementary Figure 131. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer incidence and mortality combined by adjustment for body mass index.

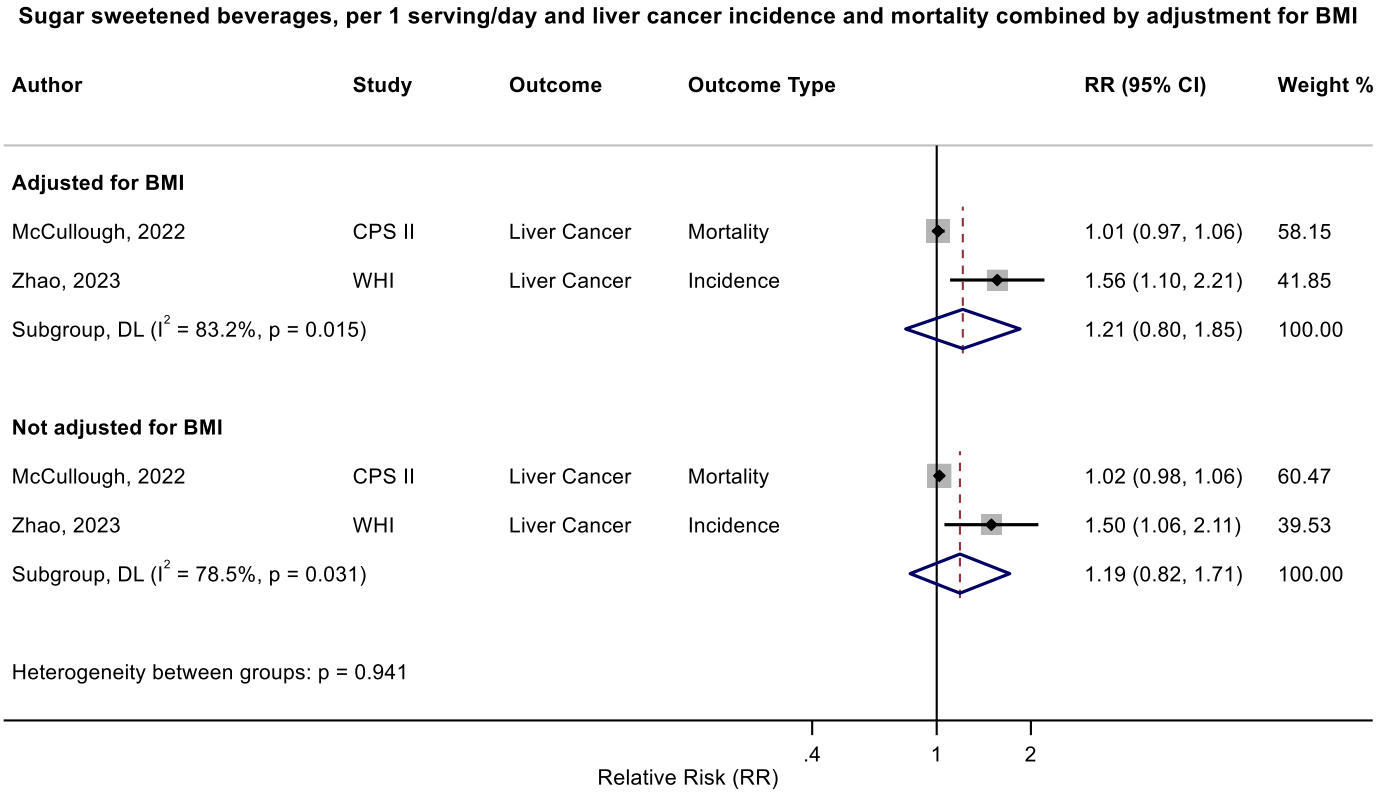


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: BMI, body mass index, CI, confidence interval; RR, relative risk.

Study abbreviations: CPS II, Cancer Prevention Study II; WHI, Women's Health Initiative Study

Note: This subgroup analysis is based on a within study comparison in two studies that reported association estimates with and without adjustment for BMI. Since only two studies, one on incidence and one on mortality, reported risk estimates both with and without adjustment for BMI, we combined incidence and mortality to be able to perform this important subgroup analysis.

McCullough, 2022[113], Zhao, 2023[186]

Supplementary Figure 132. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer incidence by exclusion of people with a history of diabetes.

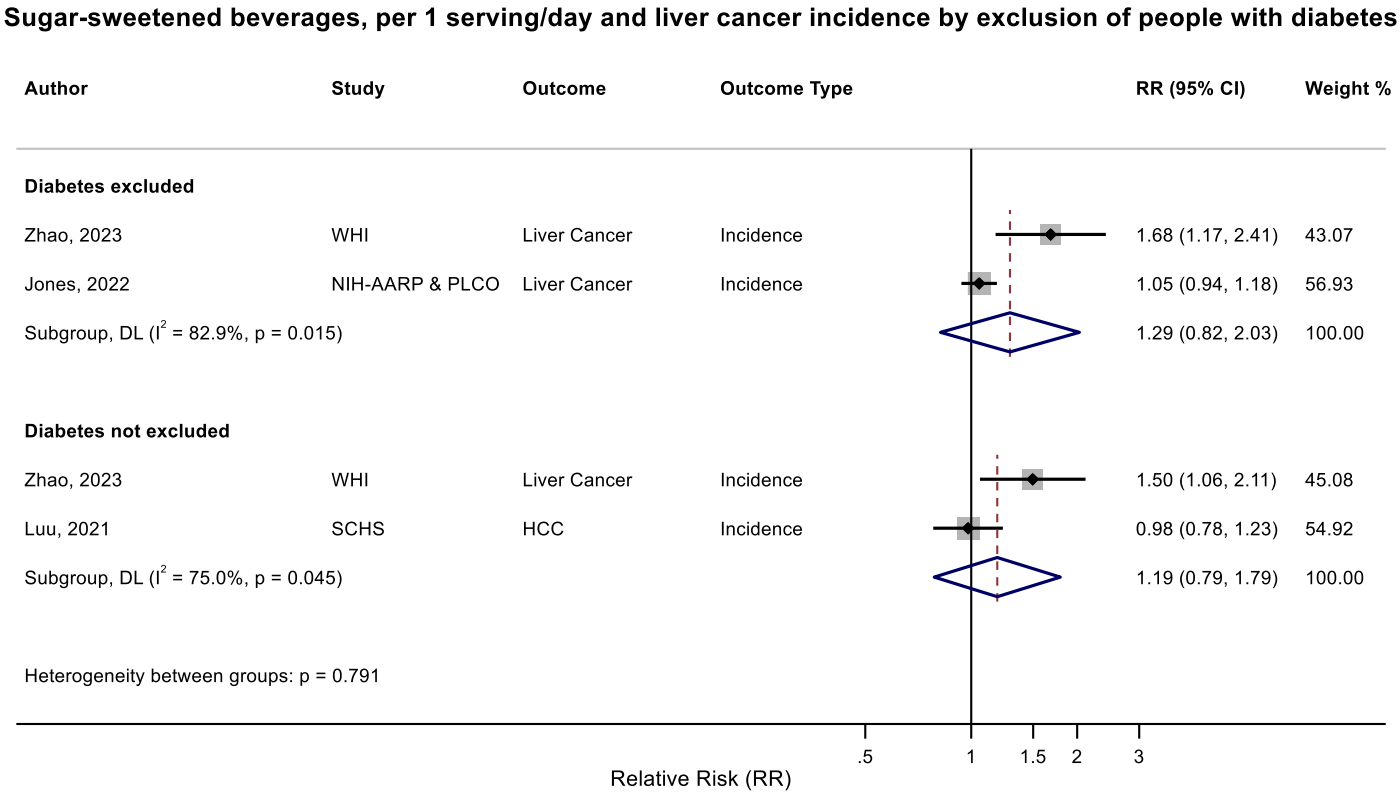


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SCHS, Singapore Chinese Health study; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Luu, 2021[106], Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 133. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer by outcome type.

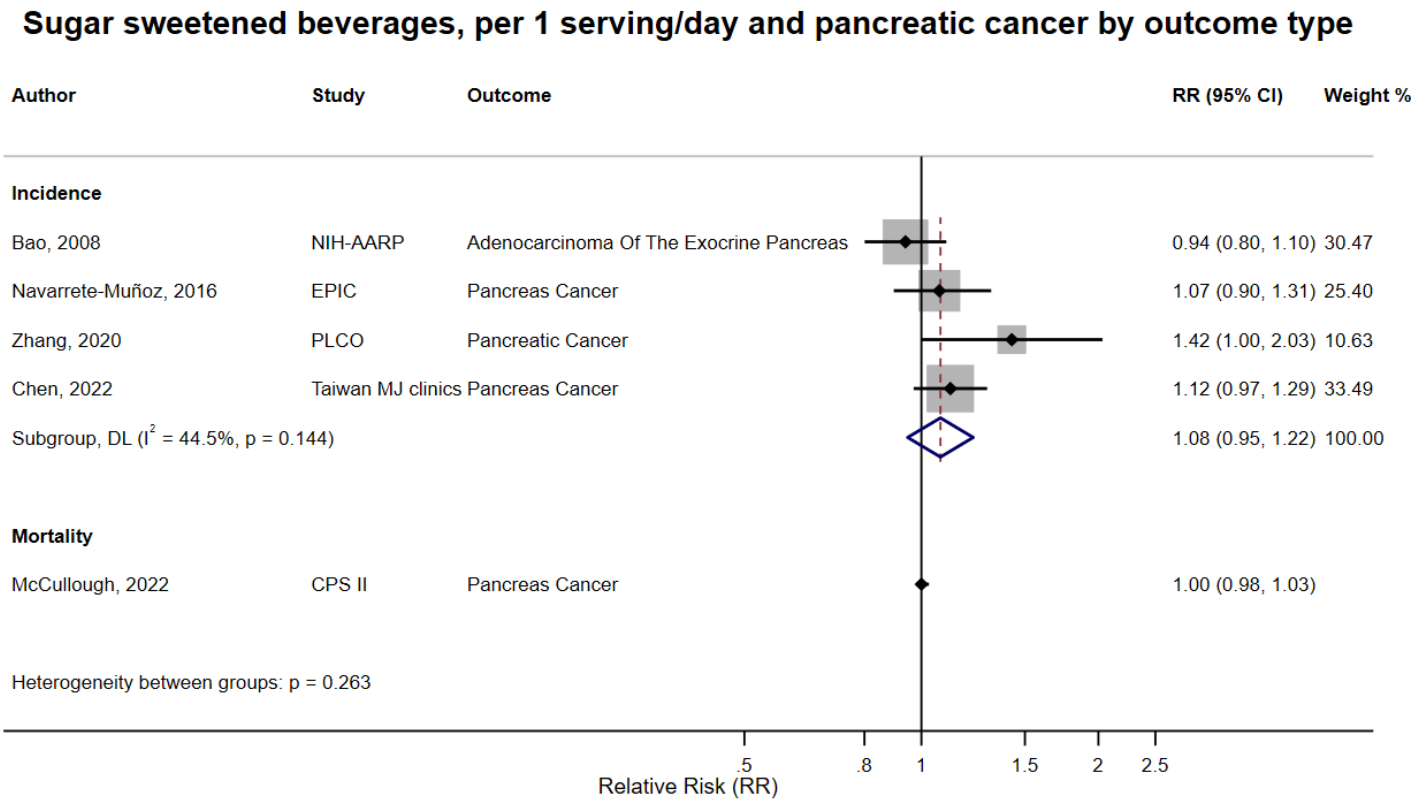


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; Taiwan MJ clinics, The Taiwan MJ Cohort Study; CPS II, Cancer Prevention Study II

Bao, 2008[39], Navarrete-Muñoz, 2016[127], Zhang, 2020[184], Chen, 2022[45], McCullough, 2022[113]

Supplementary Figure 134. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence and mortality combined by body mass index.

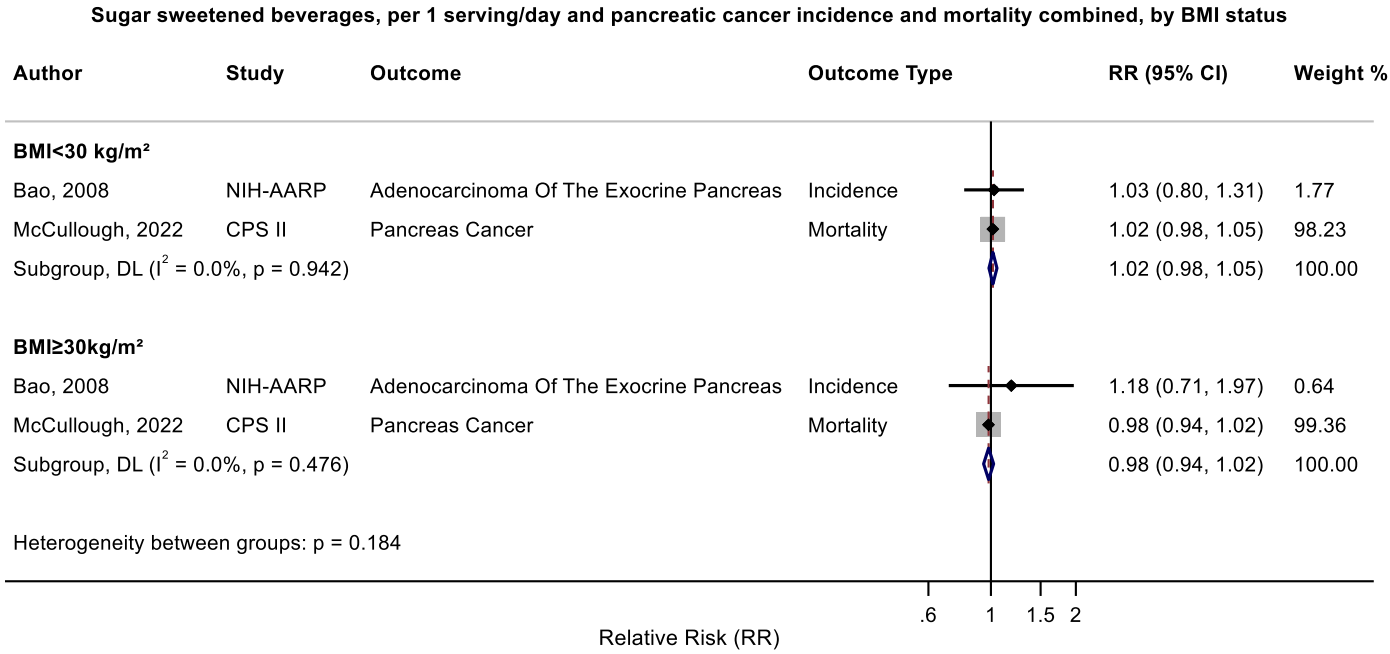


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II

Note: Since only two studies, one on incidence and one on mortality, reported risk estimates for subgroup analysis by BMI, we combined incidence and mortality to be able to perform this important subgroup analysis.

Bao, 2008[39], McCullough, 2022[113]

Supplementary Figure 135. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence and mortality combined by sex.

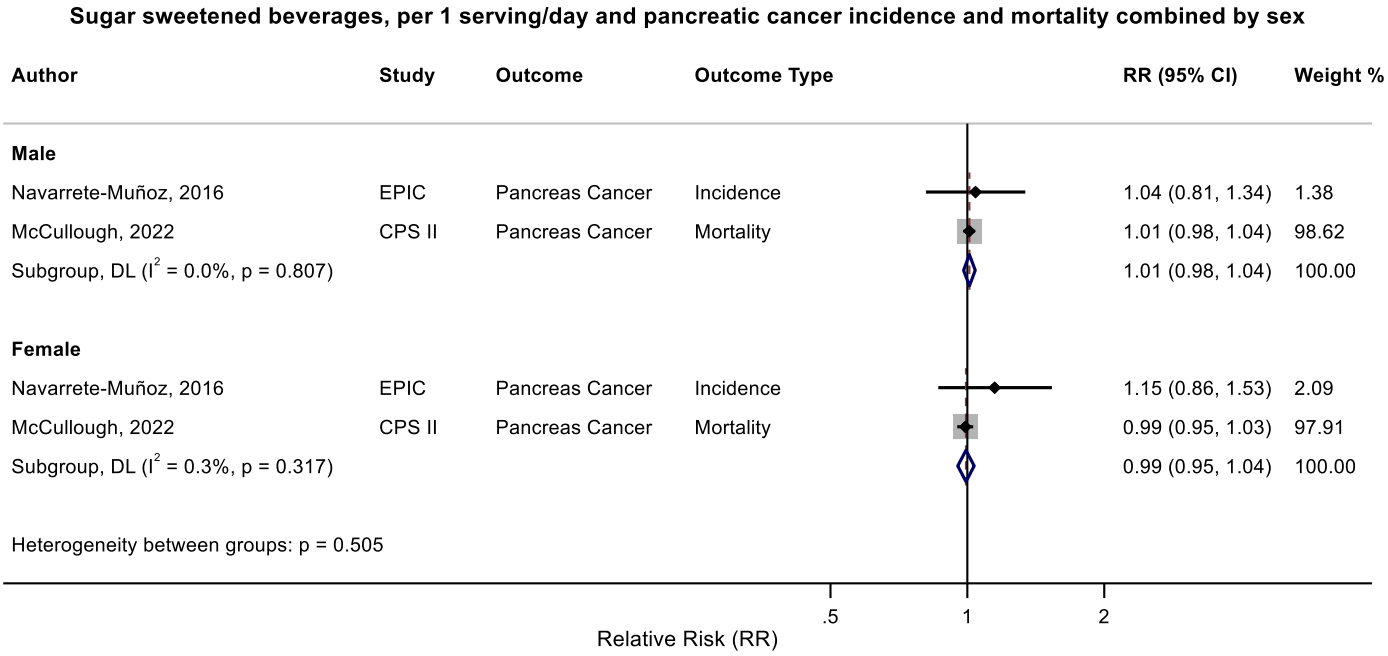


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Note: Since only two studies, one on incidence and one on mortality, reported risk estimates for subgroup analysis by sex, we combined incidence and mortality to be able to perform this important subgroup analysis.

Navarrete-Muñoz, 2016[127], McCullough, 2022[113]

Supplementary Figure 136. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence by smoking status.

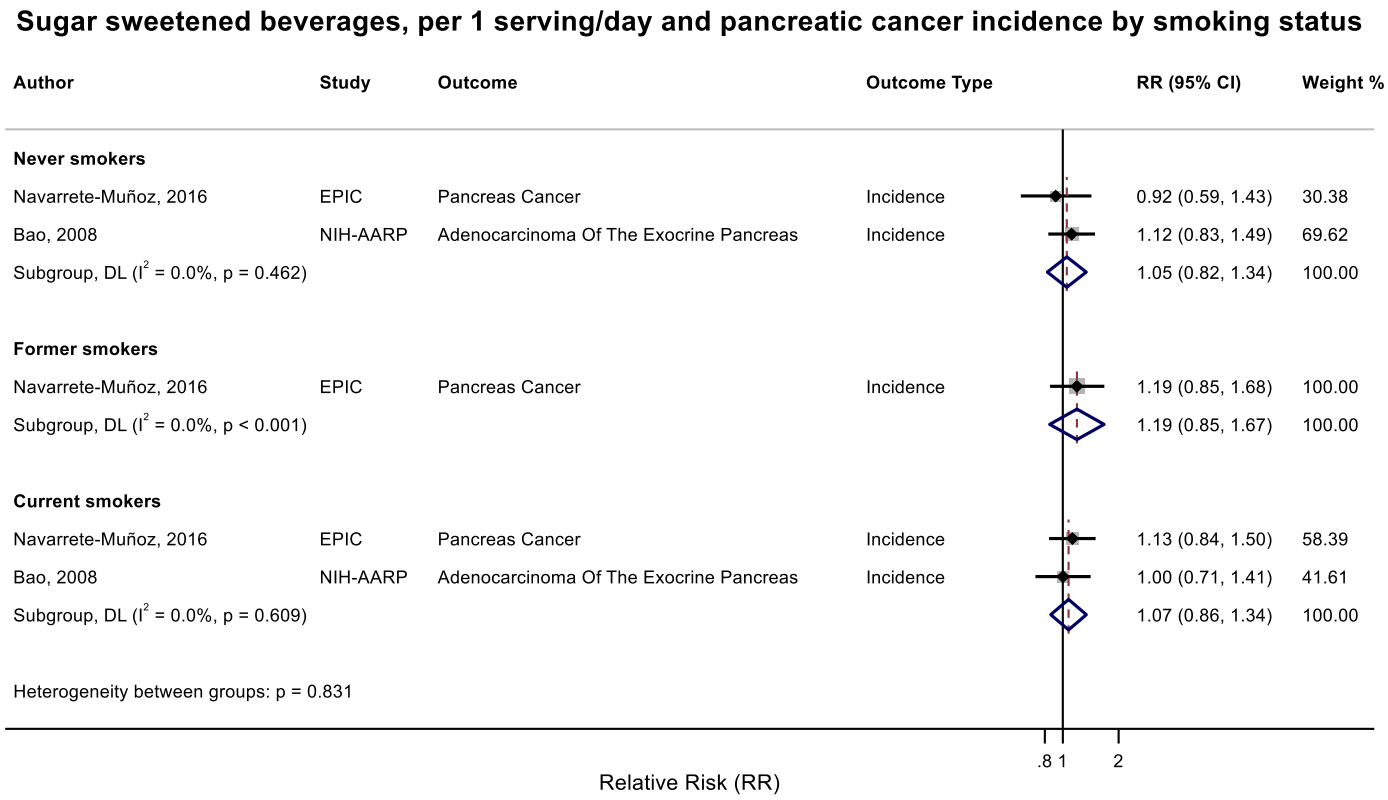


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study

Navarrete-Muñoz, 2016[127], Bao, 2008[39]

Supplementary Figure 137. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence and mortality combined by adjustment for body mass index.

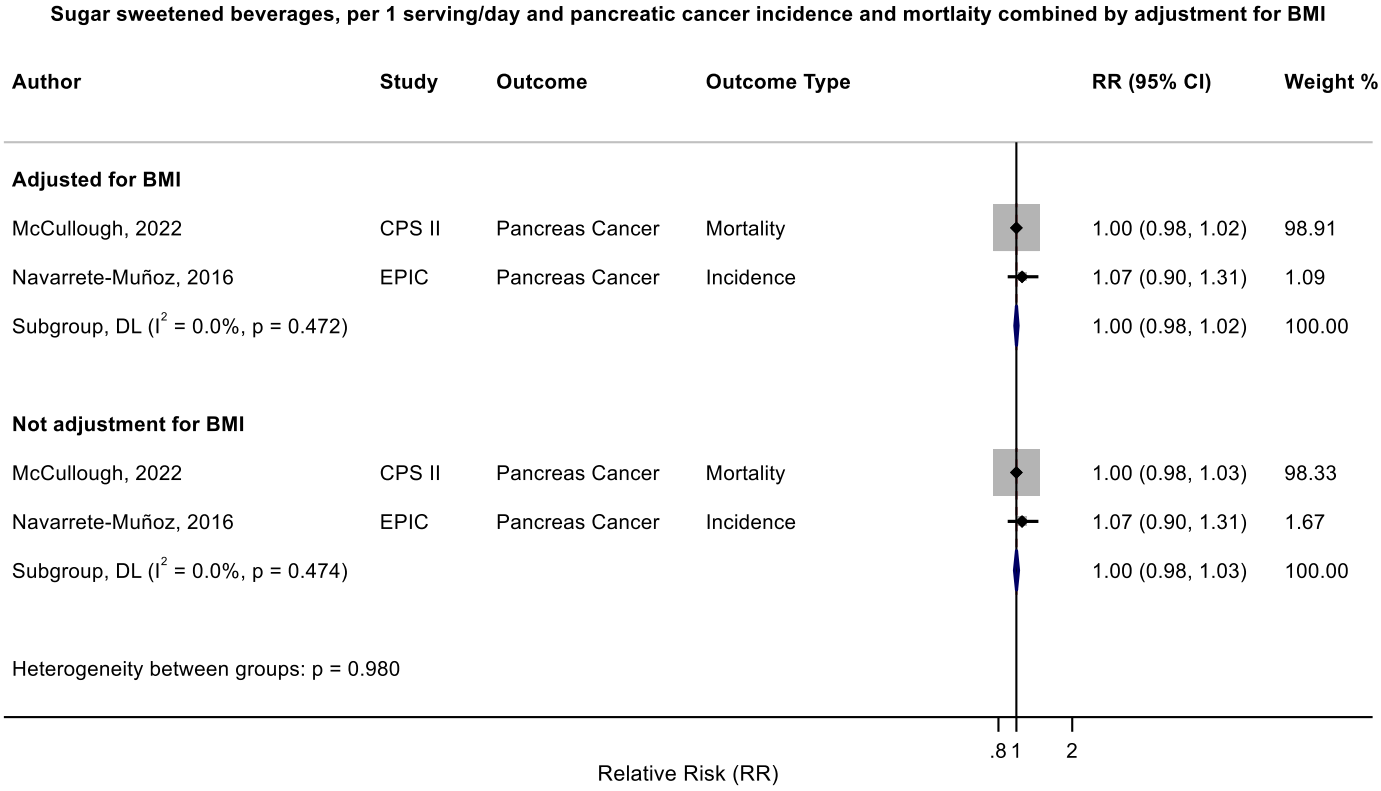


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: BMI, body mass index; CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Note: This subgroup analysis is based on within study comparisons in two studies that reported association estimates with and without adjustment for BMI. Since only two studies, one on incidence and one on mortality, reported risk estimates for subgroup analysis by adjustment for BMI, we combined incidence and mortality to be able to perform this important subgroup analysis.

Navarrete-Muñoz, 2016[127], McCullough, 2022[113]

Supplementary Figure 138. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence by exclusion of people with diabetes at baseline of the study.

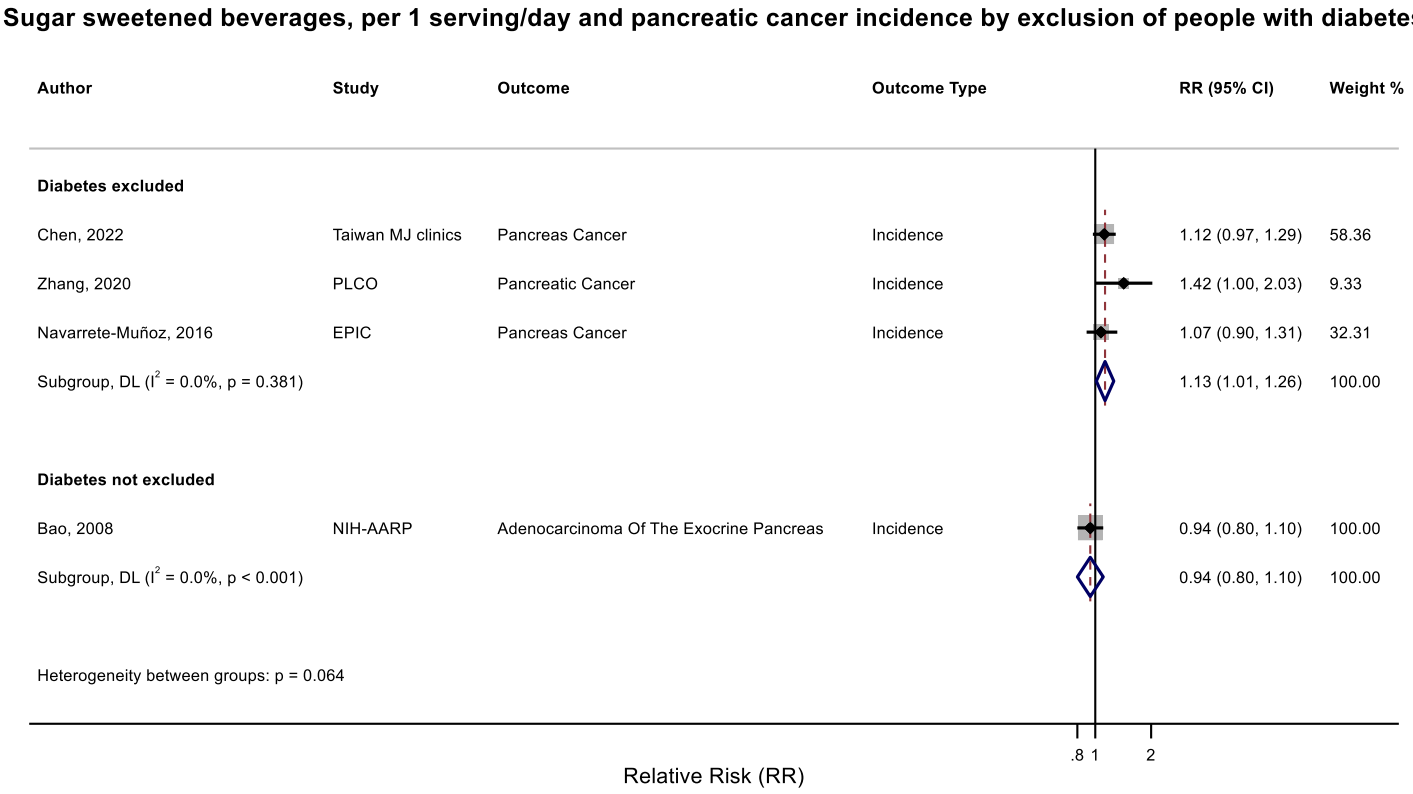


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; CPS II, Cancer Prevention Study II; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; Taiwan MJ clinics, The Taiwan MJ Cohort Study

Note: The PLCO and Taiwan MJ clinics studies controlled for a history of diabetes in their multivariable analyses. The EPIC study did not exclude people with a history of diabetes at baseline but performed a sensitivity analysis after exclusion of people with diabetes and reported that the result was the same (data not shown).

Bao, 2008[39], Navarrete-Muñoz, 2016[127], Zhang, 2020[184], Chen, 2022[45]

Supplementary Figure 139. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and pancreatic cancer incidence, by various factors.

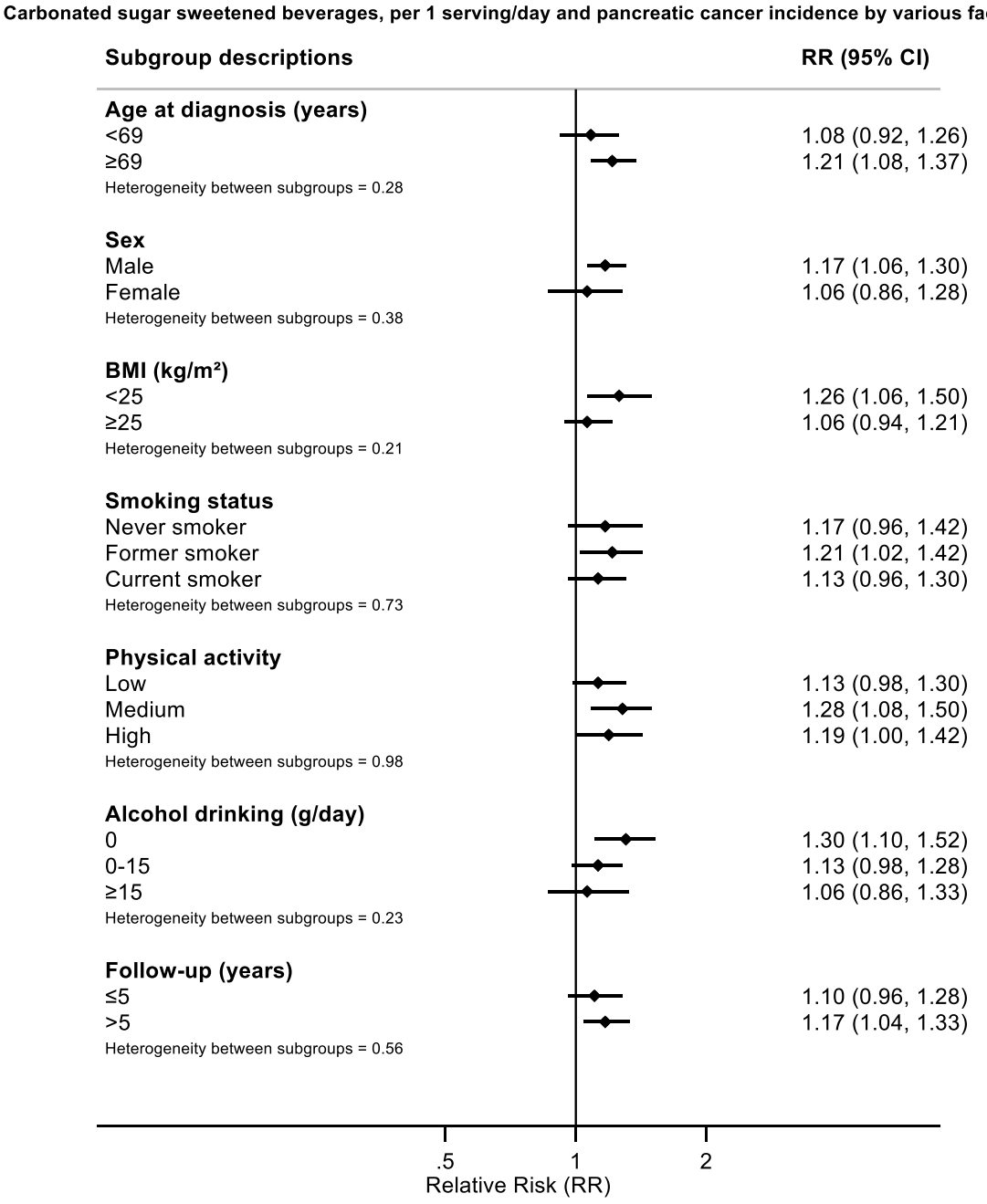


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Note: The results have been extracted from a published pooled analysis.

Genkinger, 2012[64]

Supplementary Figure 140. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence by geographical region.

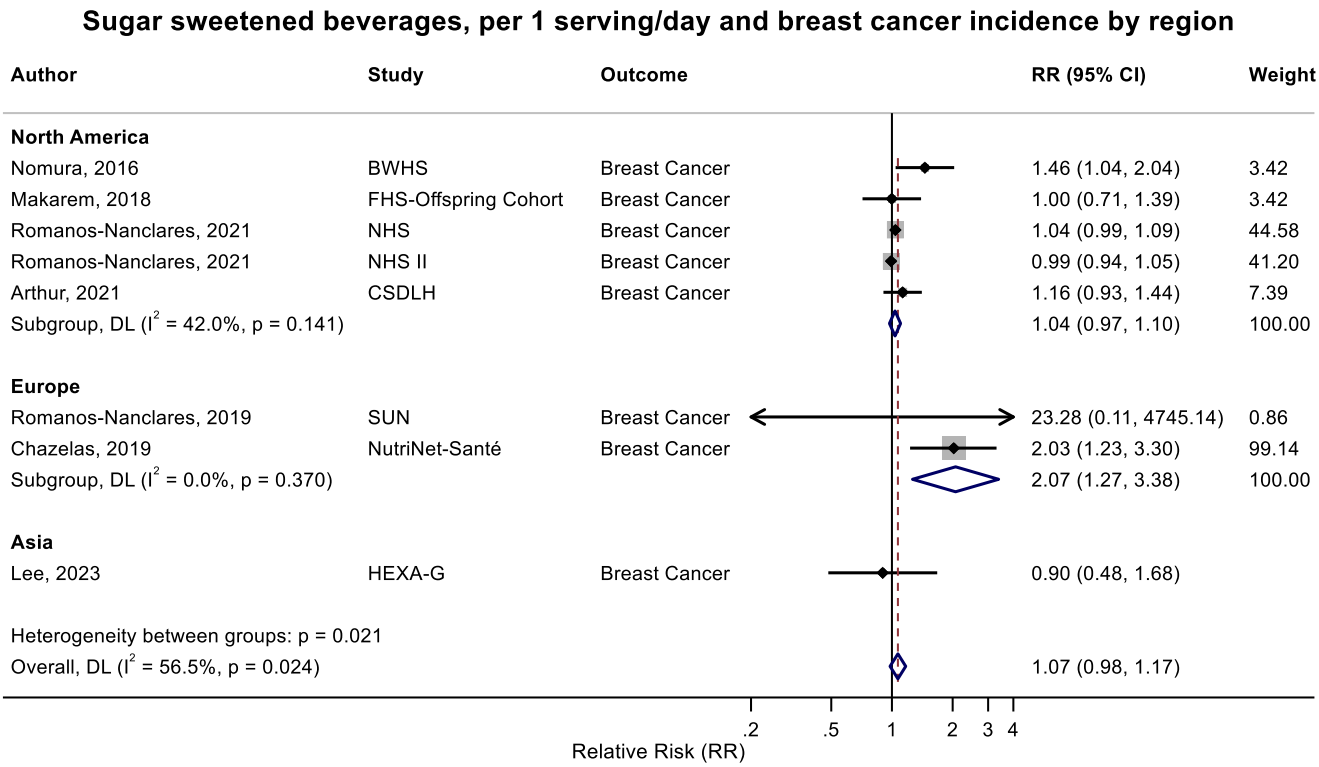


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II; CSDLH, Canadian Study of Diet, Lifestyle and Health; SUN, Seguimiento Universidad de Navarra Cohort Study; HEXA-G, Health Examinees-Gem study

Nomura, 2016[128], Makarem, 2018[108], Romanos-Nanclares, 2021[145], Arthur, 2021[38], Romanos-Nanclares, 2019[146], Chazelas, 2019[44], Lee, 2023[97]

Supplementary Figure 141. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence by follow-up duration.

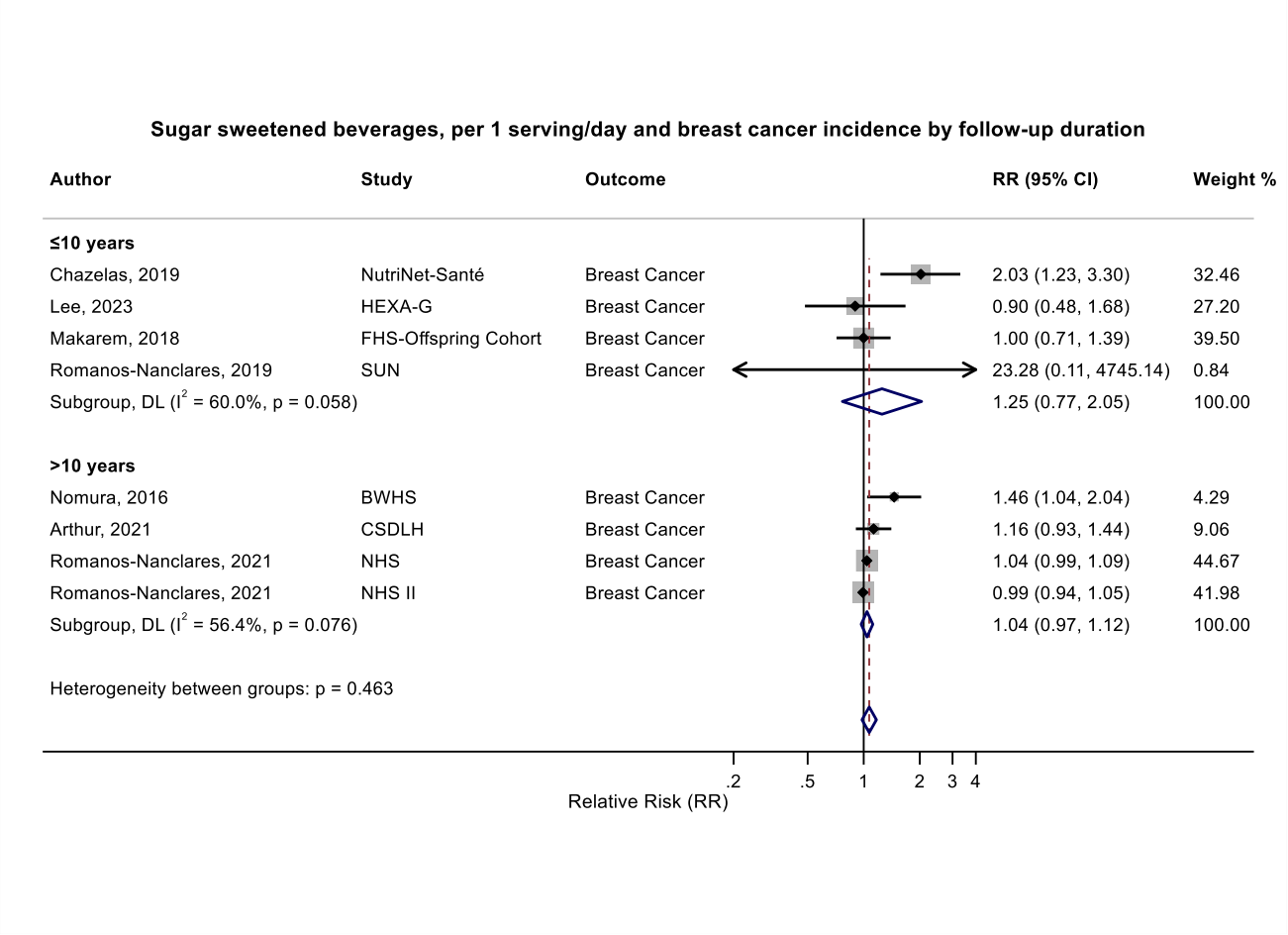


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HEXA-G, Health Examinees-Gem study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; SUN, Seguimiento Universidad de Navarra Cohort Study; BWHS, Black Women's Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Chazelas, 2019[44], Lee, 2023[97], Makarem, 2018[108], Romanos-Nanclares, 2019[146], Nomura, 2016[128], Arthur, 2021[38], Romanos-Nanclares, 2021[145]

Supplementary Figure 142. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence by inclusion of fruit juice.

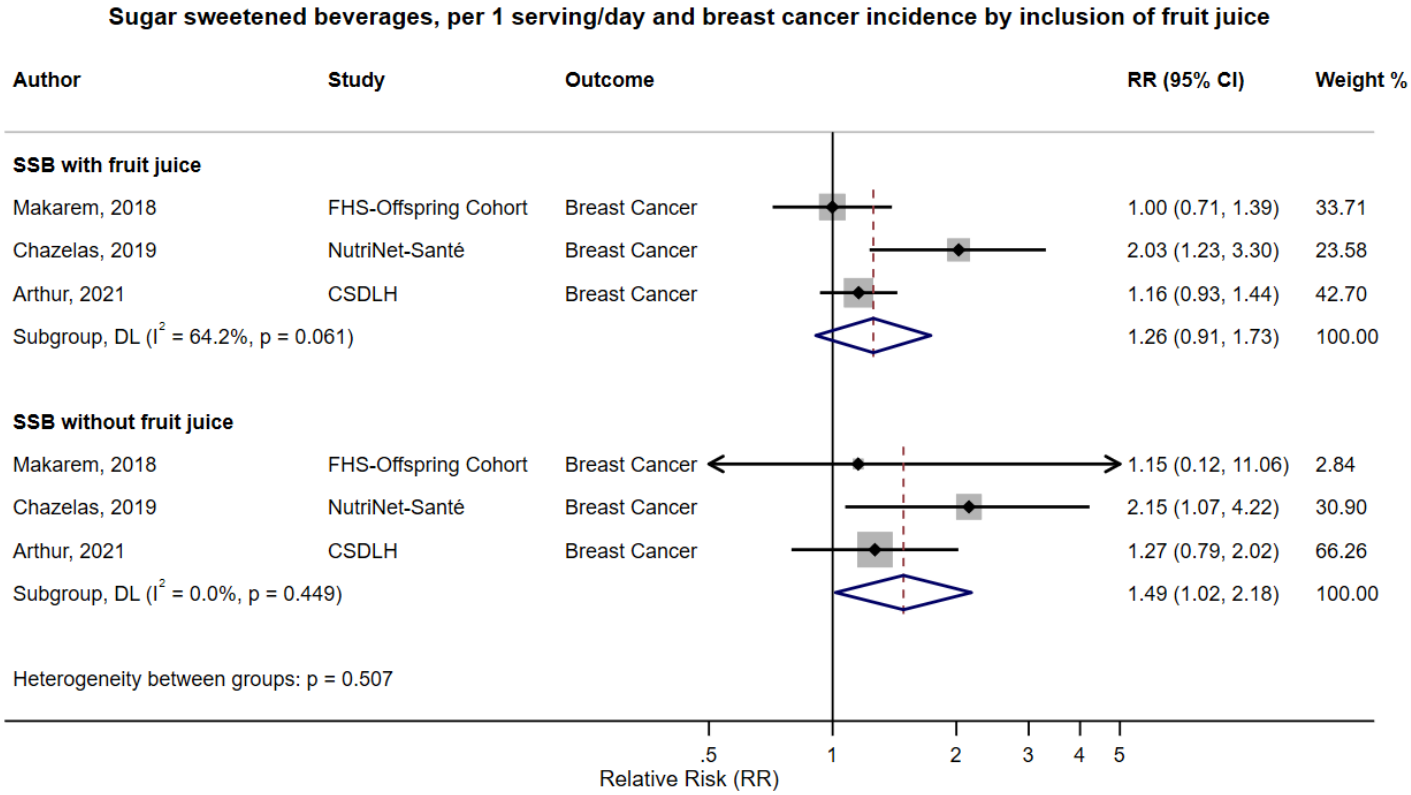


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk, SSB, sugar sweetened beverages.

Study abbreviations: FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; CSDLH, Canadian Study of Diet, Lifestyle and Health

Note: This subgroup analysis is based on within study comparisons in three studies reporting results for sugar sweetened beverages with and without fruit juices.

Makarem, 2018[108], Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 143. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence by frequency of dietary assessment.

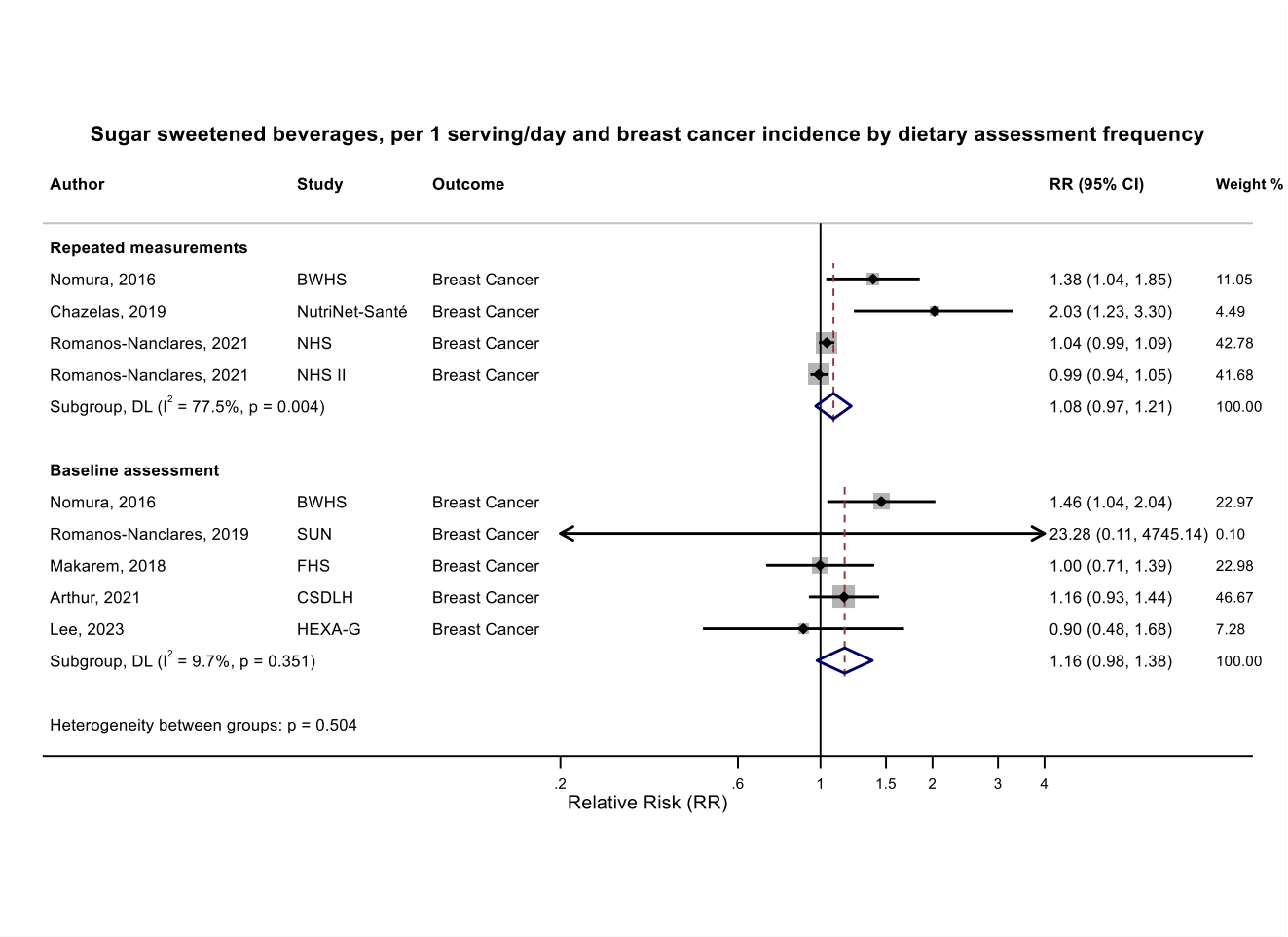


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II; SUN, Seguimiento Universidad de Navarra Cohort Study; FHS, Framingham Heart Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; HEXA-G, Health Examinees-Gem study

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Romanos-Nanclares, 2019[146], Makarem, 2018[108], Arthur, 2021[38], Lee, 2023[97]

Supplementary Figure 144. Linear dose-response meta-analysis of sugar sweetened beverages and postmenopausal breast cancer incidence by frequency of dietary assessment.

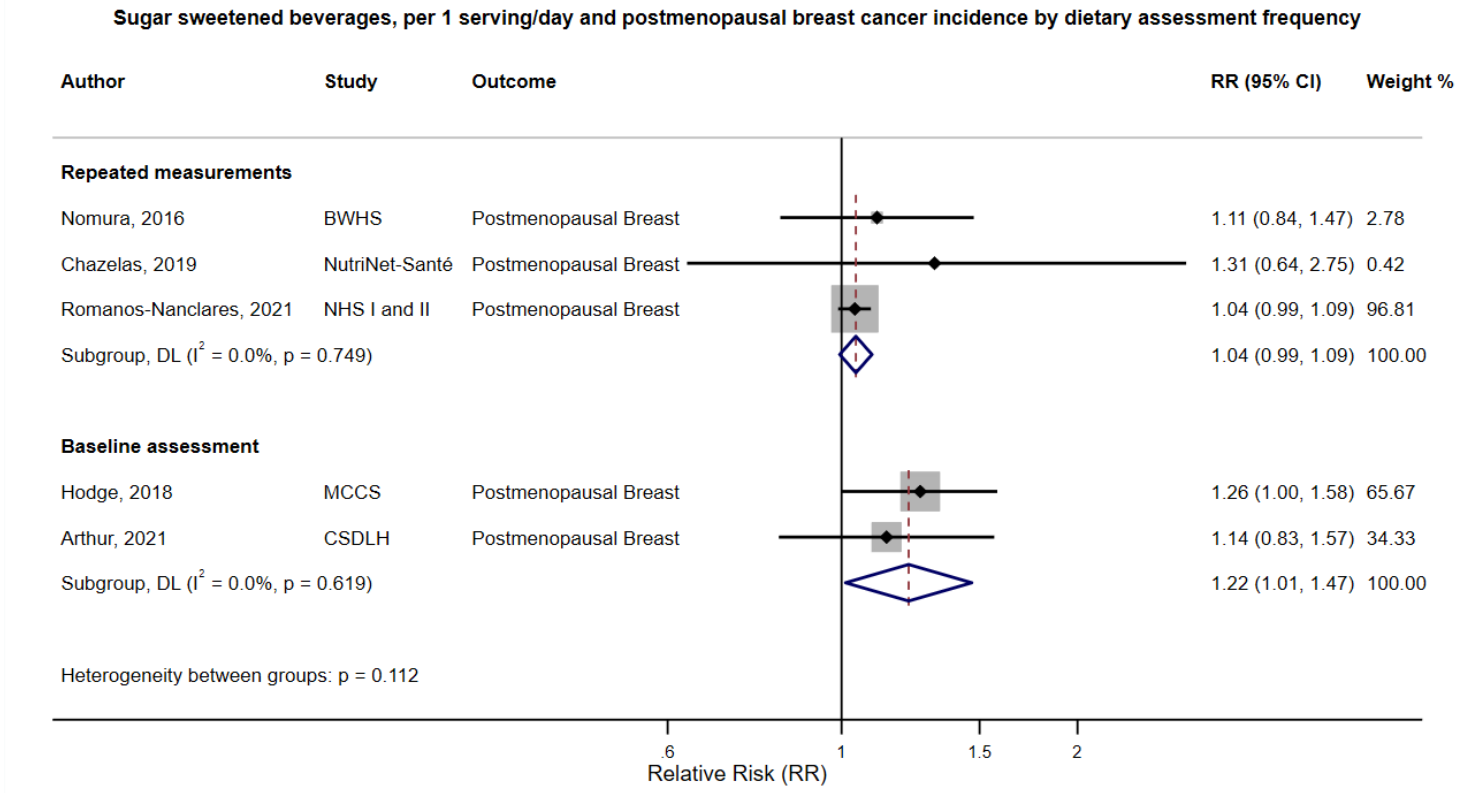


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 145. Linear dose-response meta-analysis of sugar sweetened beverages and postmenopausal breast cancer incidence by exclusion of people with a history of diabetes at baseline of the study.

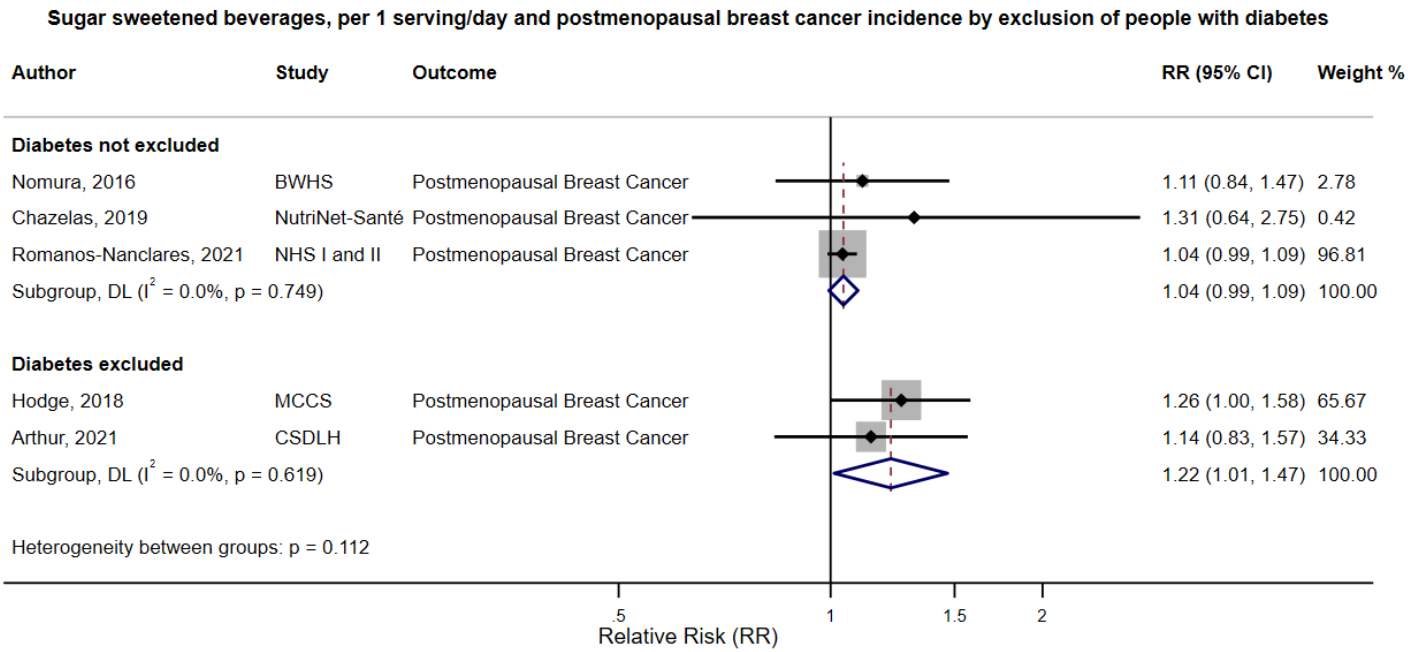


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Note: The NutriNet-Sante study controlled for a history of type 2 diabetes.

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 146. Linear dose-response meta-analysis of sugar sweetened beverages and postmenopausal breast cancer incidence by bias related to confounding.

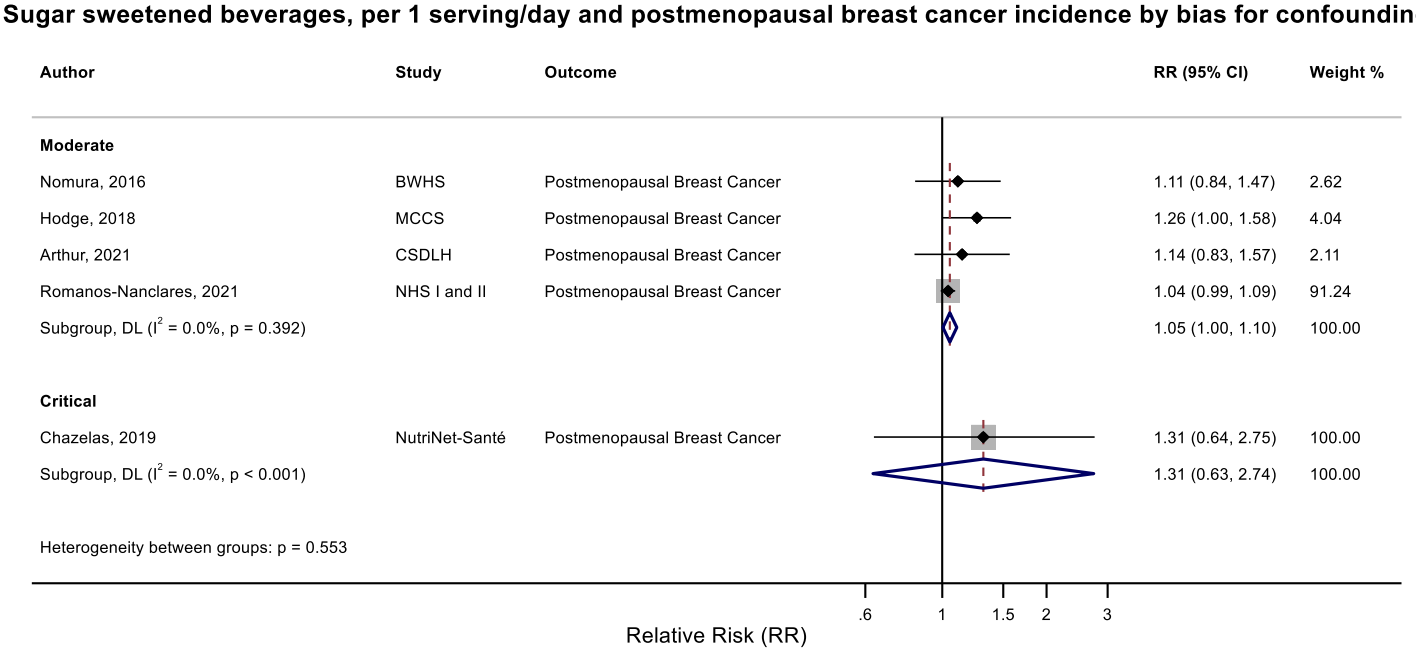


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 147. Linear dose-response meta-analysis of sugar sweetened beverages and postmenopausal breast cancer incidence by bias related to departure from intended exposure.

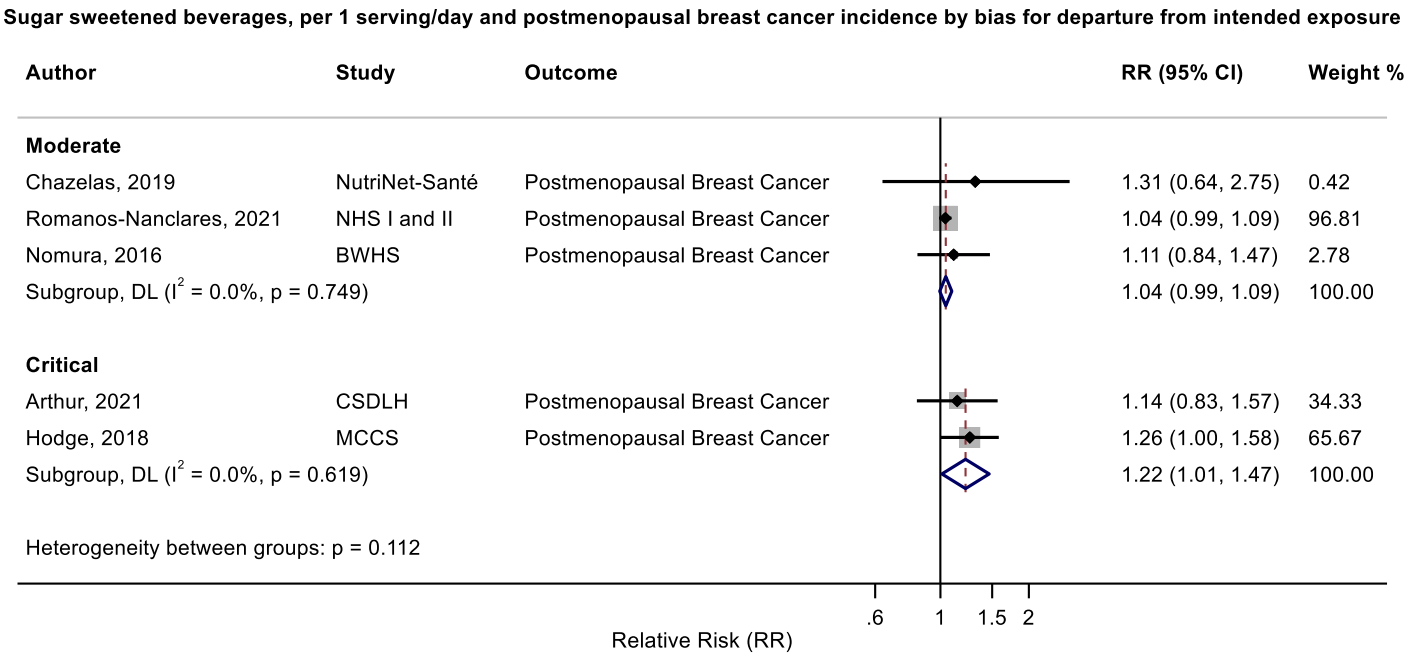


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 148. Linear dose-response meta-analysis of sugar sweetened beverages and premenopausal breast cancer incidence by exclusion of people with a history of diabetes at baseline of the study.

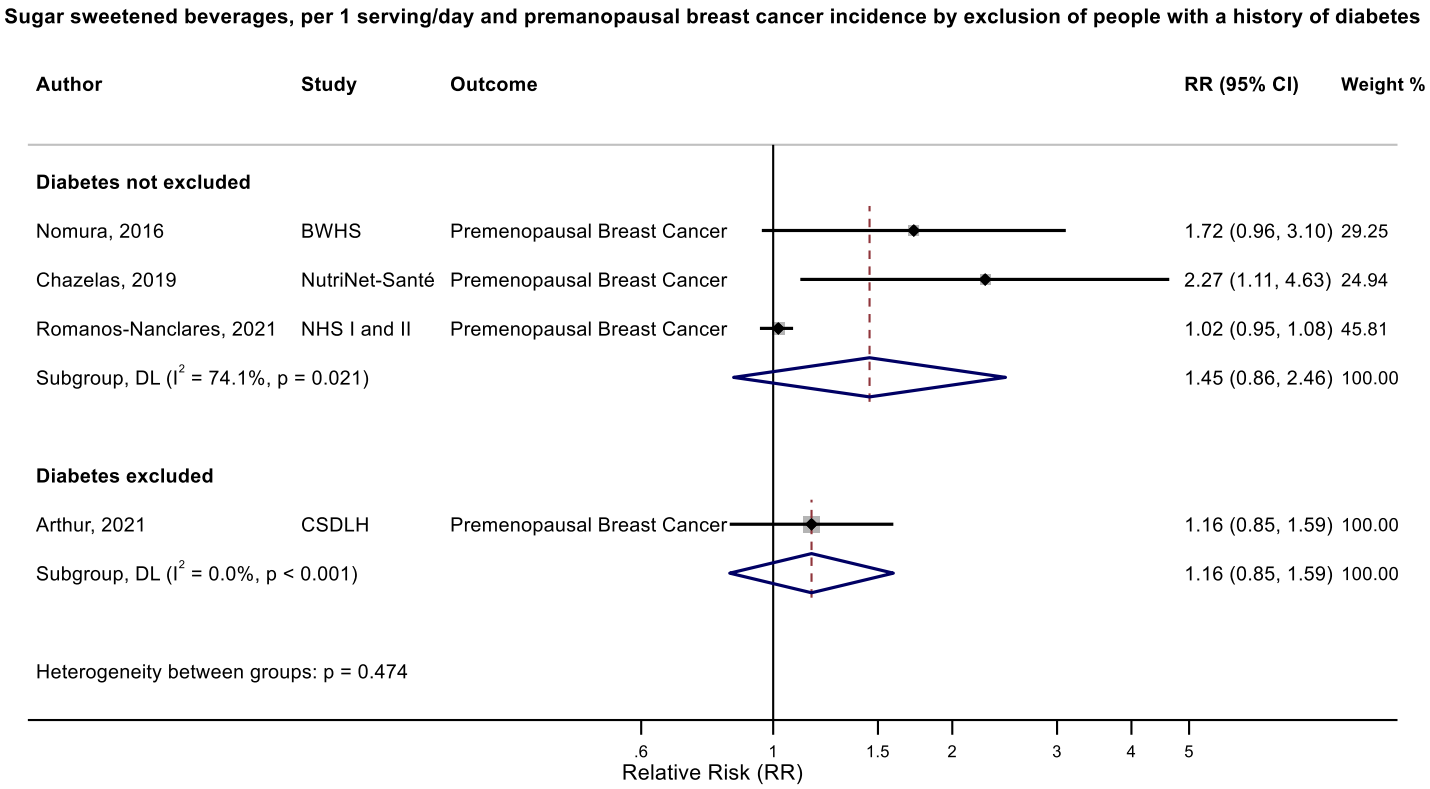


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI), and the diamond's horizontal line is the 95% prediction interval (PI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Arthur, 2021[38]

Supplementary Figure 149. Linear dose-response meta-analysis of sweetened sugar beverages and premenopausal breast cancer incidence by frequency of dietary assessment.

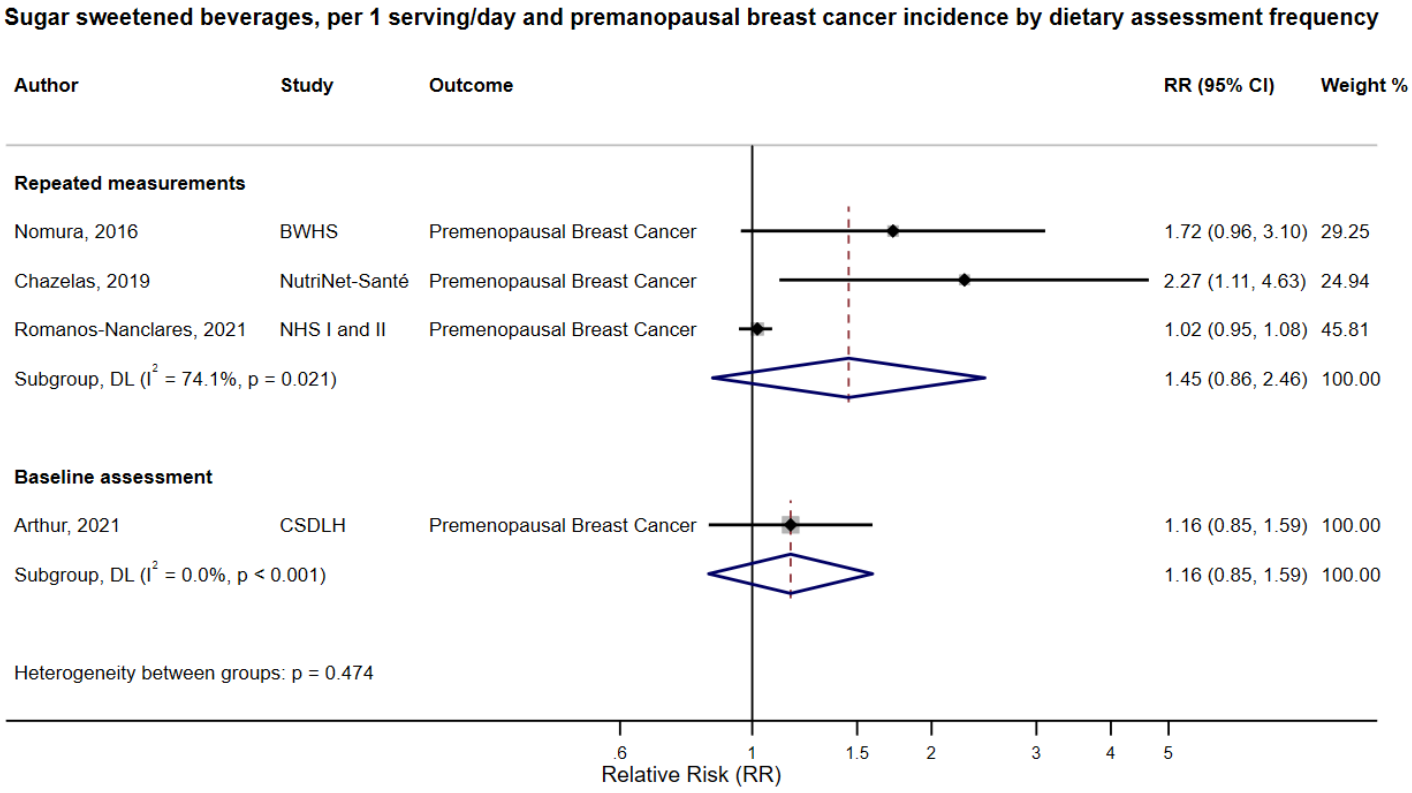


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI), and the diamond's horizontal line is the 95% prediction interval (PI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; NHS I and II, Nurses' Health Study I and II; CSDLH, Canadian Study of Diet, Lifestyle and Health

Nomura, 2016[128], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Arthur, 2021[38]

Supplementary Figure 150. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer incidence by frequency of dietary assessment.

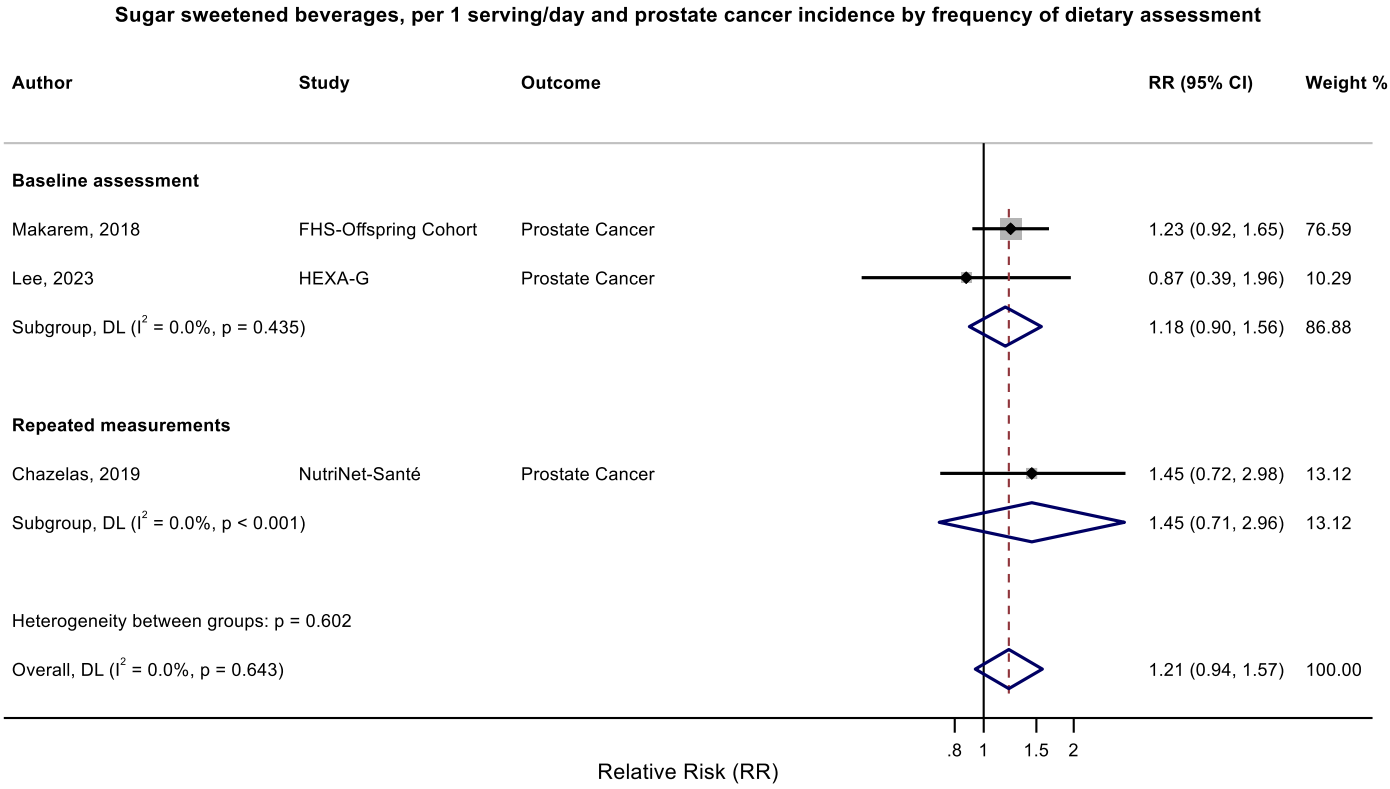


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; HEXA-G, Health Examinees-Gem study

Makarem, 2018[108], Lee, 2023[97], Chazelas, 2019[44]

Supplementary Figure 151. Linear dose-response meta-analysis of sugar sweetened beverages and endometrial cancer incidence by adjustment for body mass index.

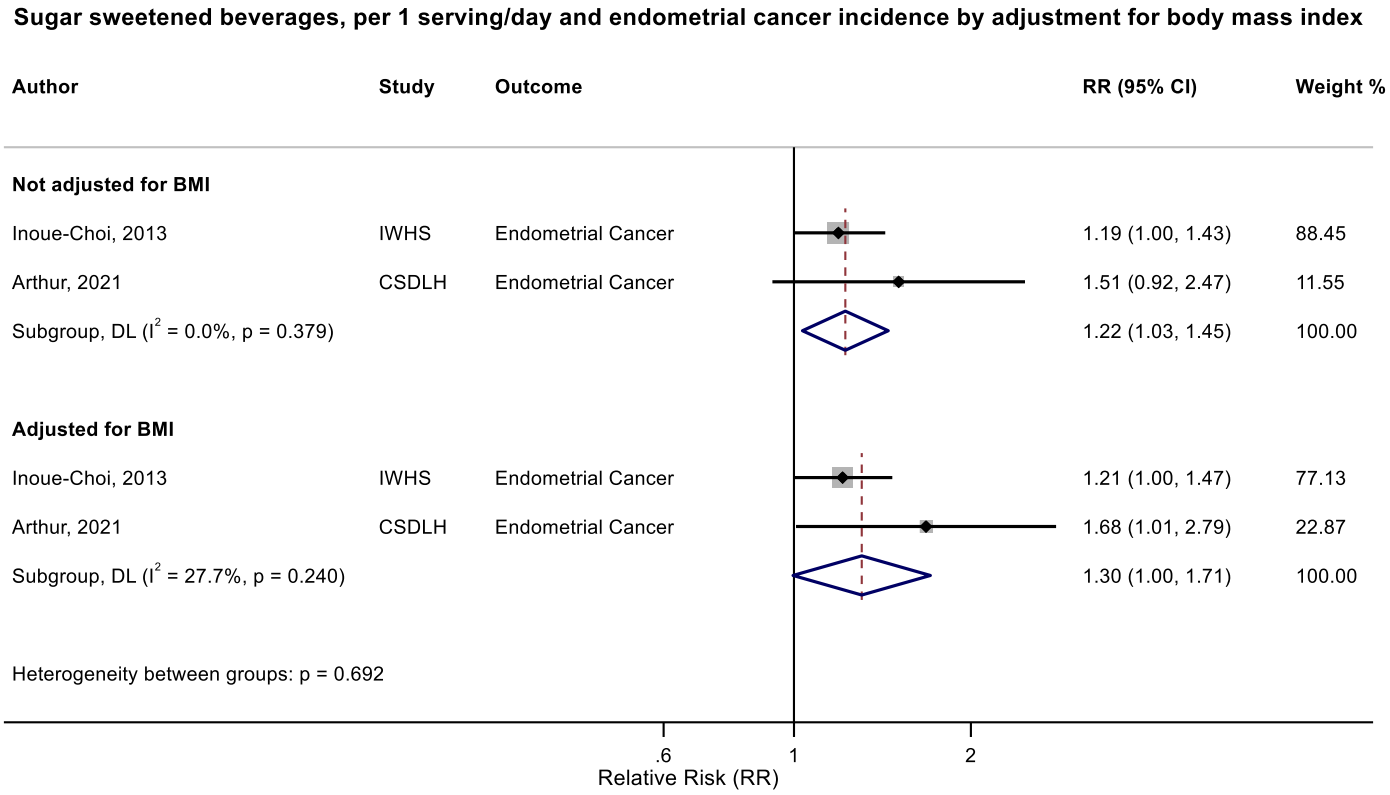


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Note: This subgroup analysis is based on a within study comparison in two studies that reported association estimates with and without adjustment for BMI. The point estimate and 95%CIs with 3 decimal points are 1.304 (0.996 – 1.706).

Inoue-Choi, 2013[74], Arthur, 2021[38]

Supplementary Figure 152. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer incidence by sex.

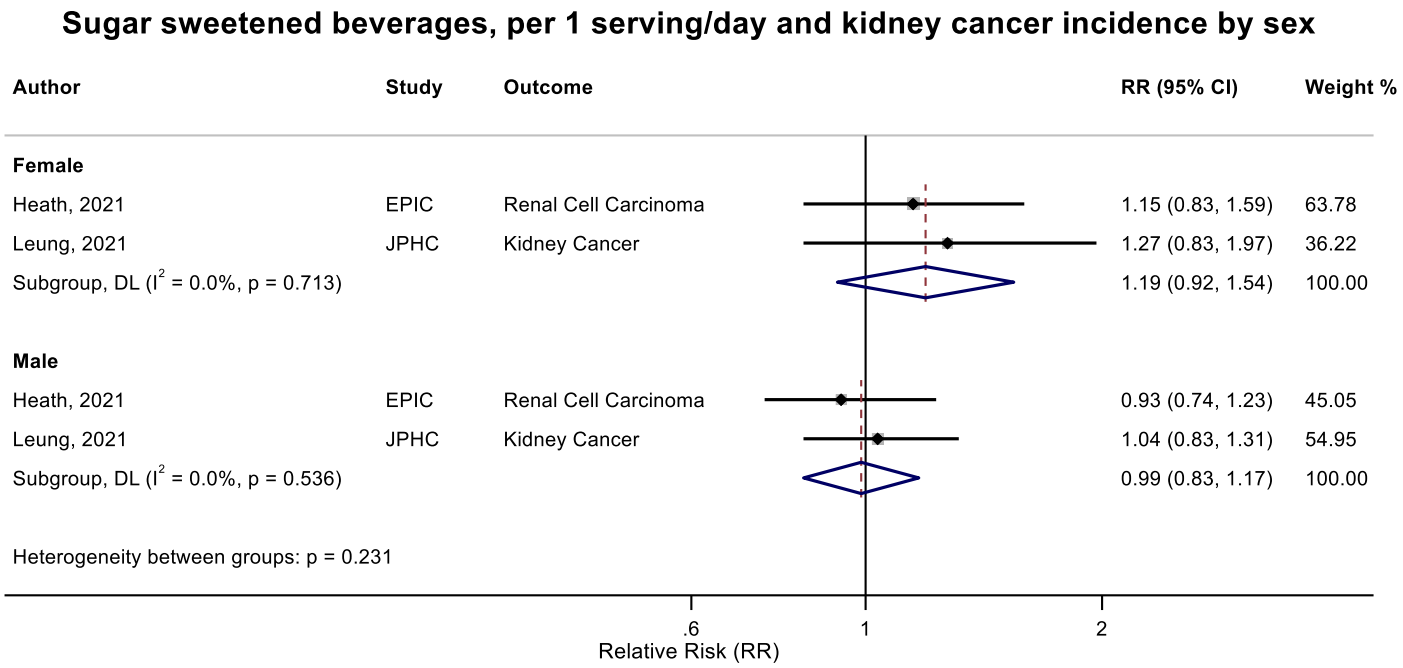


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; JPHC, Japan Public Health Center-Based Prospective Study

Heath, 2021[66], Leung, 2021[100]

Supplementary Figure 153. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer incidence by exclusion of people with diabetes at baseline.

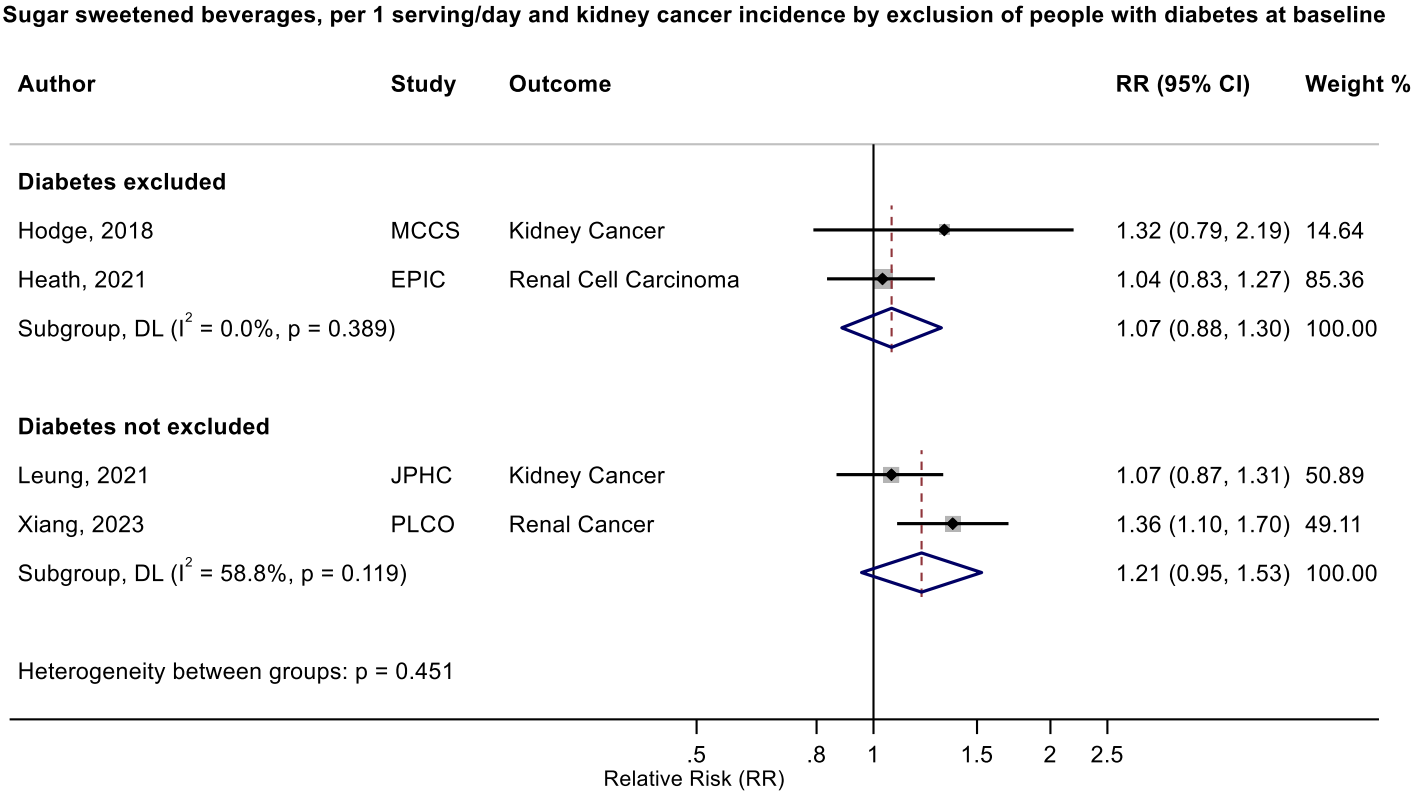


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; EPIC, European Prospective Investigation into Cancer and nutrition; JPHC, Japan Public Health Center-Based Prospective Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Hodge, 2018[70], Heath, 2021[66], Leung, 2021[100], Xiang, 2023[173]

Supplementary Figure 154. Linear dose-response meta-analysis of sugar sweetened beverages and non-Hodgkin lymphoma incidence by frequency of dietary assessment.

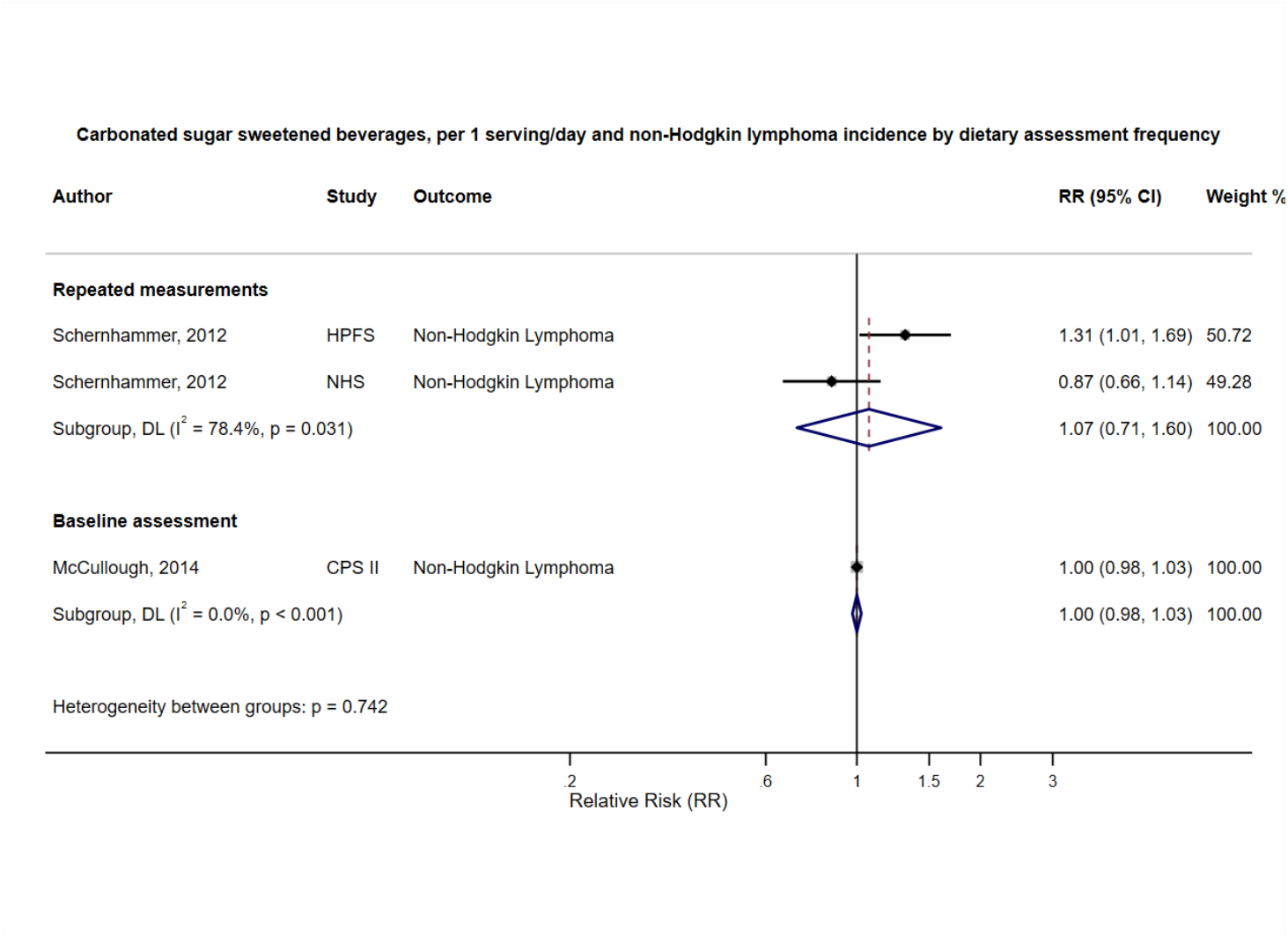


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Schernhammer, 2012[150], McCullough, 2014[114]

Supplementary Figure 155. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer incidence, leave-one-out analysis.

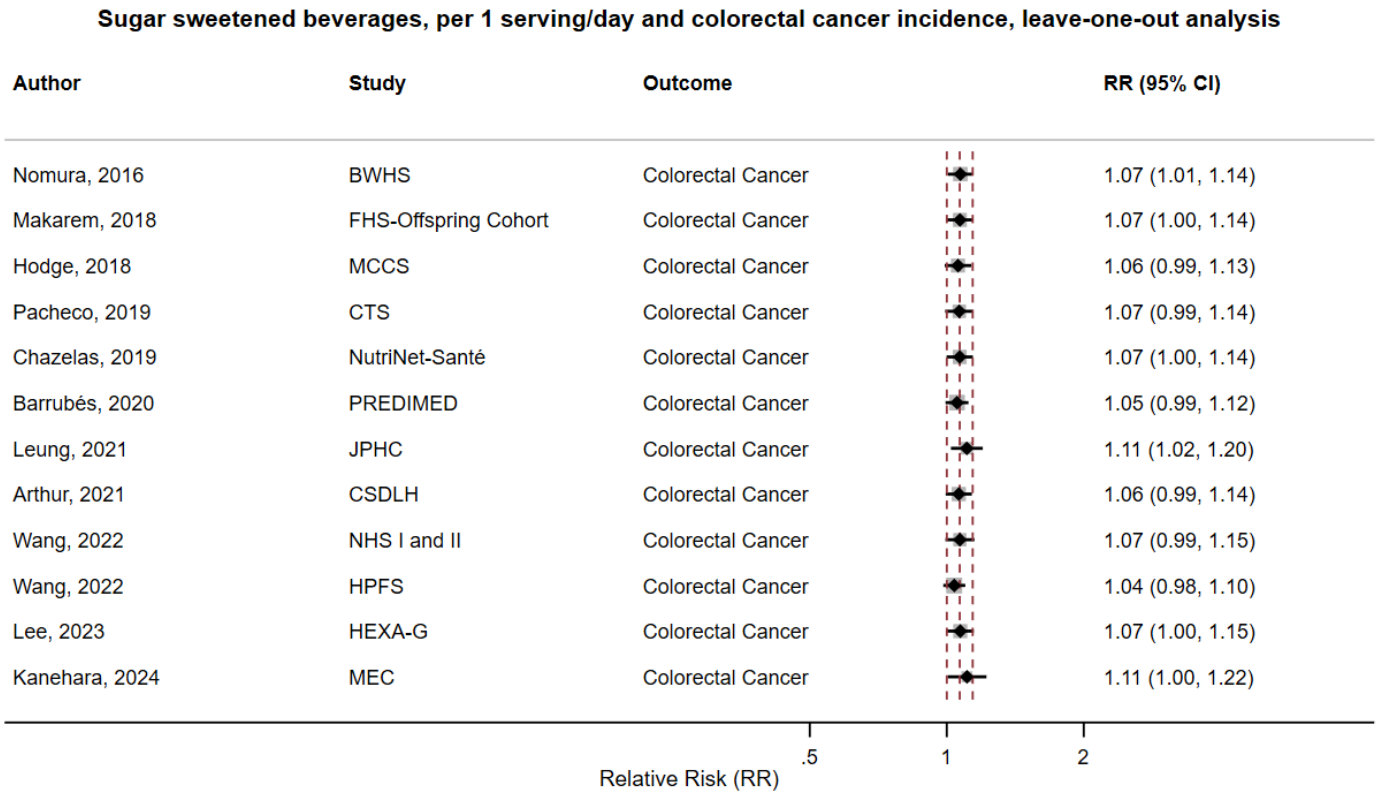


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; FHS-Offspring Cohort, Framingham Heart Study-Offspring Cohort; MCCS, Melbourne Collaborative Cohort Study; CTS, California Teachers Study; PREDIMED, Prevención con Dieta Mediterránea study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study; HEXA-G, Health Examinees-Gem study; MEC, Multiethnic Cohort Study

Nomura, 2016[129], Makarem, 2018[108], Hodge, 2018[70], Pacheco, 2019[135], Chazelas, 2019[44], Barrubés, 2020[40], Leung, 2021[101], Arthur, 2021[38], Wang, 2022[168], Lee, 2023[97], Kanehara, 2024[81]

Supplementary Figure 156. Linear dose-response meta-analysis of sugar sweetened beverages and colon cancer incidence, leave-one-out analysis.

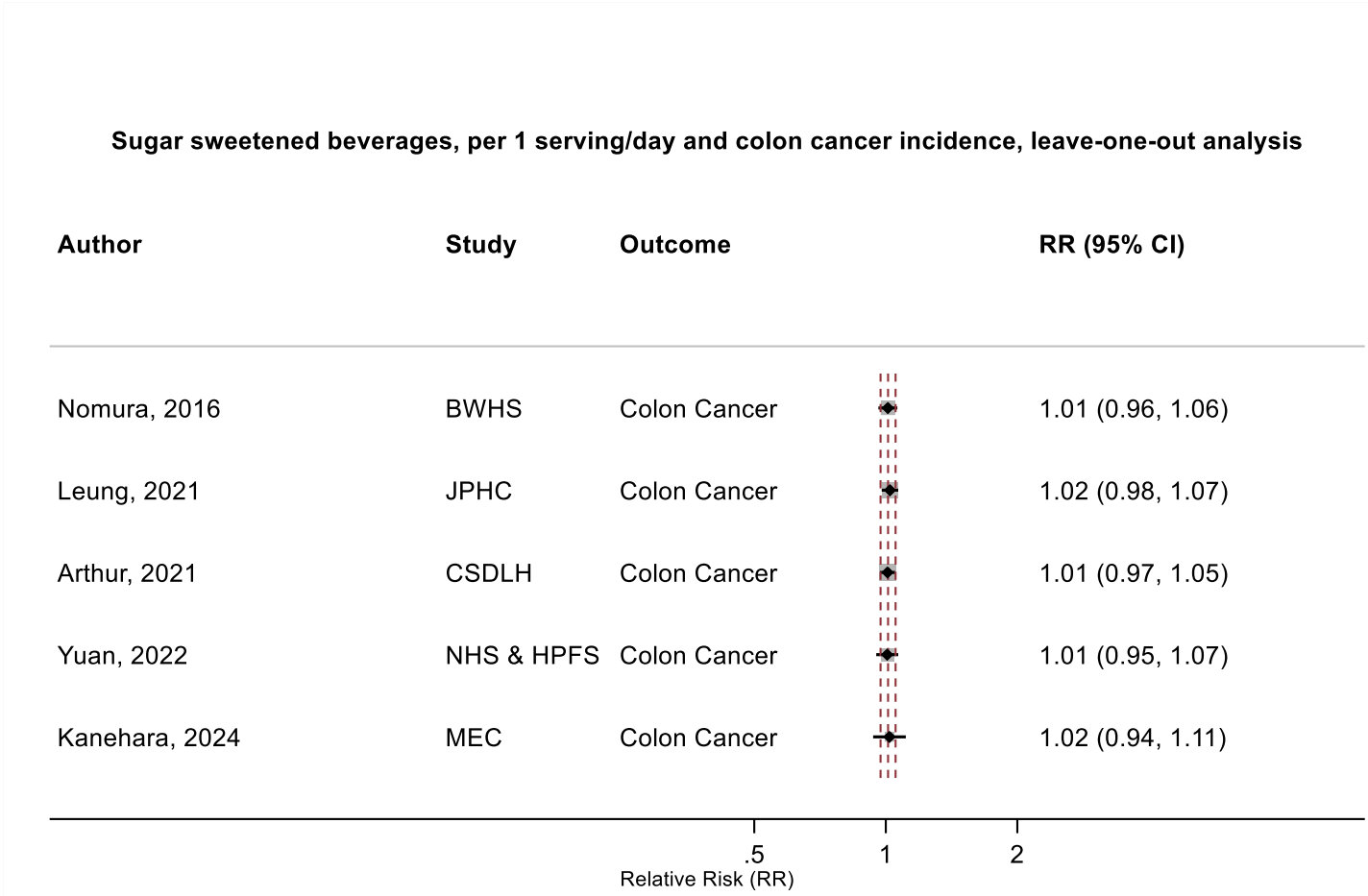


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; JPHC, Japan Public Health Center-Based Prospective Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Nomura, 2016[129], Leung, 2021[101], Arthur, 2021[38], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 157. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and colon cancer incidence, leave-one-out analysis.

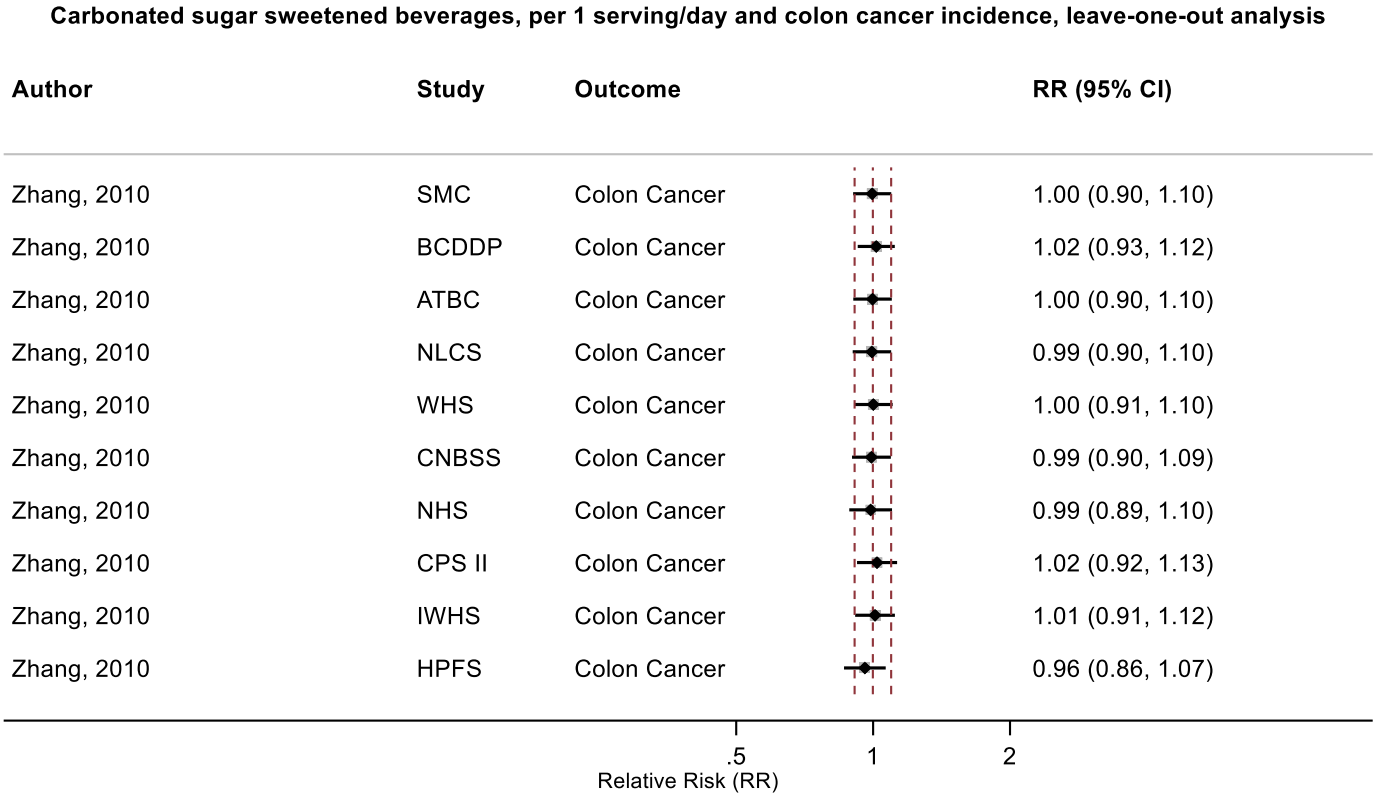


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; BCDDP, Breast Cancer Detection Demonstration Project follow-up study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; NLCS, Netherlands Cohort Study on Diet and Cancer; WHS, Women's Health Study; CNBSS, Canadian National Breast Screening Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II; IWHS, The Iowa Women's Health Study; HPFS, Health Professionals Follow-up Study

Zhang, 2010[182]

Supplementary Figure 158. Linear dose-response meta-analysis of sugar sweetened beverages and proximal colon cancer incidence, leave-one-out analysis.

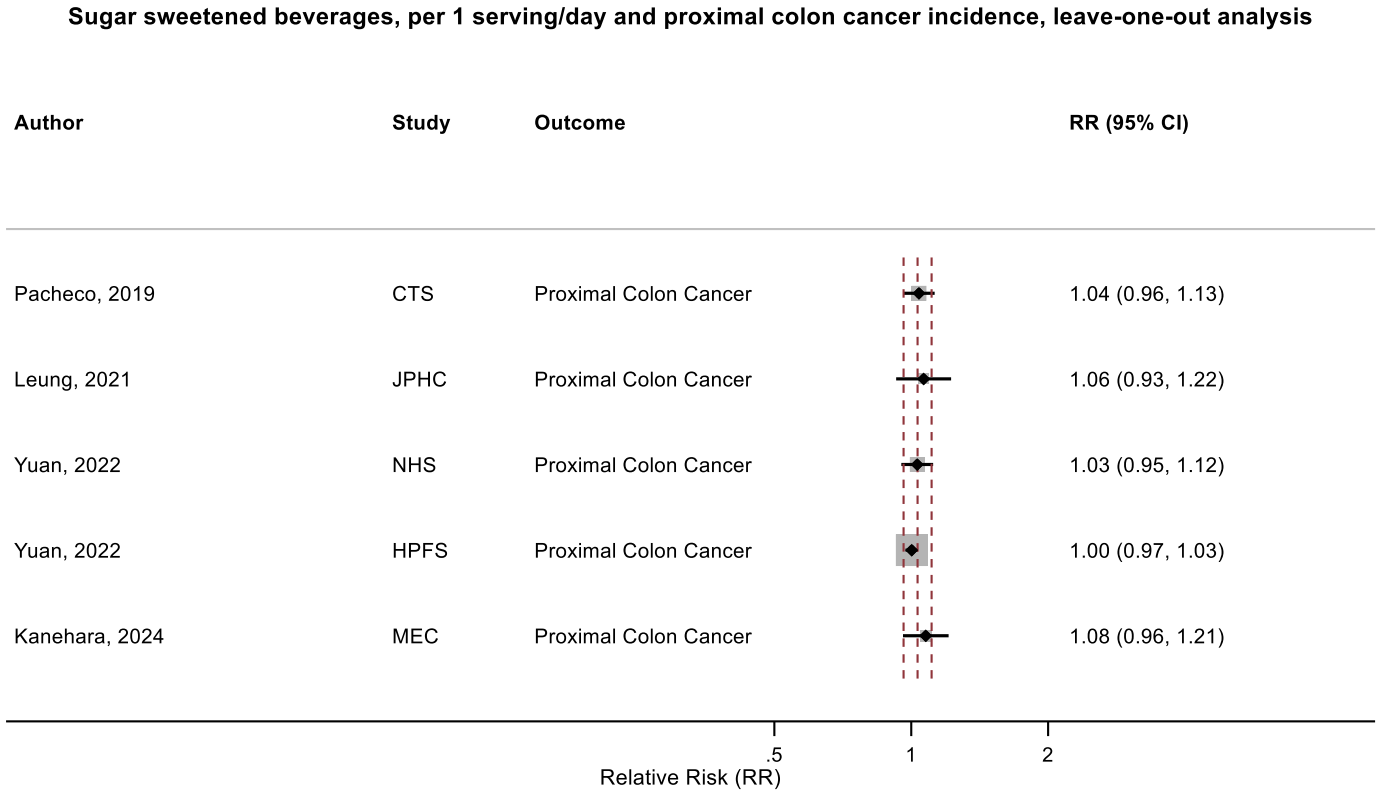


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Pacheco, 2019[135], Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 159. Linear dose-response meta-analysis of sugar sweetened beverages and distal colon cancer incidence, leave-one-out analysis.

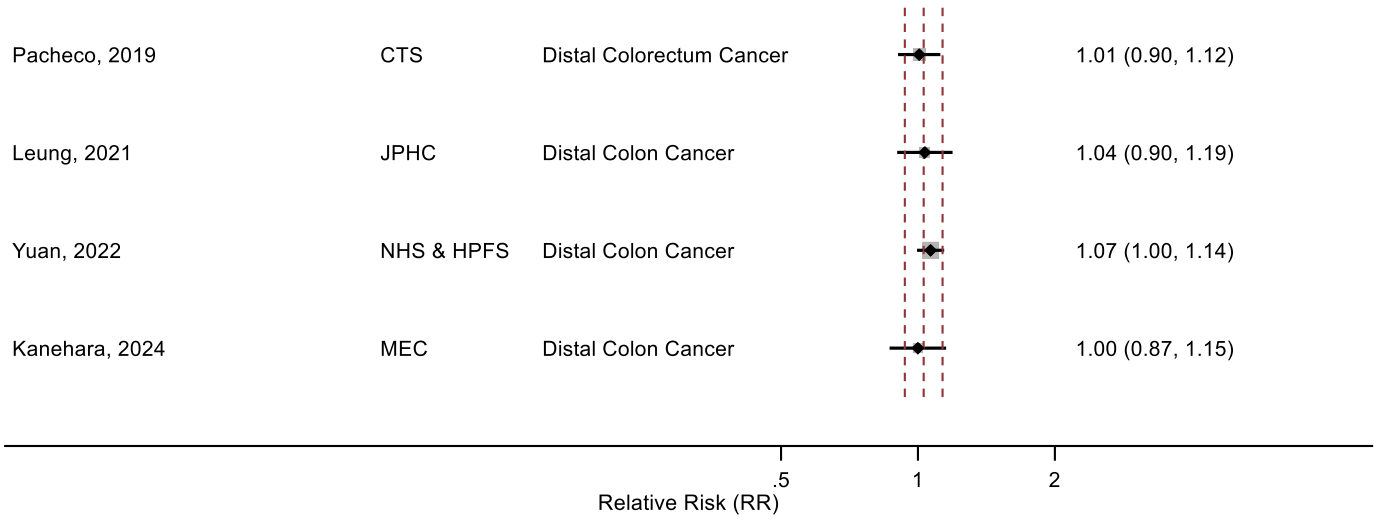


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CTS, California Teachers Study; JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Pacheco, 2019[135], Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 160. Linear dose-response meta-analysis of sugar sweetened beverages and rectal cancer incidence, leave-one-out analysis.

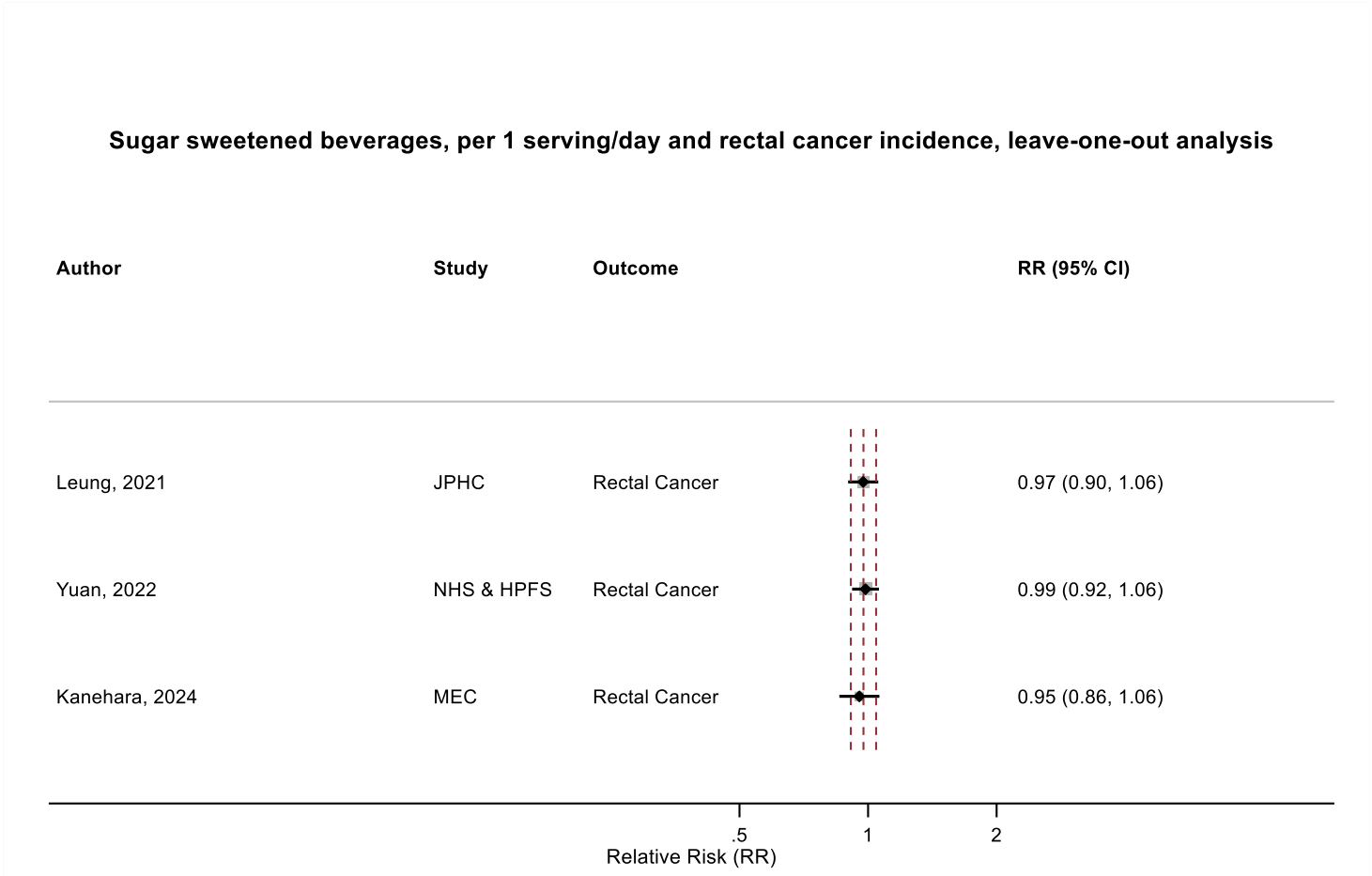


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JPHC, Japan Public Health Center-Based Prospective Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MEC, Multiethnic Cohort Study

Leung, 2021[101], Yuan, 2022[178], Kanehara, 2024[81]

Supplementary Figure 161. Linear dose-response meta-analysis of sugar sweetened beverages and liver cancer incidence, leave-one-out analysis.

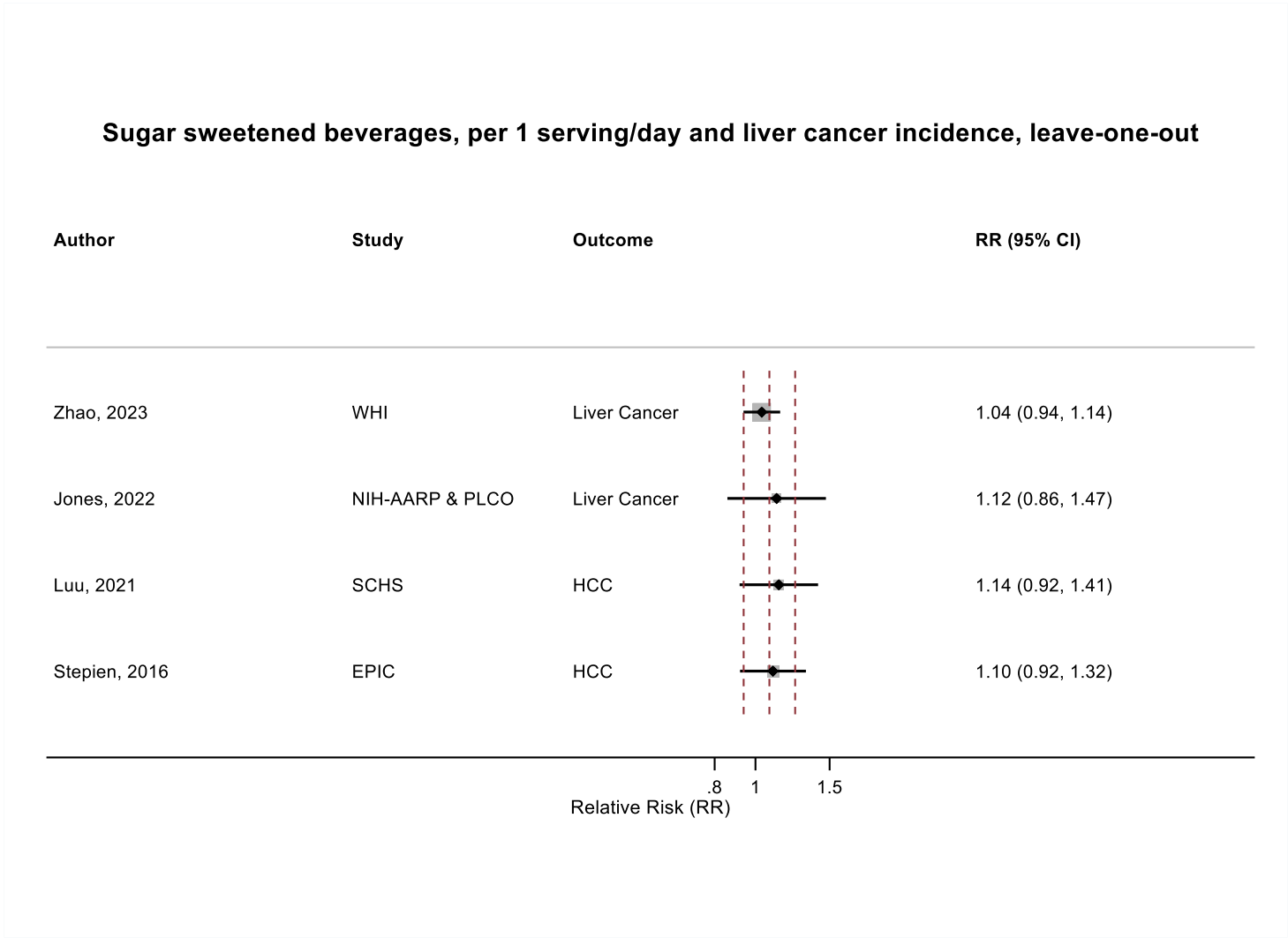


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; HCC, hepatocellular carcinoma; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; SCHS, Singapore Chinese Health study; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Stepien, 2016[159], Luu, 2021[106], Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 162. Linear dose-response meta-analysis of sugar sweetened beverages and pancreatic cancer incidence, leave-one-out analysis.

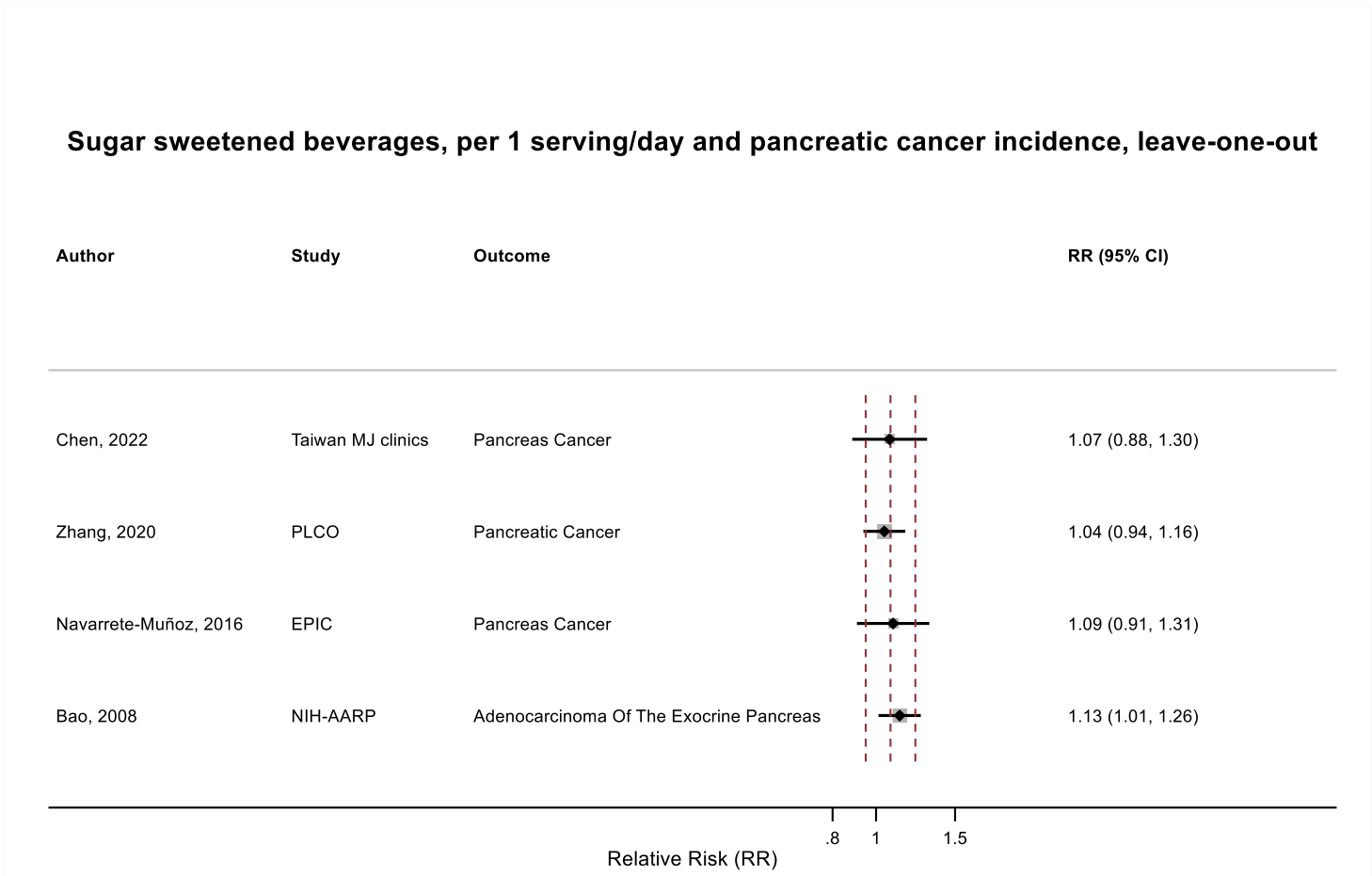


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; Taiwan MJ clinics, The Taiwan MJ Cohort Study

Bao, 2008[39], Navarrete-Muñoz, 2016[127], Zhang, 2020[184], Chen, 2022[45]

Supplementary Figure 163. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer incidence, leave-one-out analysis.

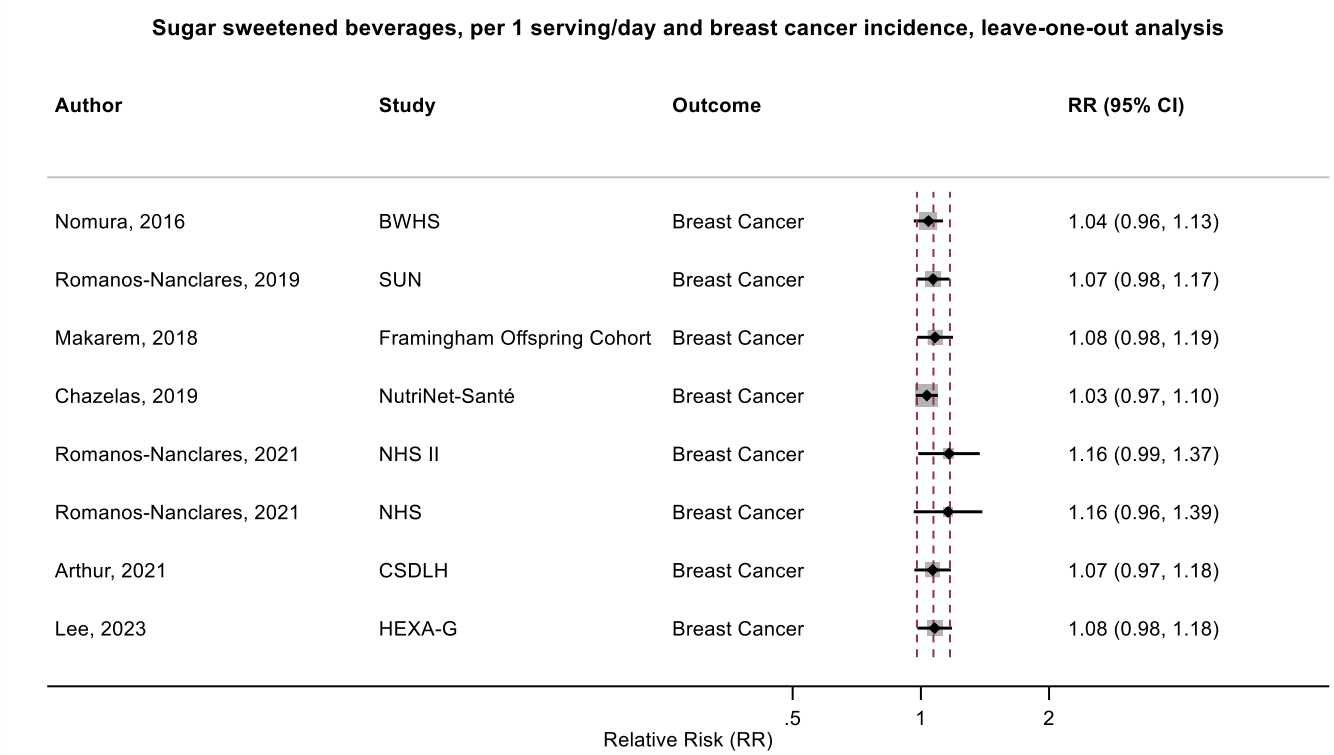


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: BWHS, Black Women's Health Study; SUN, Seguimiento Universidad de Navarra Cohort Study; NHS II, Nurses' Health Study II; NHS, Nurses' Health Study; CSDLH, Canadian Study of Diet, Lifestyle and Health; HEXA-G, Health Examinees-Gem study

Nomura, 2016[128], Romanos-Nanclares, 2019[146], Makarem, 2018[108], Chazelas, 2019[44], Romanos-Nanclares, 2021[145], Arthur, 2021[38], Lee, 2023[97]

Supplementary Figure 164. Linear dose-response meta-analysis of sugar sweetened beverages and endometrial cancer incidence, leave-one-out analysis.

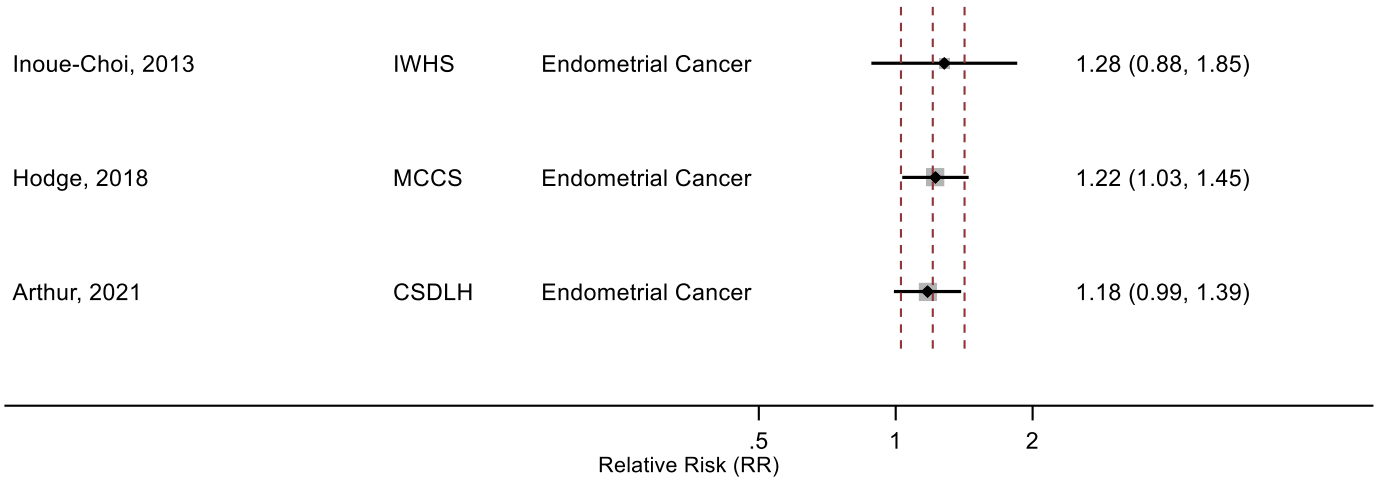


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Inoue-Choi, 2013[74], Hodge, 2018[70], Arthur, 2021[38]

Supplementary Figure 165. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer incidence, leave-one-out analysis.

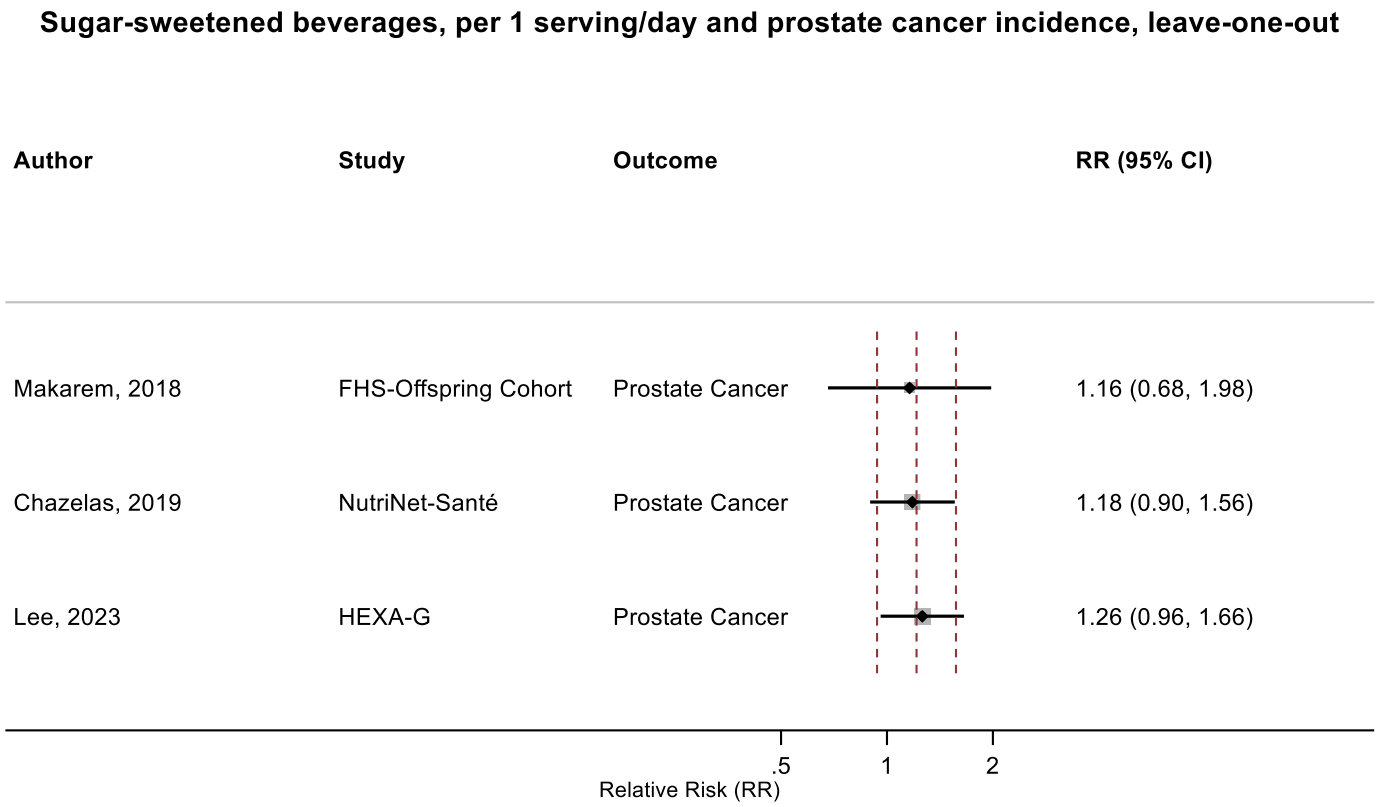


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; HEXA-G, Health Examinees-Gem study

Makarem, 2018[108], Chazelas, 2019[44], Lee, 2023[97]

Supplementary Figure 166. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer incidence, leave-one-out analysis.

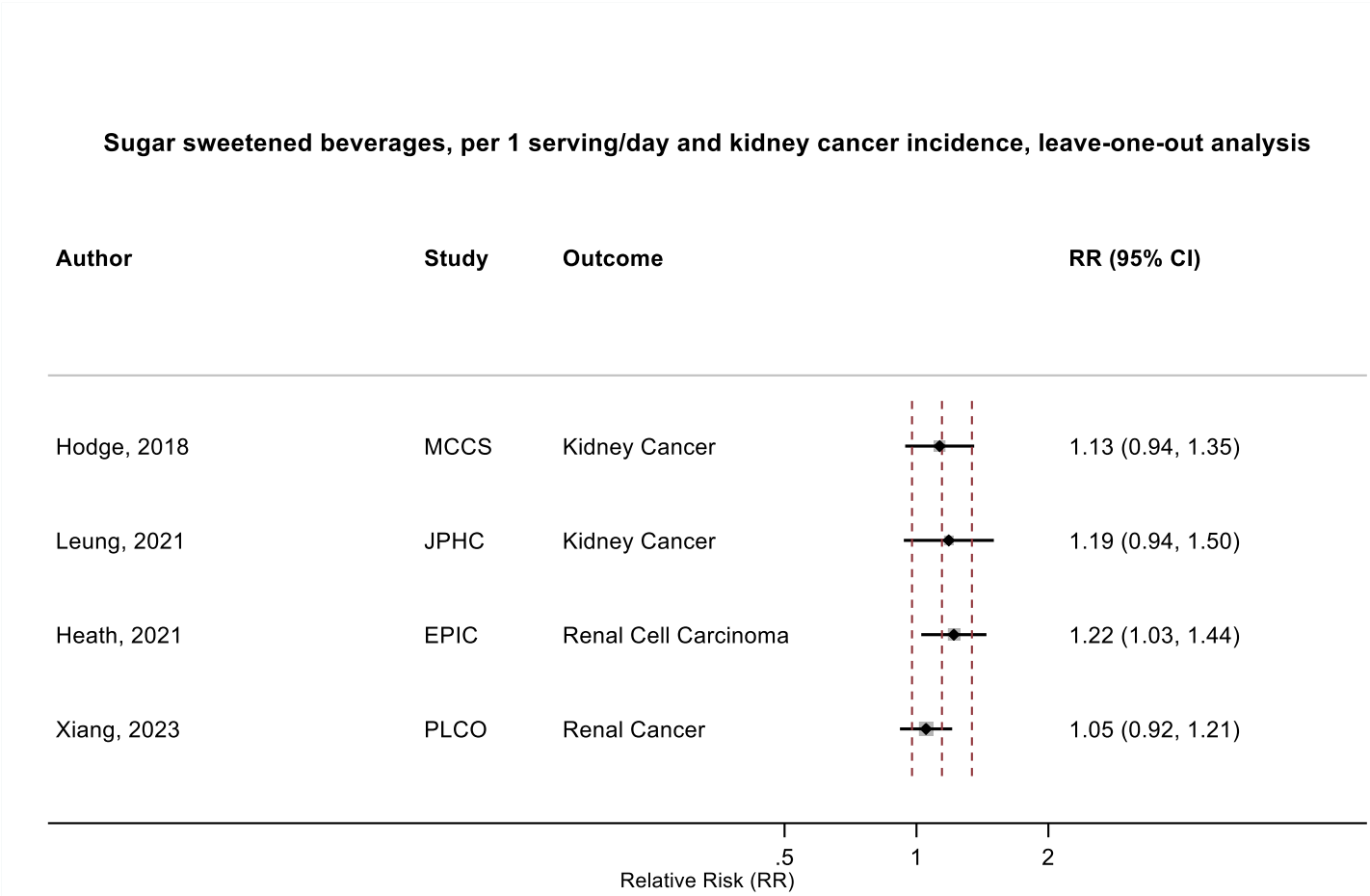


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Hodge, 2018[70], Leung, 2021[100], Heath, 2021[66], Xiang, 2023[173]

Supplementary Figure 167. Linear dose-response meta-analysis of carbonated sugar sweetened beverages and non-Hodgkin lymphoma incidence, leave-one-out analysis.

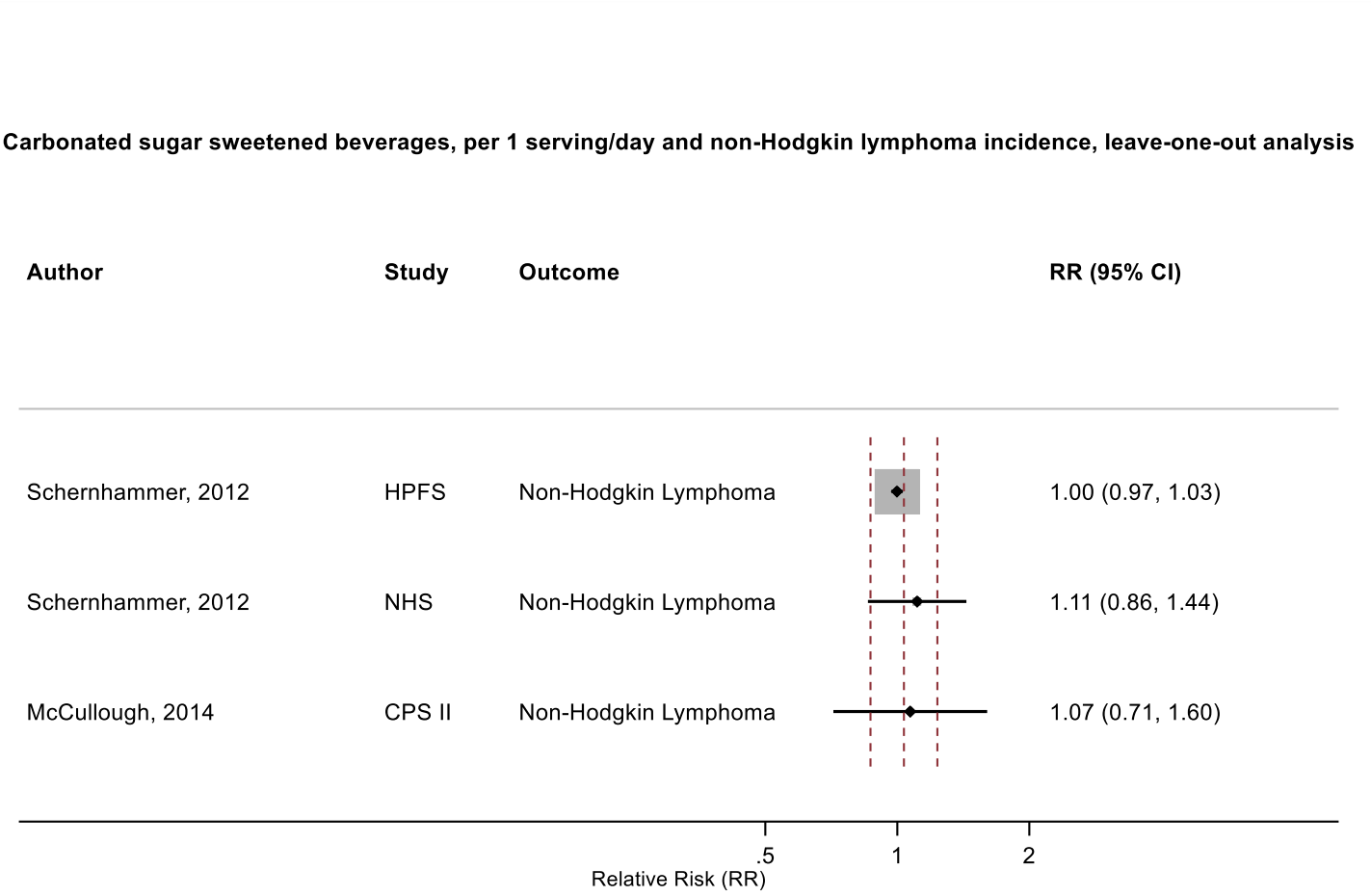


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Schernhammer, 2012[150], McCullough, 2014[114]

Supplementary Figure 168. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer incidence, comparison of the models with and without adjustment for body mass index.

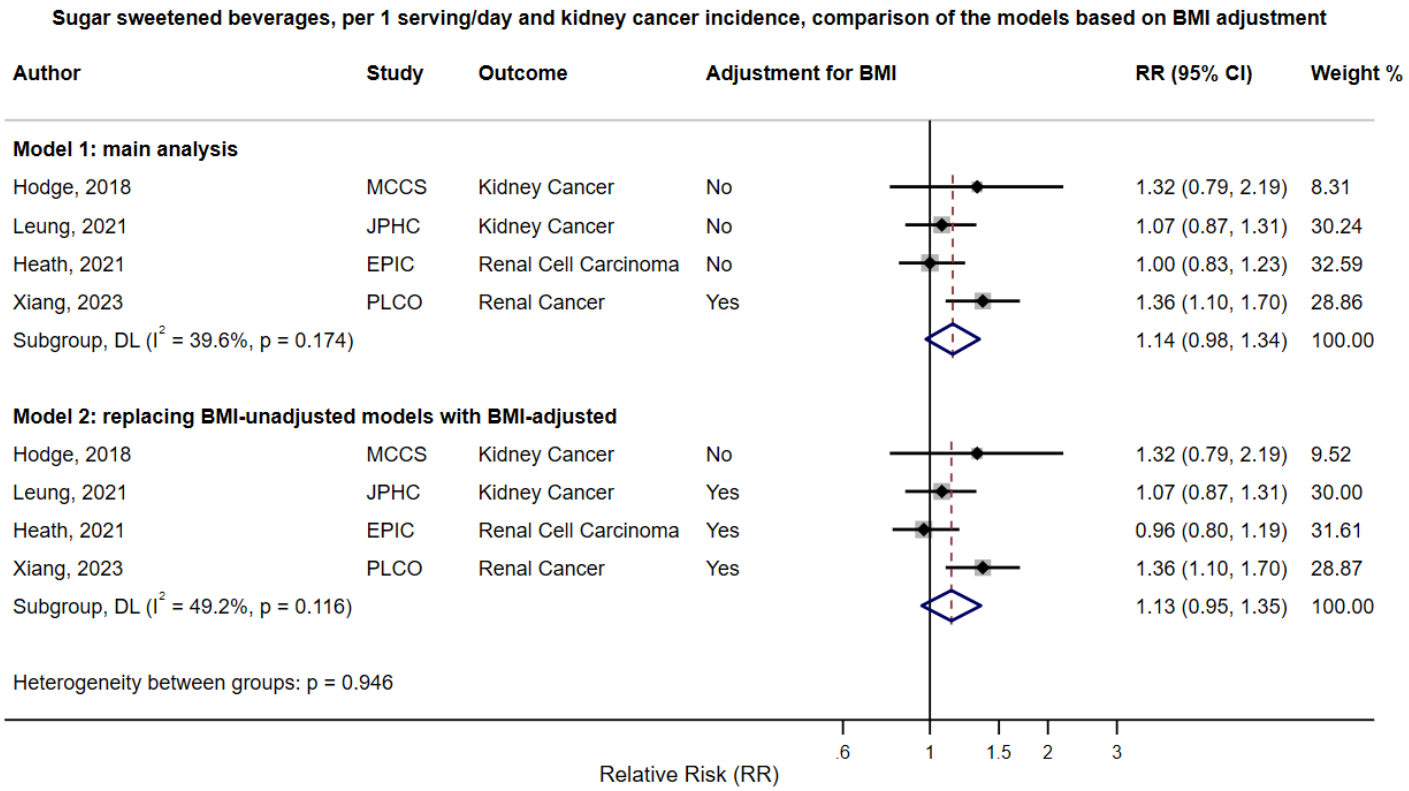


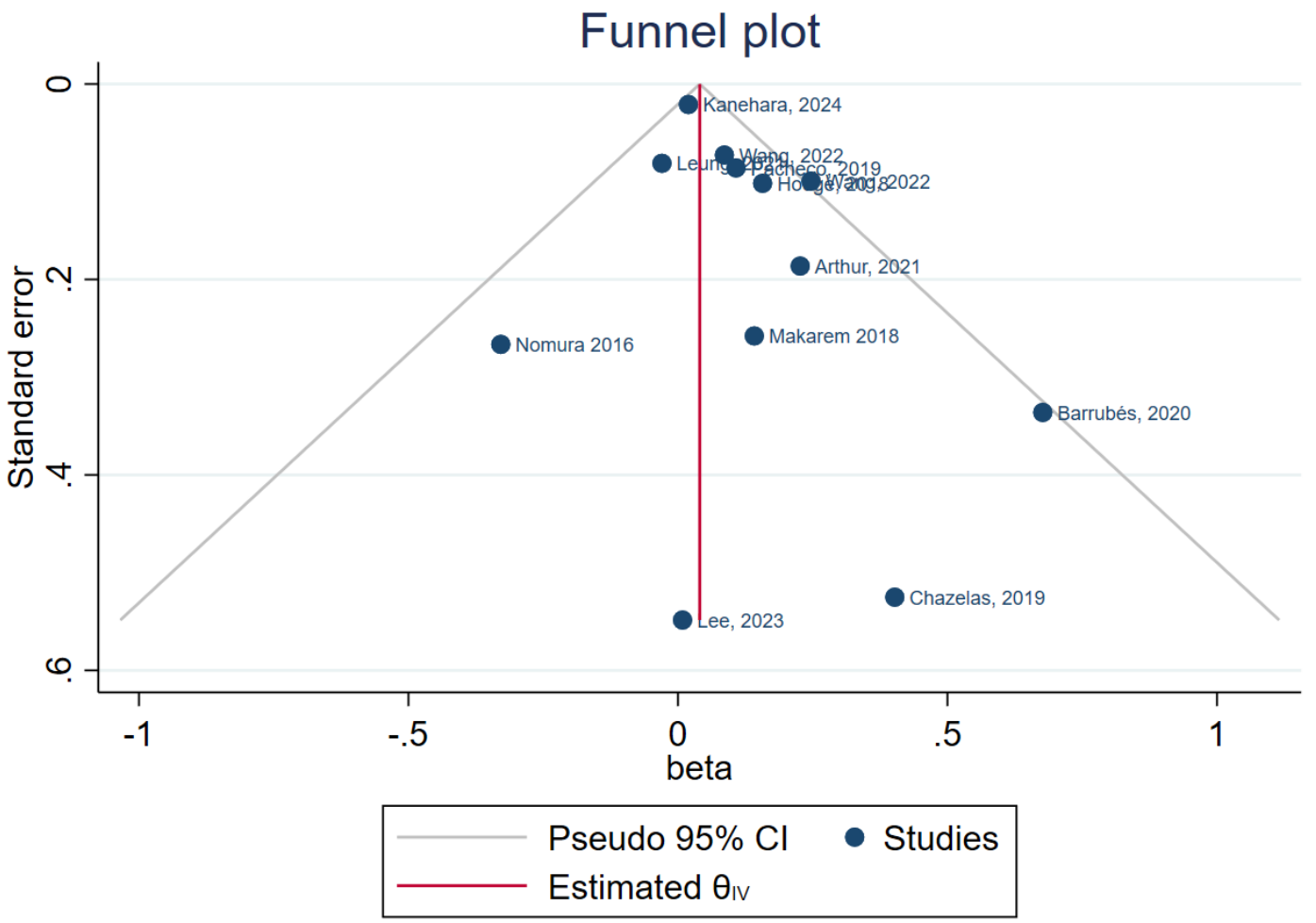
Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; JPHC, Japan Public Health Center-Based Prospective Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Hodge, 2018[70], Leung, 2021[100], Heath, 2021[66], Xiang, 2023[173]

Supplementary Figure 169. Funnel plot of the association between sugar sweetened beverages, per 1 serving (355 mL)/day and colorectal cancer incidence.



Note: Egger's p-value: 0.13

Figure legend: Each point represents the logarithm of relative risk estimate (x-axis) against its standard error as measure of study size (y-axis). Solid vertical line is the summary estimate of ln(RR) from the fixed effect meta-analysis. Grey lines are the 95% confidence limits around ln(RR).

Nomura, 2016[129], Chazelas, 2019[44], Barrubés, 2020[40], Makarem, 2018[108], Pacheco, 2019[135], Arthur, 2021[38], Wang, 2022[168], Kanehara, 2024[81],
Hodge, 2018[70], Leung, 2021[101], Lee, 2023[97]

Supplementary Figure 170. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality.

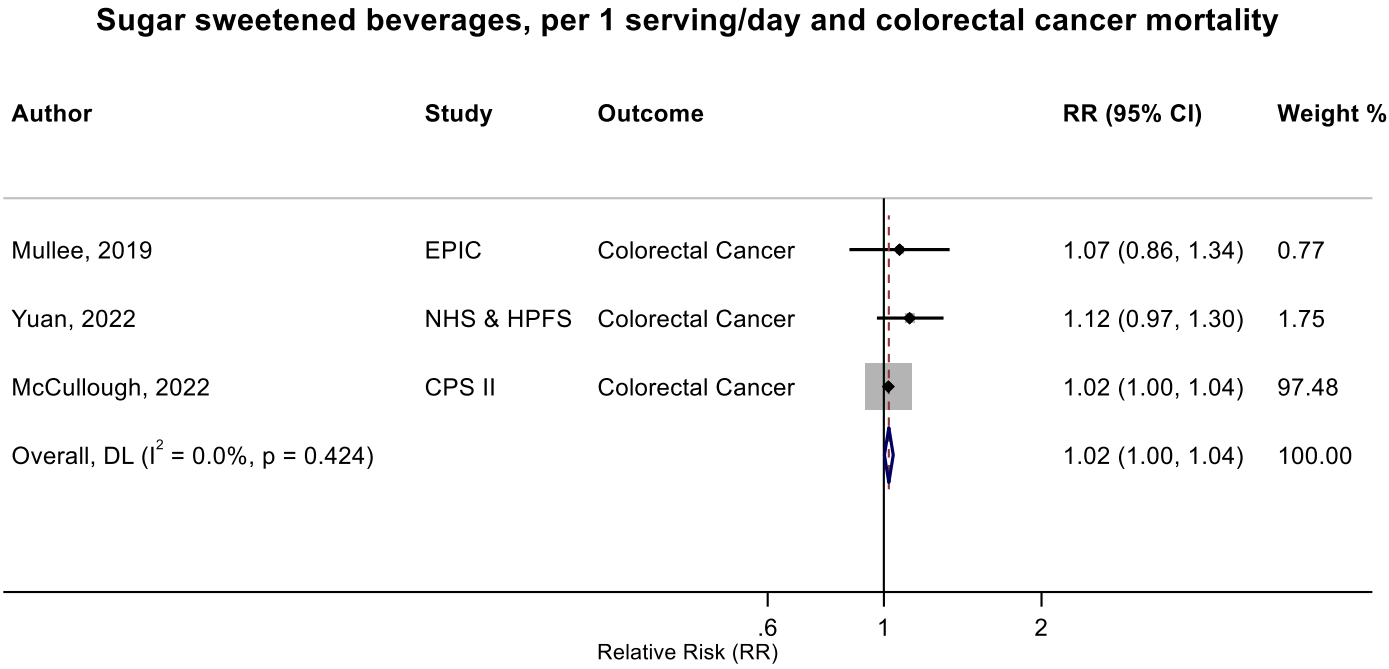


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Note: The pooled RR and 95%CI with 3 decimal point are 1.022 (1.002-1.042). All studies excluded people with a history of diabetes.

Mullee, 2019[126], Yuan, 2022[178], McCullough, 2022[113]

Supplementary Figure 171. Linear dose-response meta-analysis of sugar sweetened beverages and colon and rectal cancer mortality.

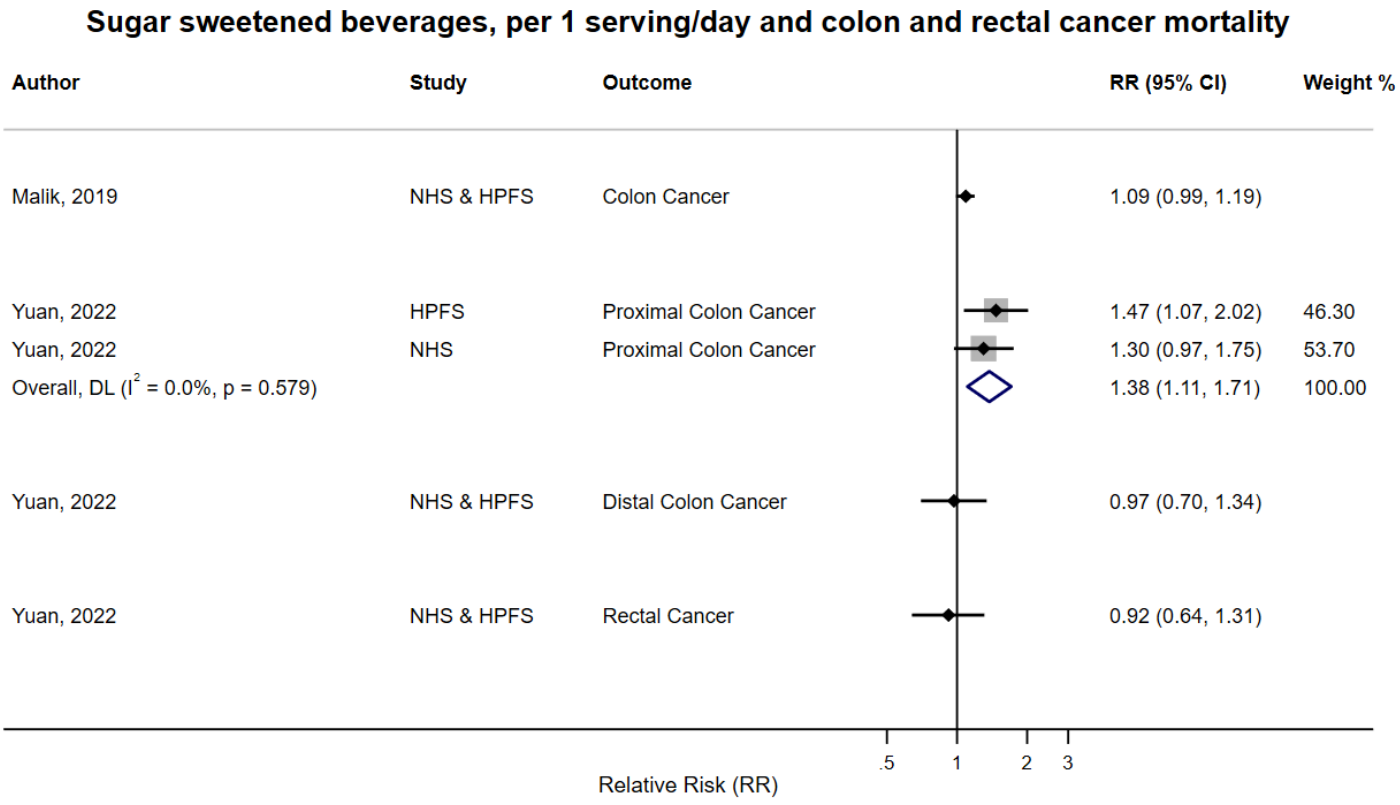


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurse's Health Study; HPFS, Health Professionals Follow-up Study ; NHS & HPFS, Nurse's Health Study and Health Professionals Follow-up Study

Malik, 2019[109], Yuan, 2022[178]

Supplementary Figure 172. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer mortality.

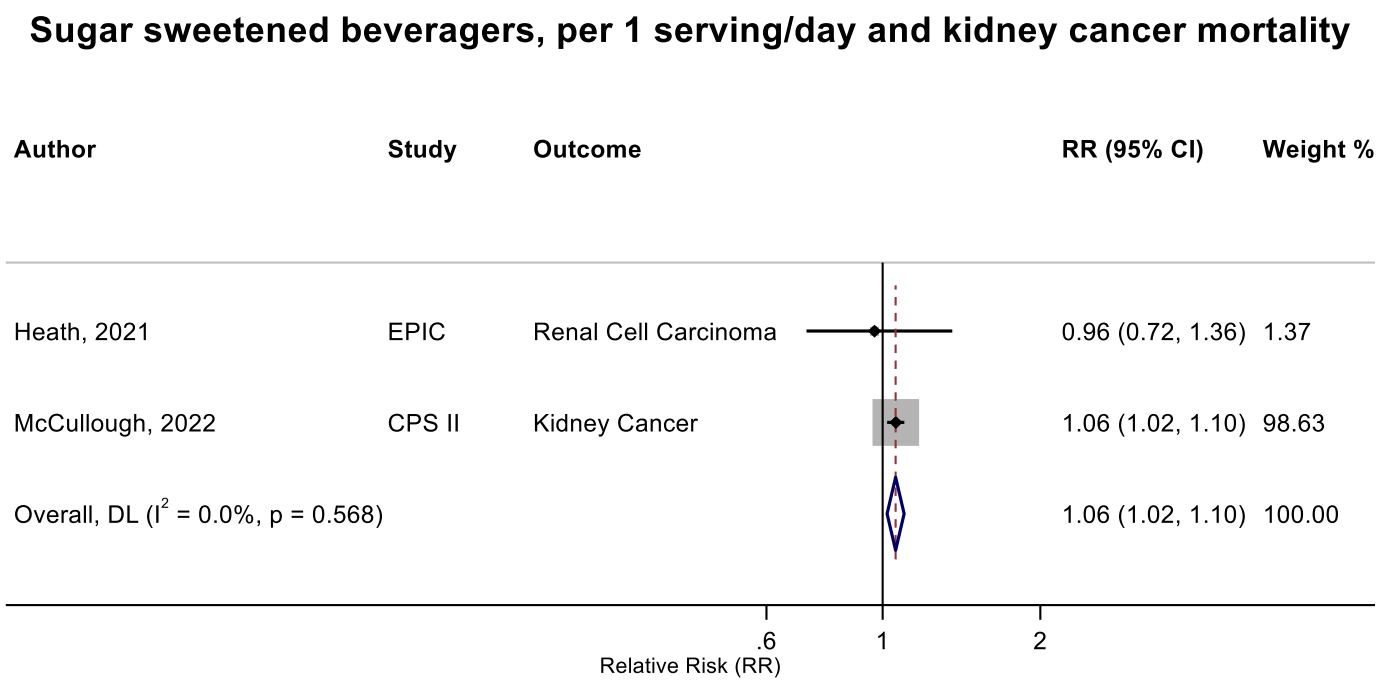


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; CPS II, Cancer prevention Study II

Heath, 2021[66], McCullough, 2022[113]

Supplementary Figure 173. Linear dose-response meta-analysis of sugar sweetened beverages and lung cancer mortality.

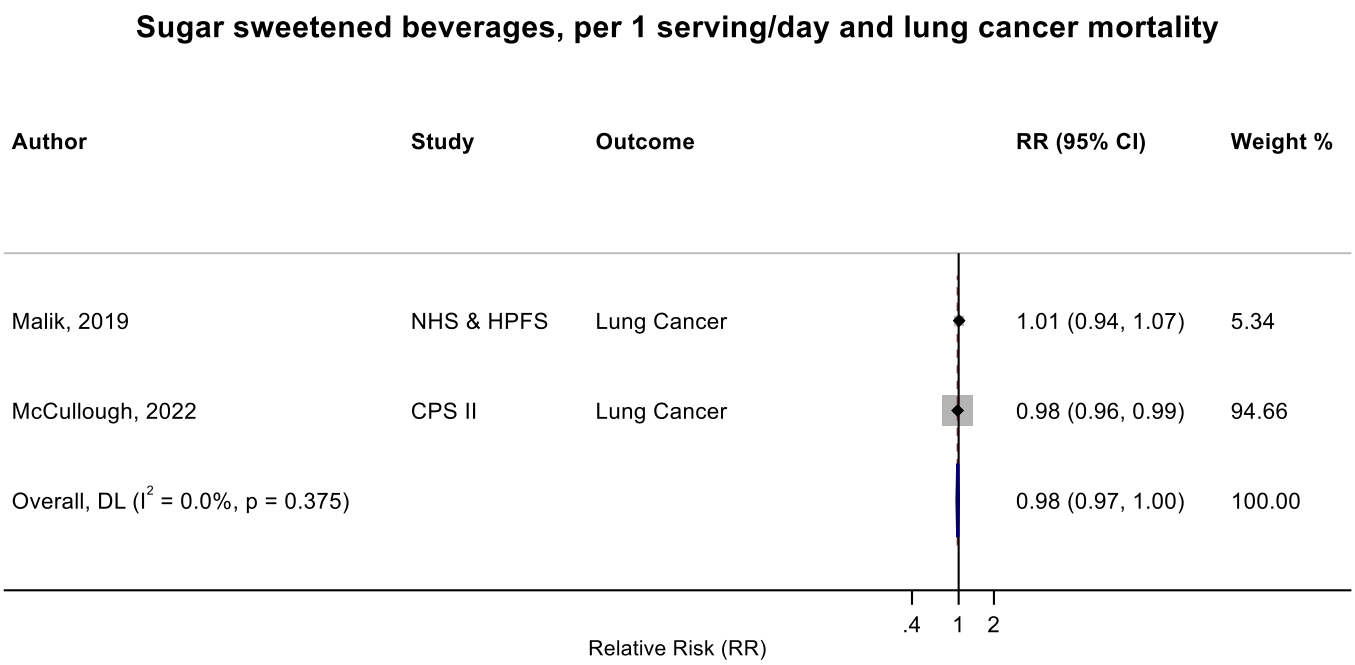


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurse's Health Study; HPFS, Health Professionals Follow-up Study; CPS II, Cancer prevention Study II

Malik, 2019[104], McCullough, 2022[108]

Supplementary Figure 174. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer mortality.

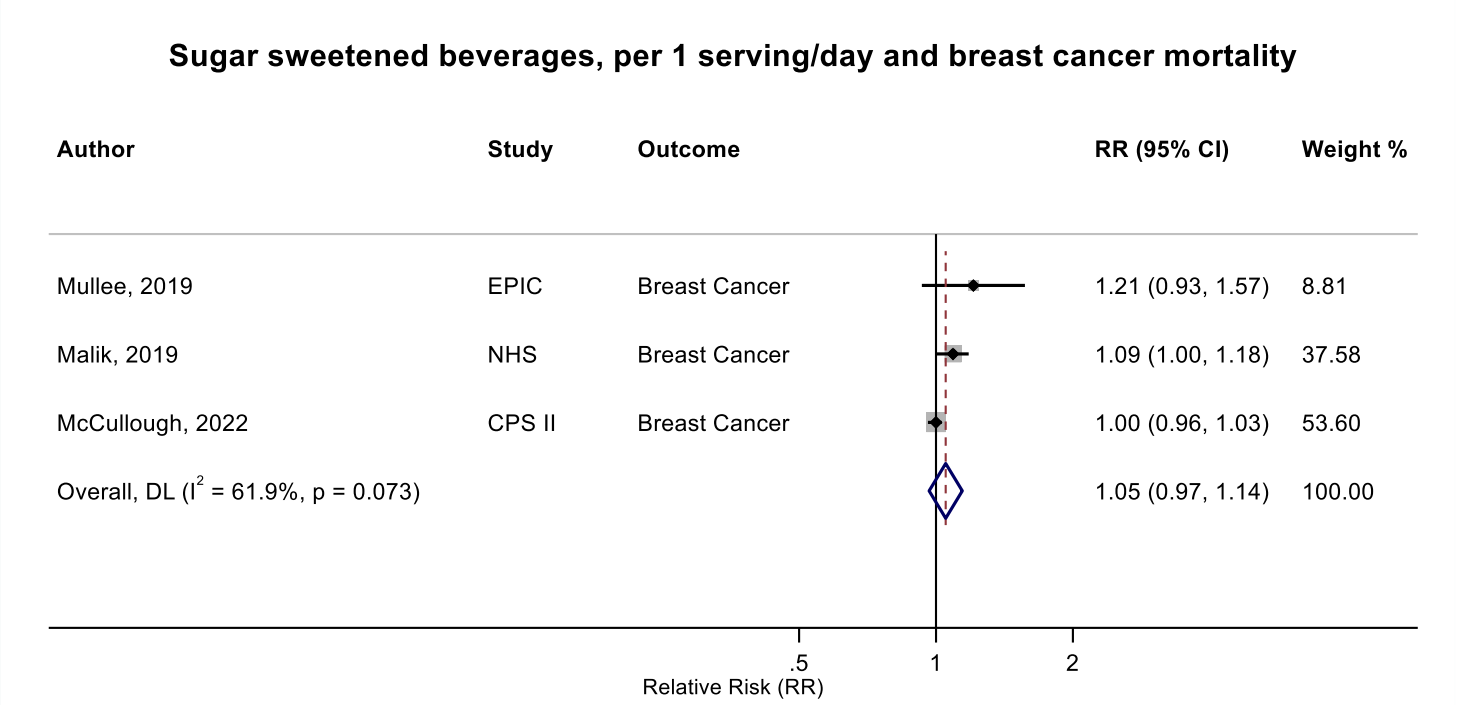


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 175. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer mortality.

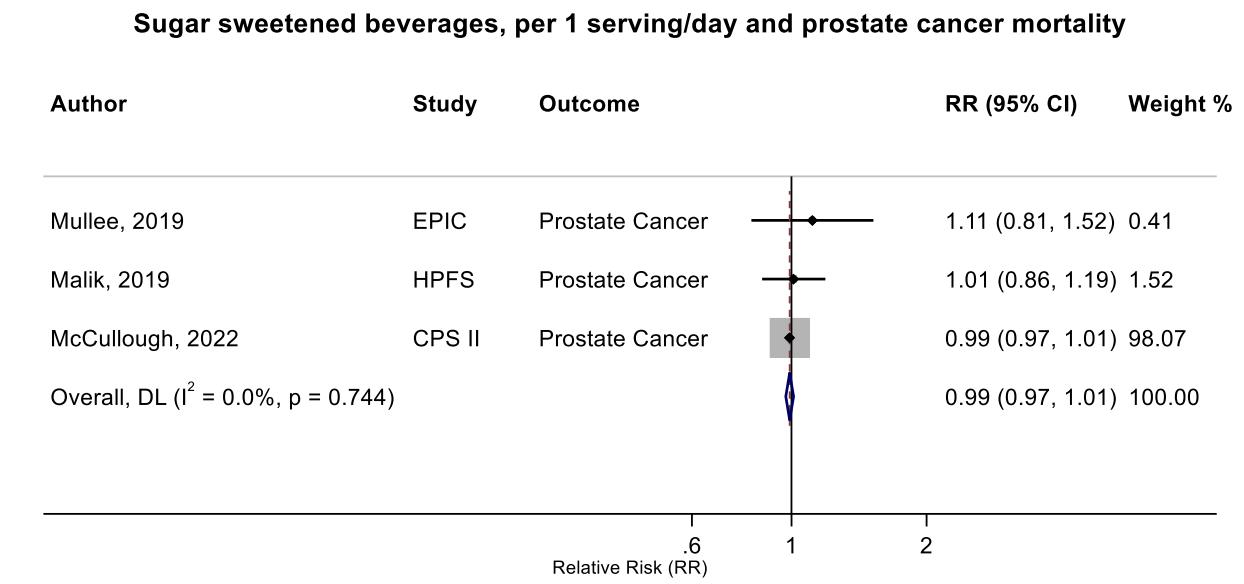


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Note: One additional study (NIH-AARP)[42] that could not be included in the dose-response meta-analysis because of insufficient data format reported on the association between sugar sweetened beverages as a component of Alternative Healthy Eating Index-2010 and prostate cancer mortality and reported little evidence of an association (RR: 0.99, 95%CI: 0.96-1.02) for higher score of the component (lower intake).

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 176. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer mortality by sex.

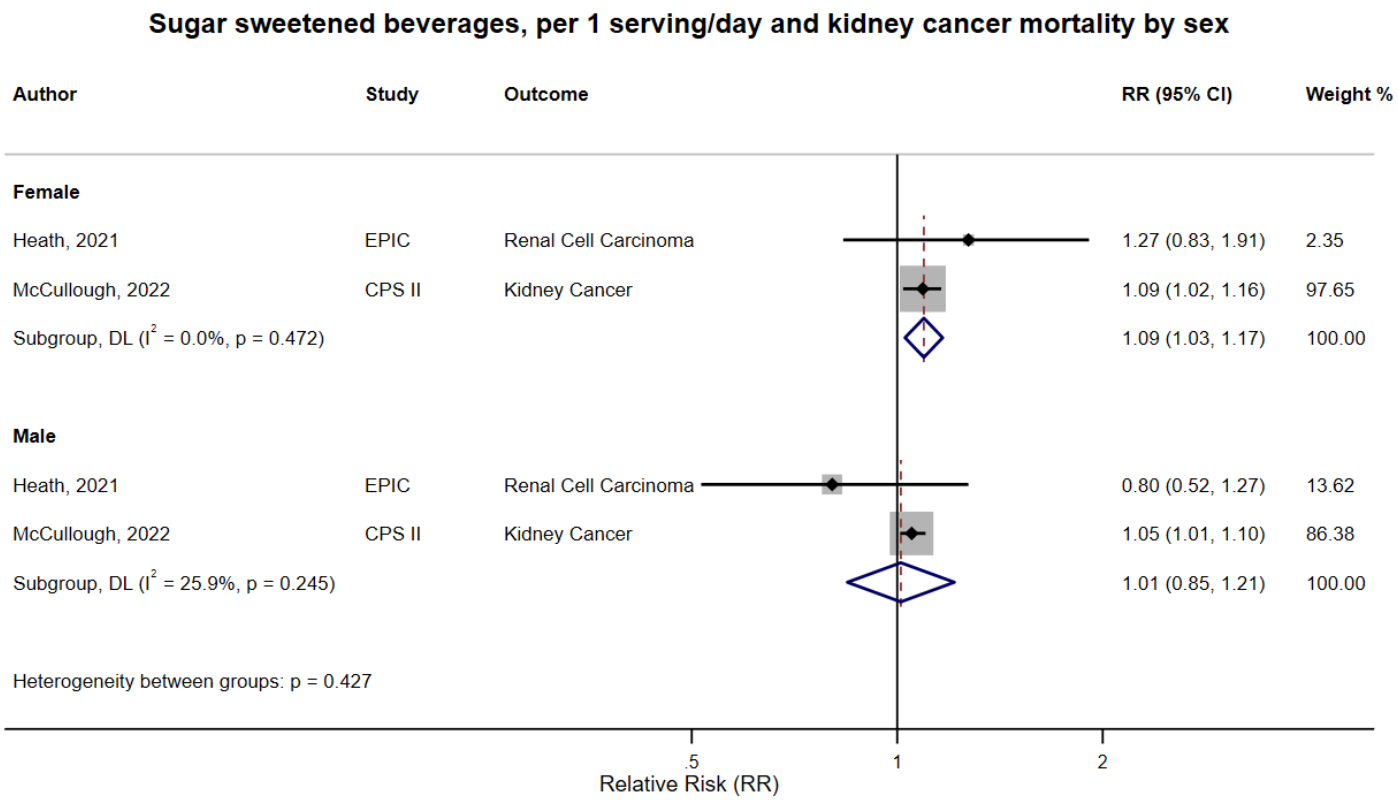


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Heath, 2021[66], McCullough, 2022[113]

Supplementary Figure 177. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality by frequency of dietary assessment.

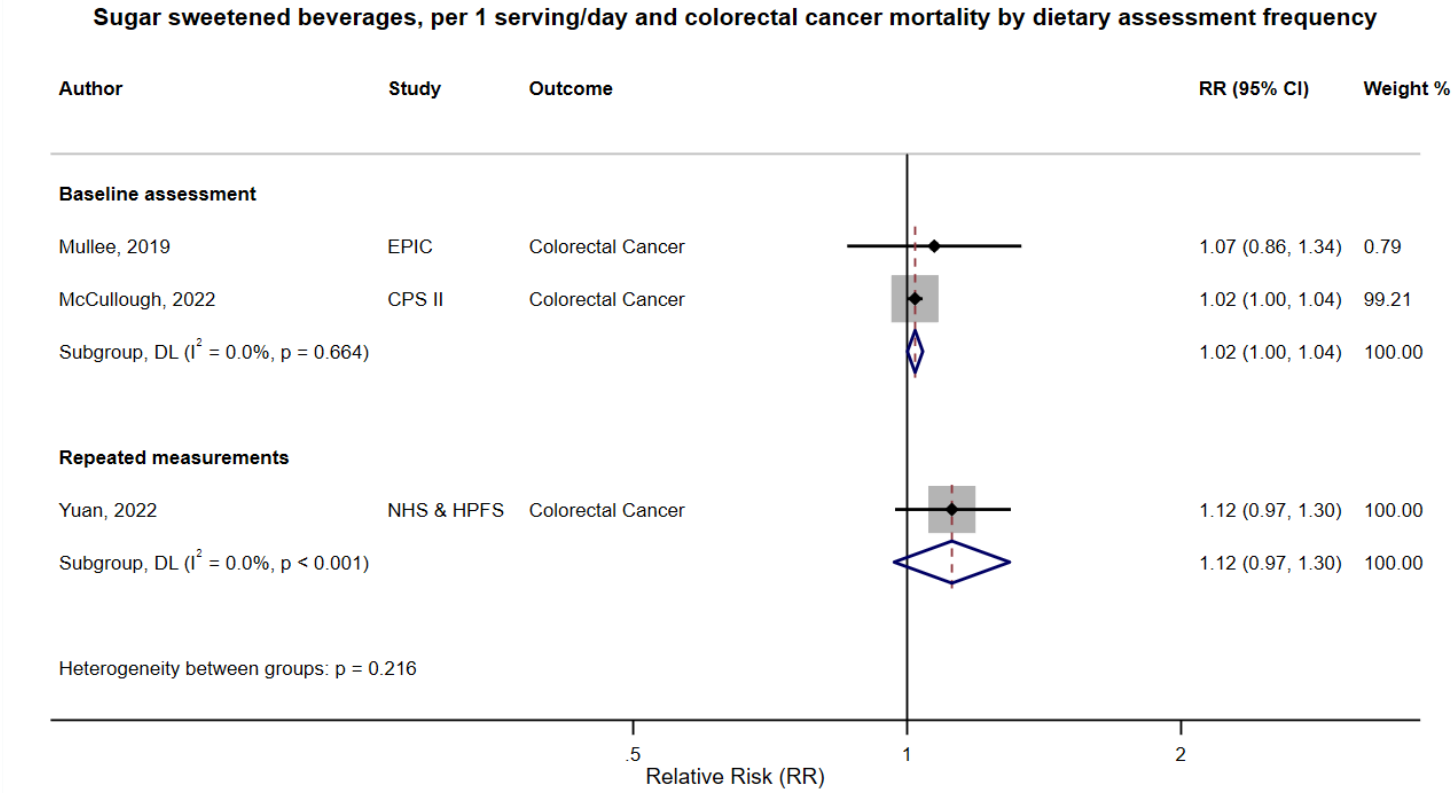


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Mullee, 2019[126], McCullough, 2022[113], Yuan, 2022[178]

Supplementary Figure 178. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality by geographical region.

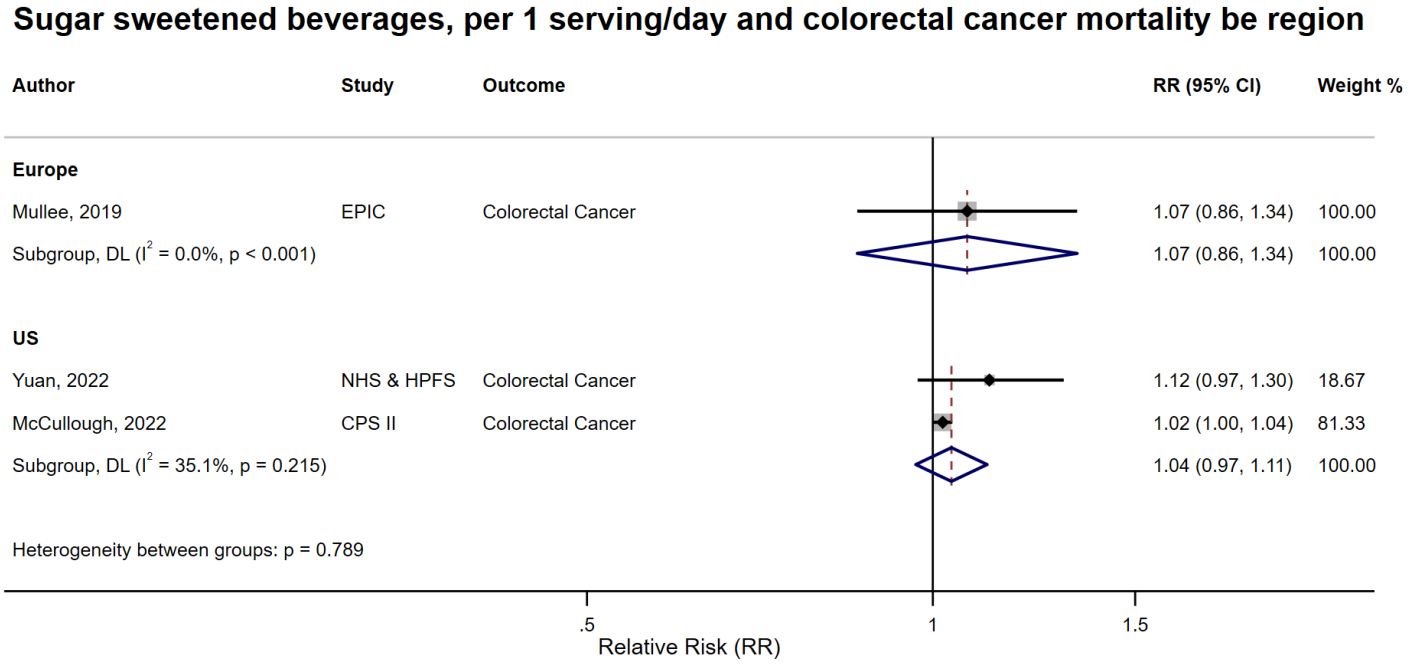


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Yuan, 2022[178], McCullough, 2022[113]

Supplementary Figure 179. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality by bias related to confounding.

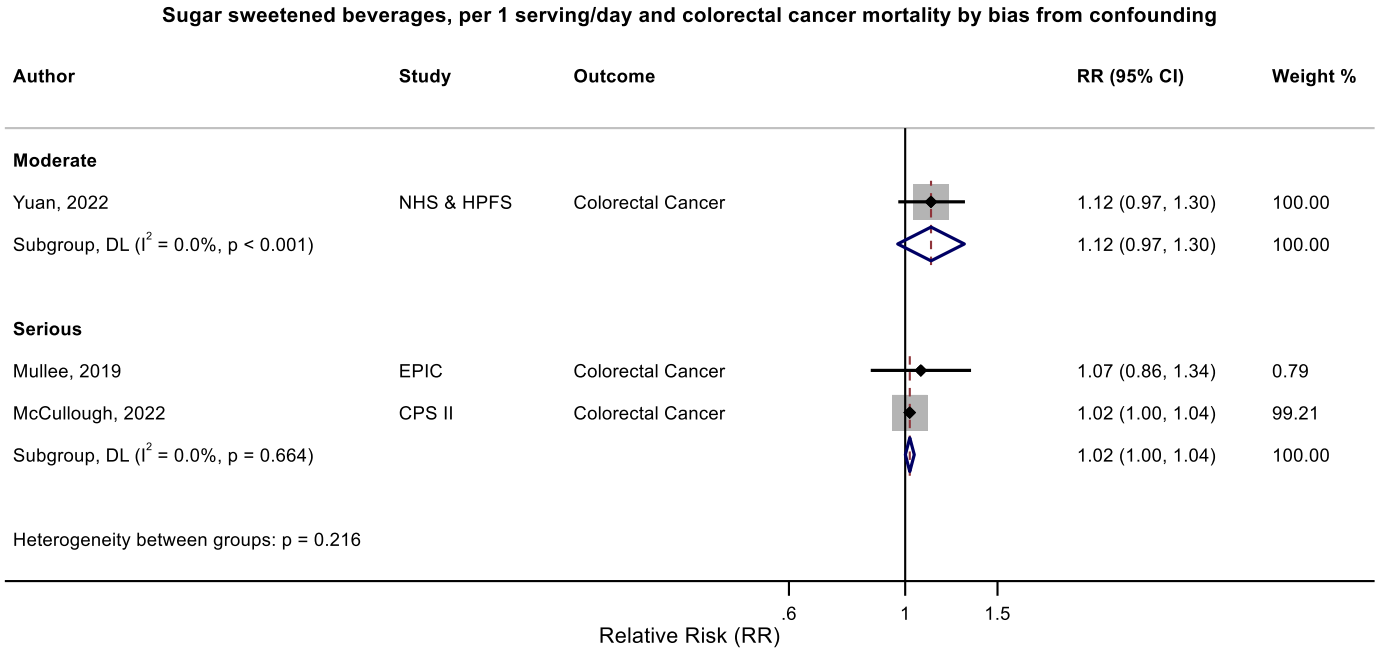


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[178], McCullough, 2022[113], Yuan, 2022[178]

Supplementary Figure 180. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality by bias related to departure from intended exposure.

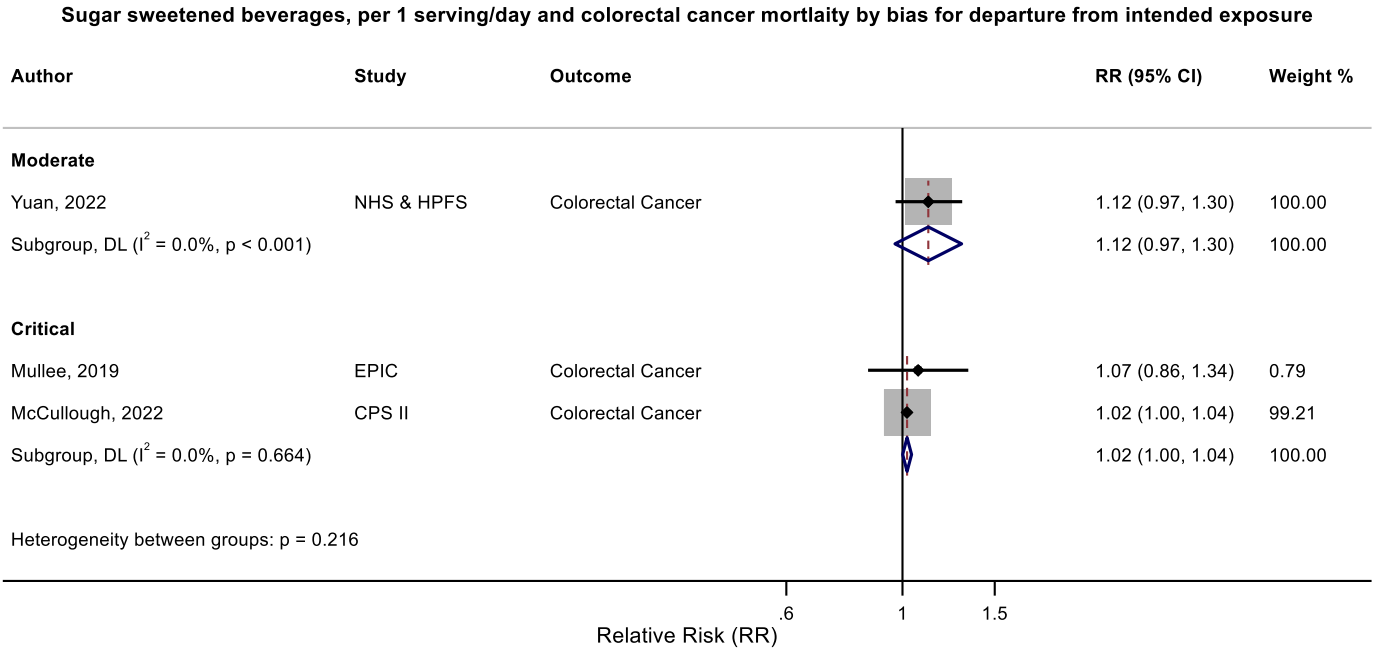


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[178], McCullough, 2022[113], Yuan, 2022[178]

Supplementary Figure 181. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer mortality by frequency of dietary assessment.

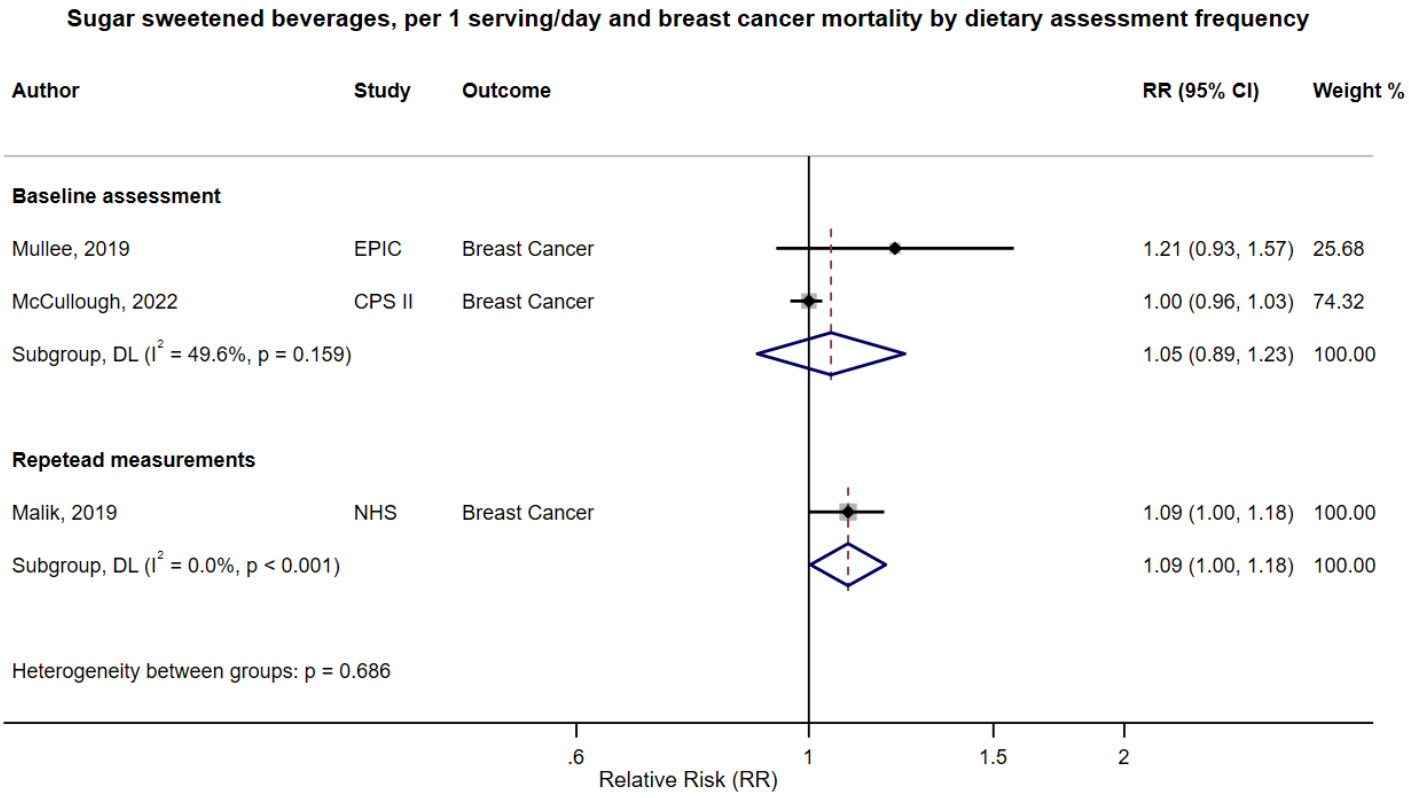


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; NHS, Nurses' Health Study

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 182. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer mortality by exclusion of people with diabetes at baseline.

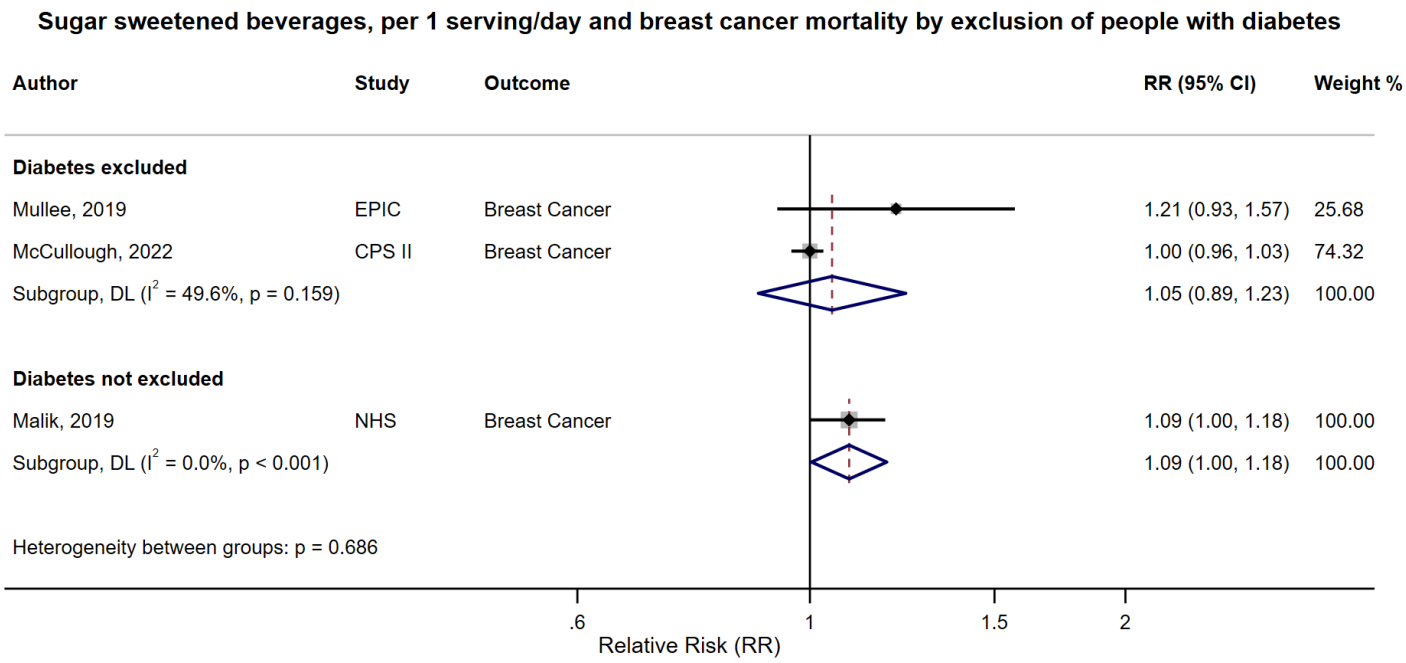


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; NHS, Nurses' Health Study

Note: The NHS controlled for a history of diabetes in the analysis.

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 183. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer mortality by geographical region.

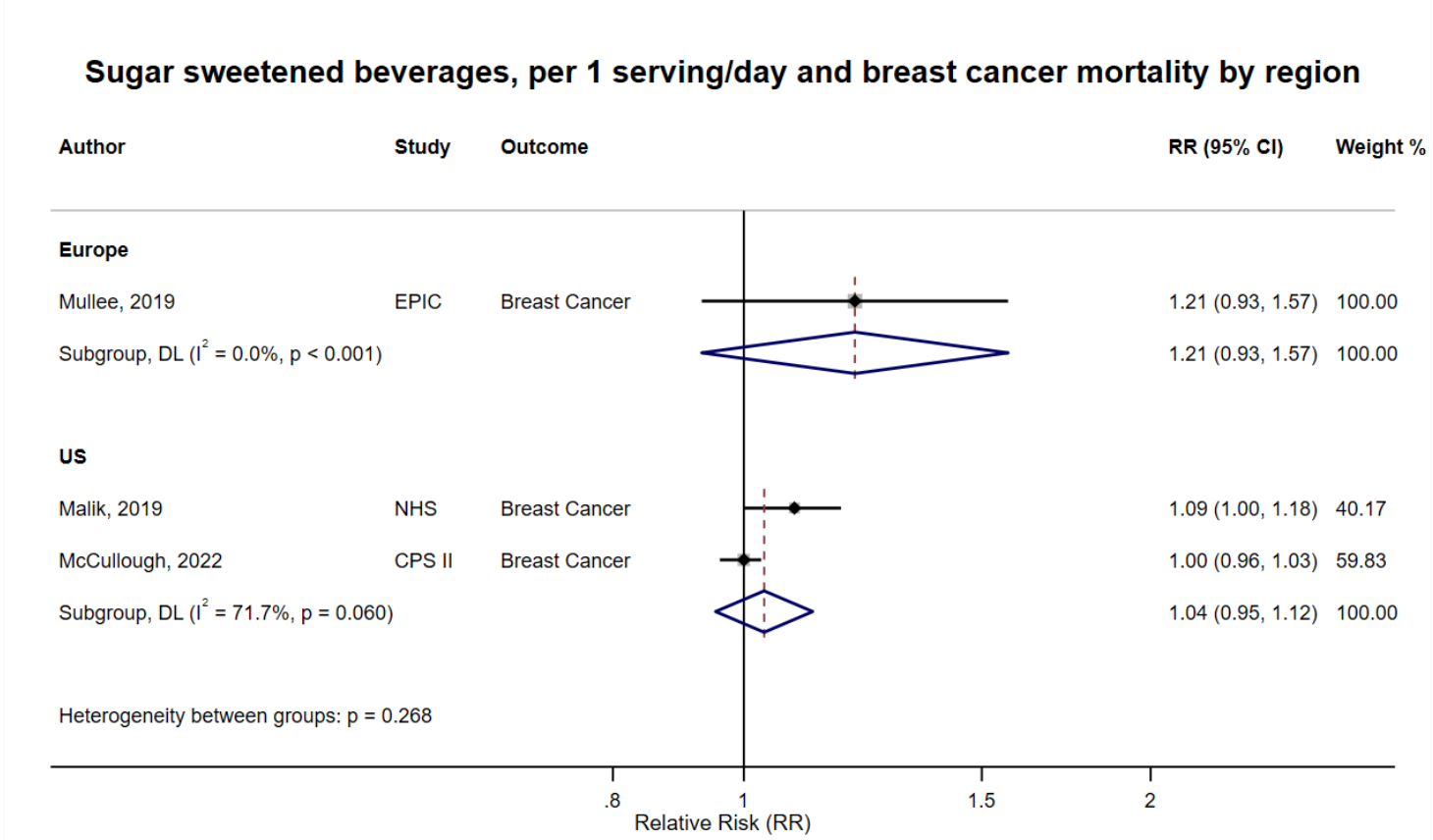


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 184. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer mortality by frequency of dietary assessment.

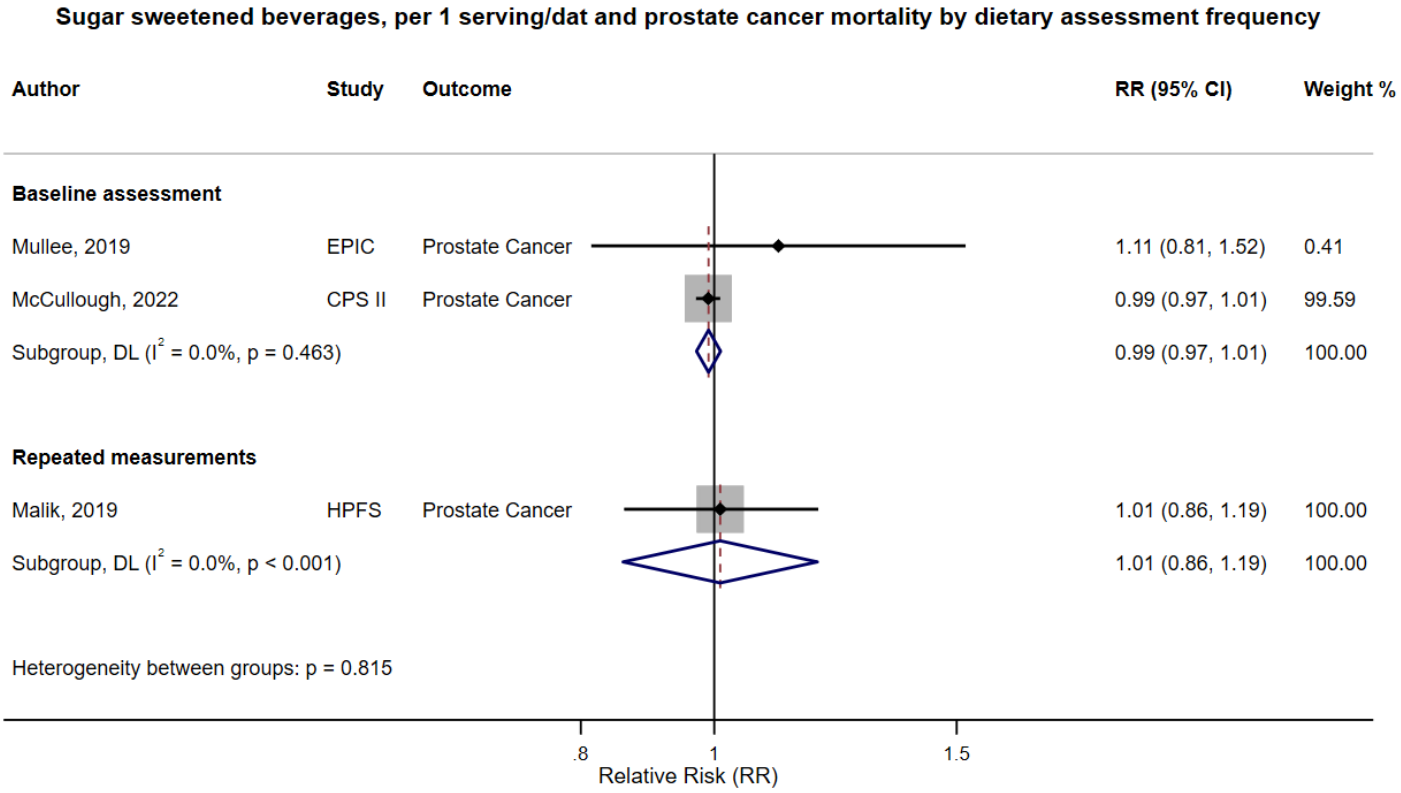


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 185. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer mortality by exclusion of people with diabetes at baseline.

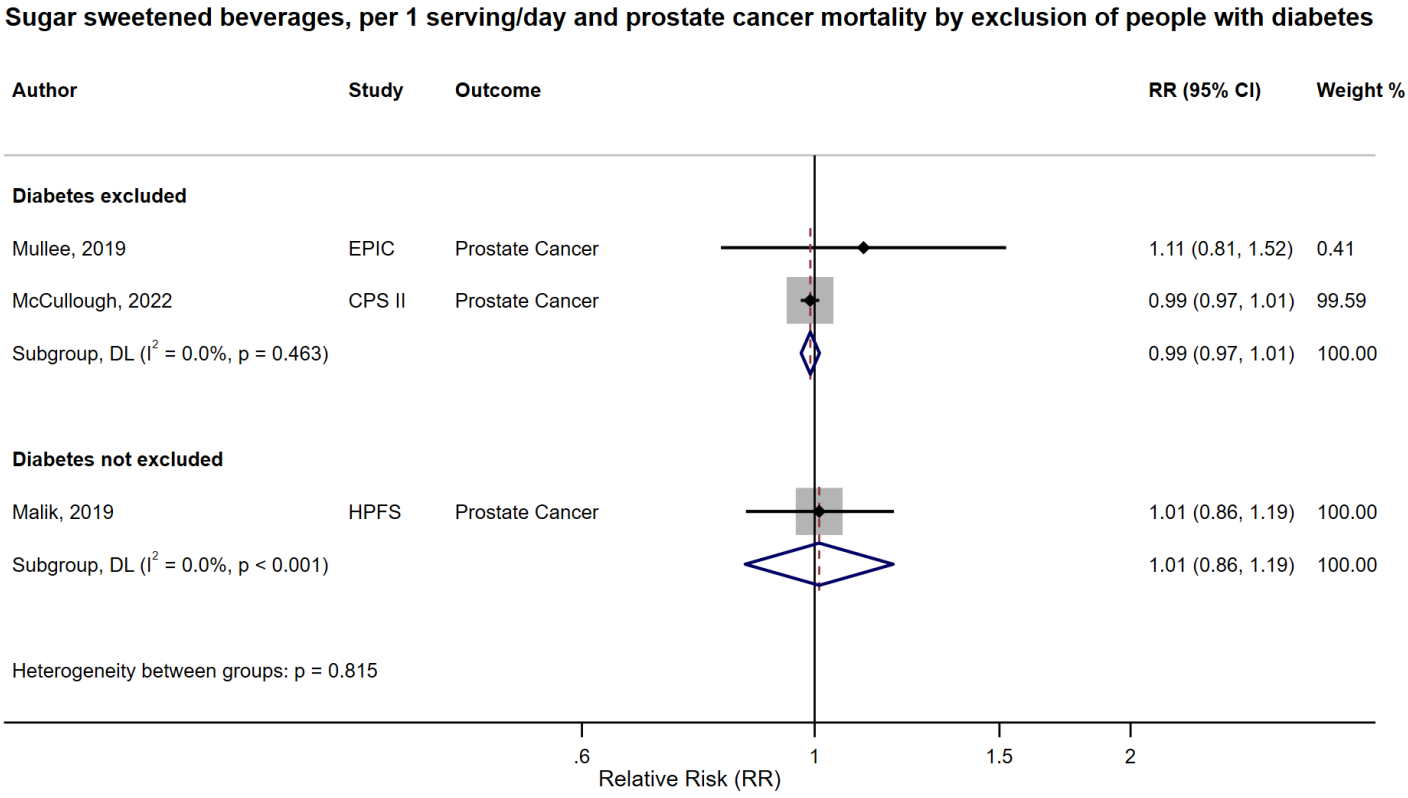


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study

Note: The HPFS controlled for a history of diabetes in the analysis.

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 186. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer mortality by geographical region.

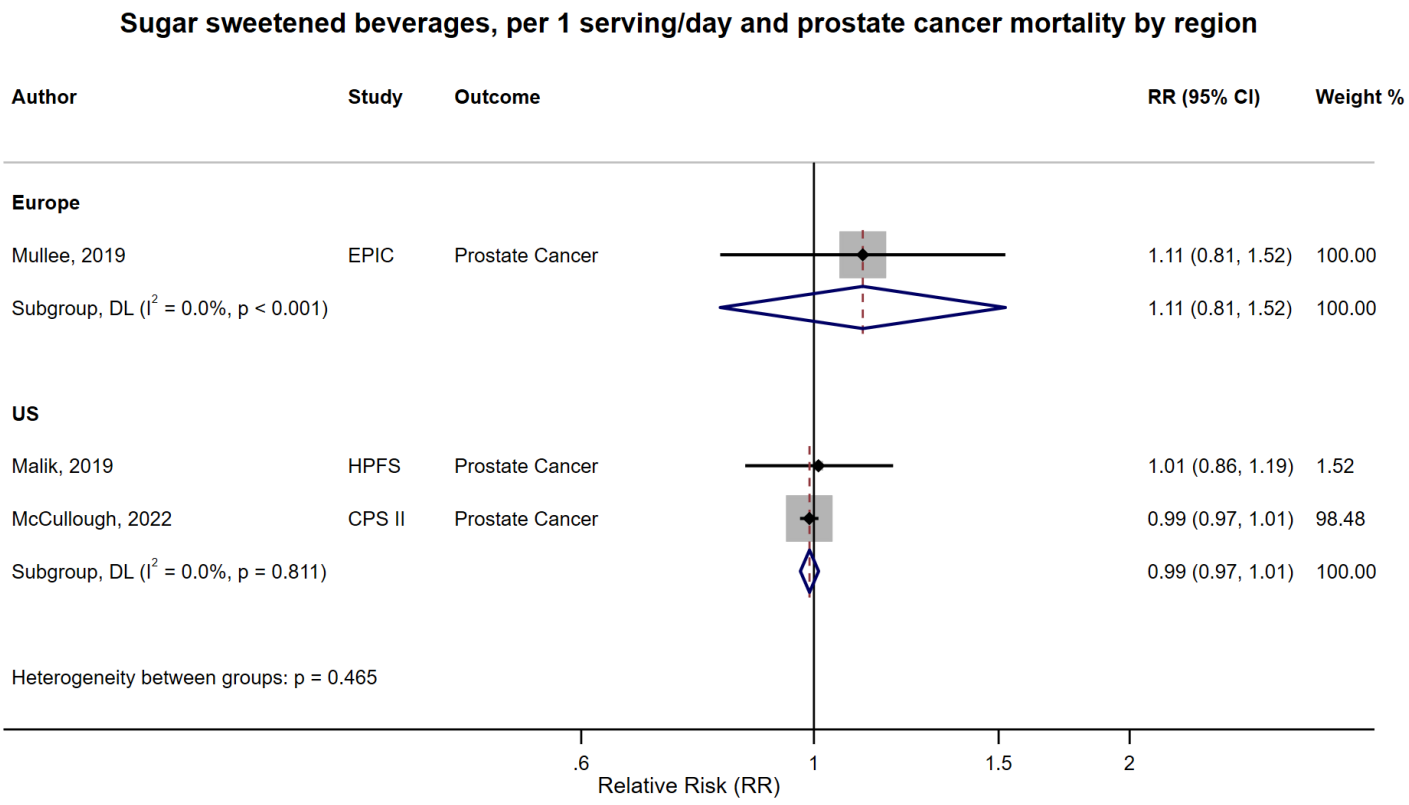


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 187. Linear dose-response meta-analysis of sugar sweetened beverages and breast cancer mortality, leave-one-out analysis.

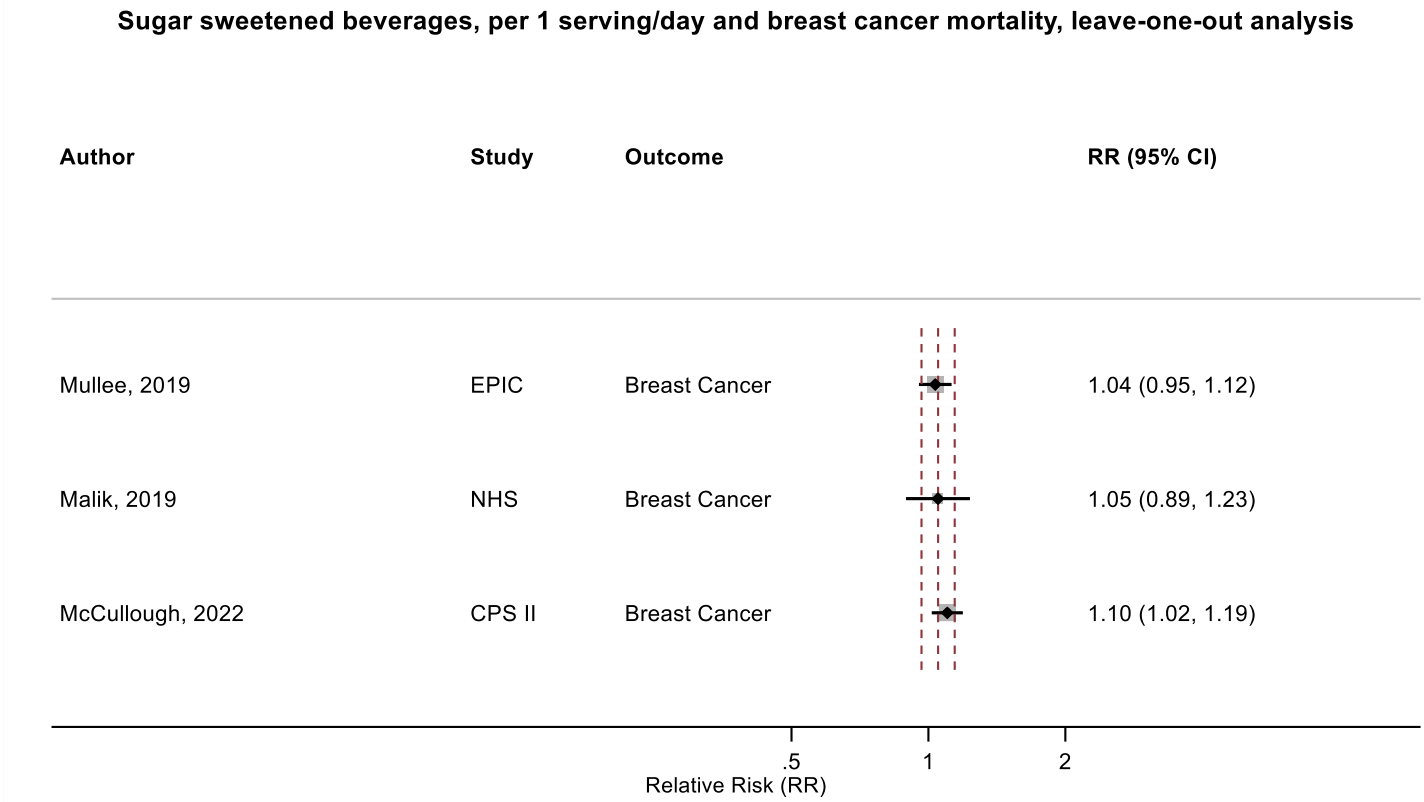


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 188. Linear dose-response meta-analysis of sugar sweetened beverages and colorectal cancer mortality, leave-one-out analysis.

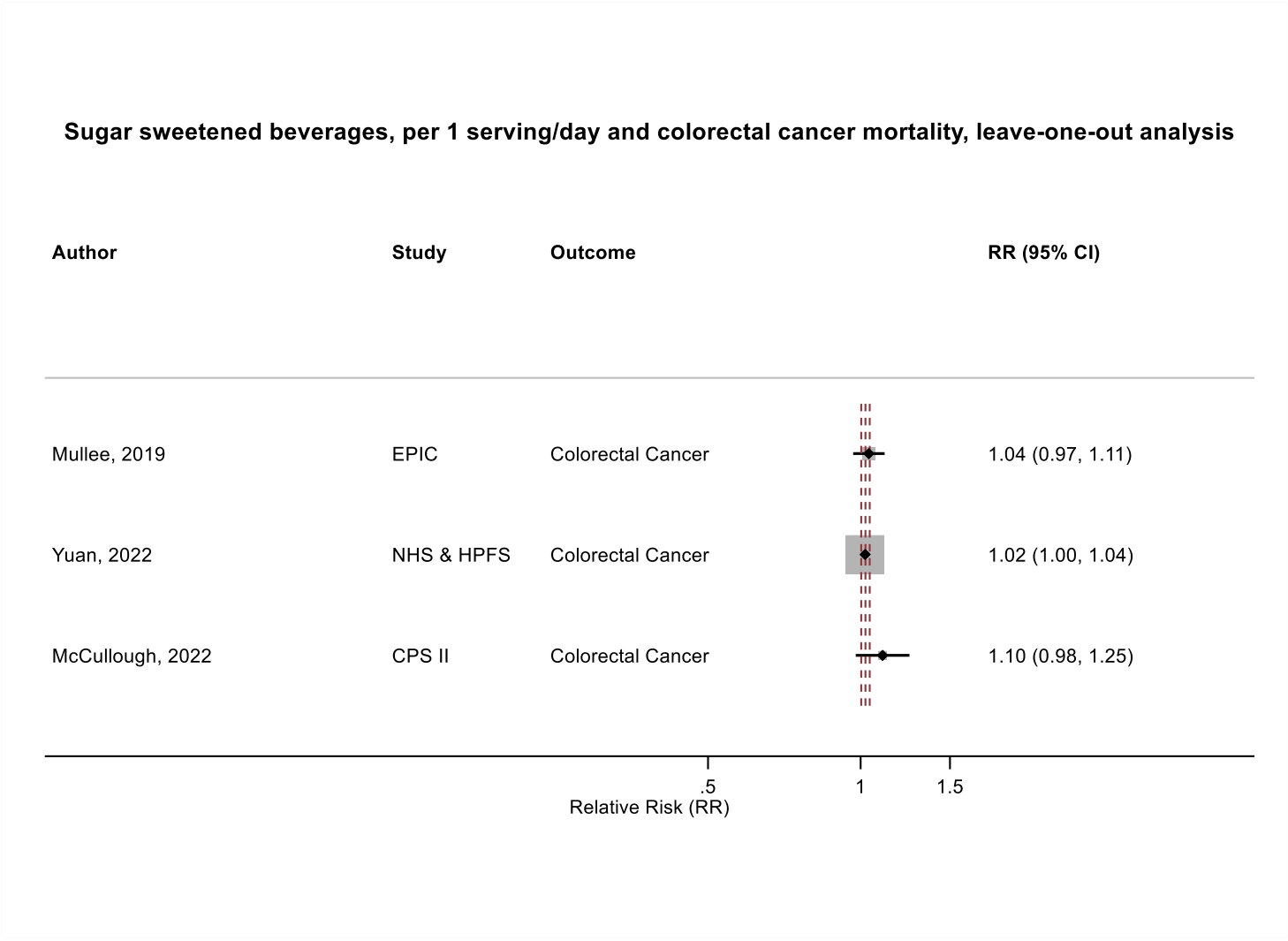


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages /day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Yuan, 2022[178], McCullough, 2022[113]

Supplementary Figure 189. Linear dose-response meta-analysis of sugar sweetened beverages and prostate cancer mortality, leave-one-out analysis.

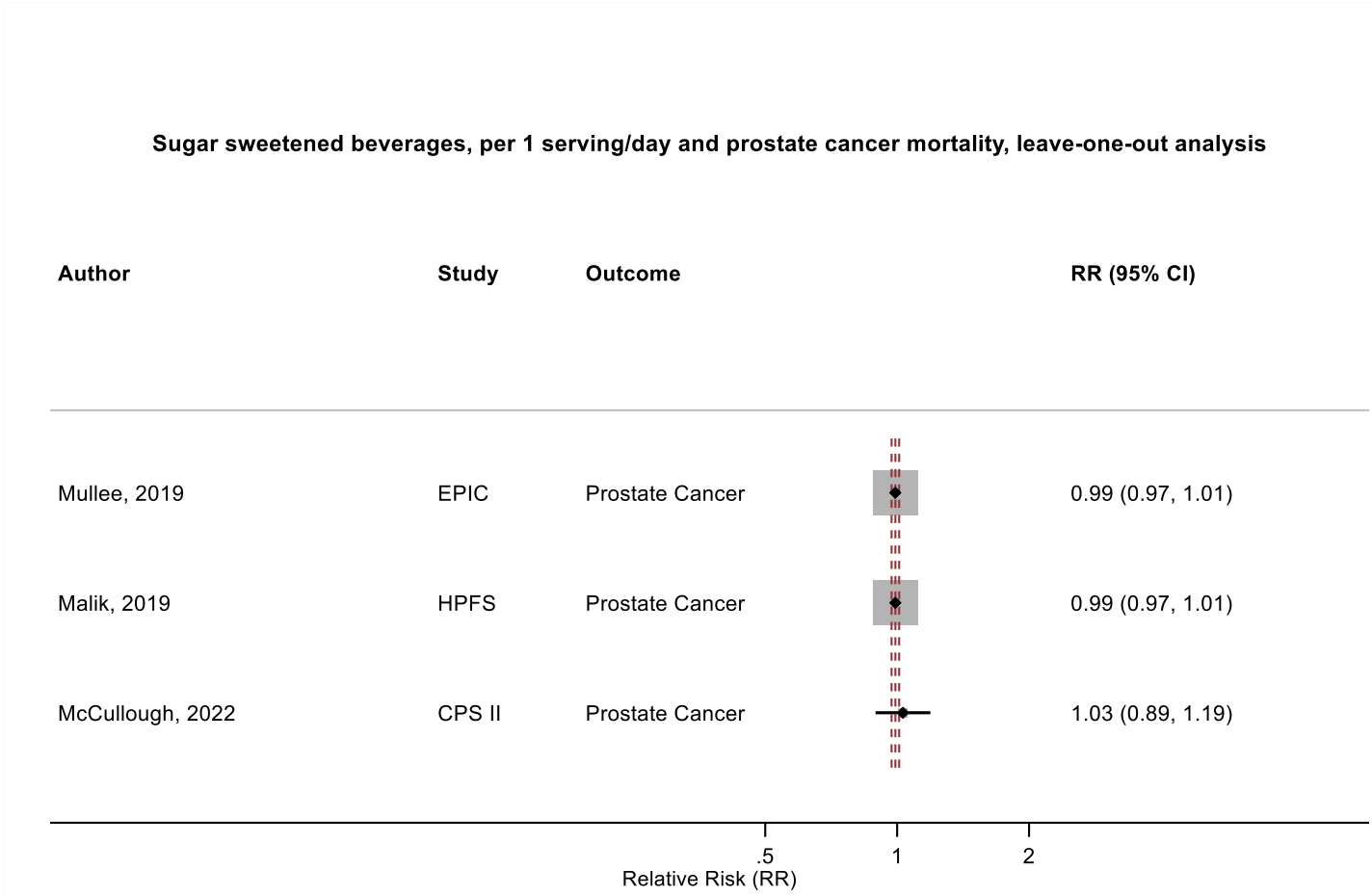


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 190. Linear dose-response meta-analysis of sugar sweetened beverages and kidney cancer mortality, comparison of the models with and without adjustment for body mass index.

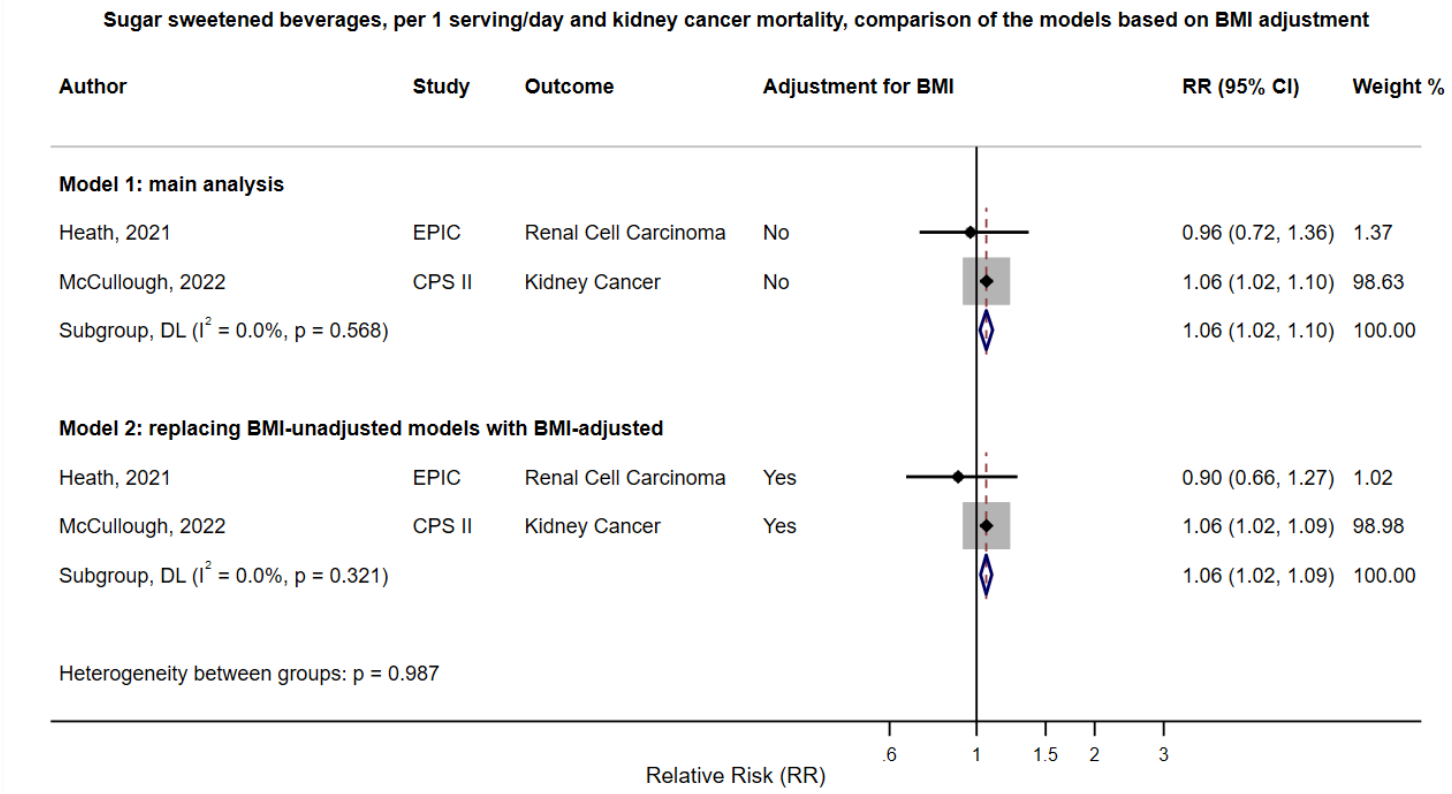


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of sugar sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Heath, 2021[66], McCullough, 2022[113]

Supplementary Figure 191. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and leukaemia incidence.

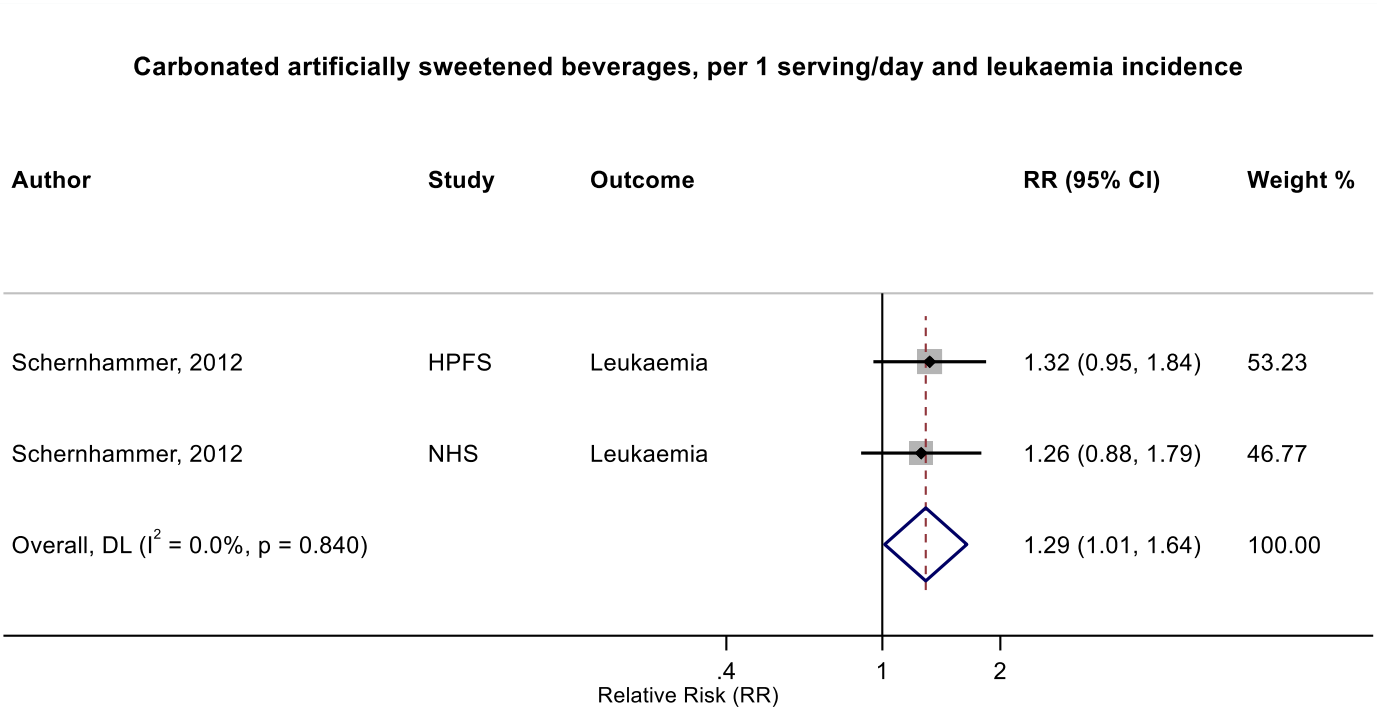


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Note: Both studies performed repeated dietary measurements (every 4 years).

Schernhammer, 2012[150]

Supplementary Figure 192. Linear dose-response meta-analysis of artificially sweetened beverages and pancreatic cancer incidence and mortality combined.

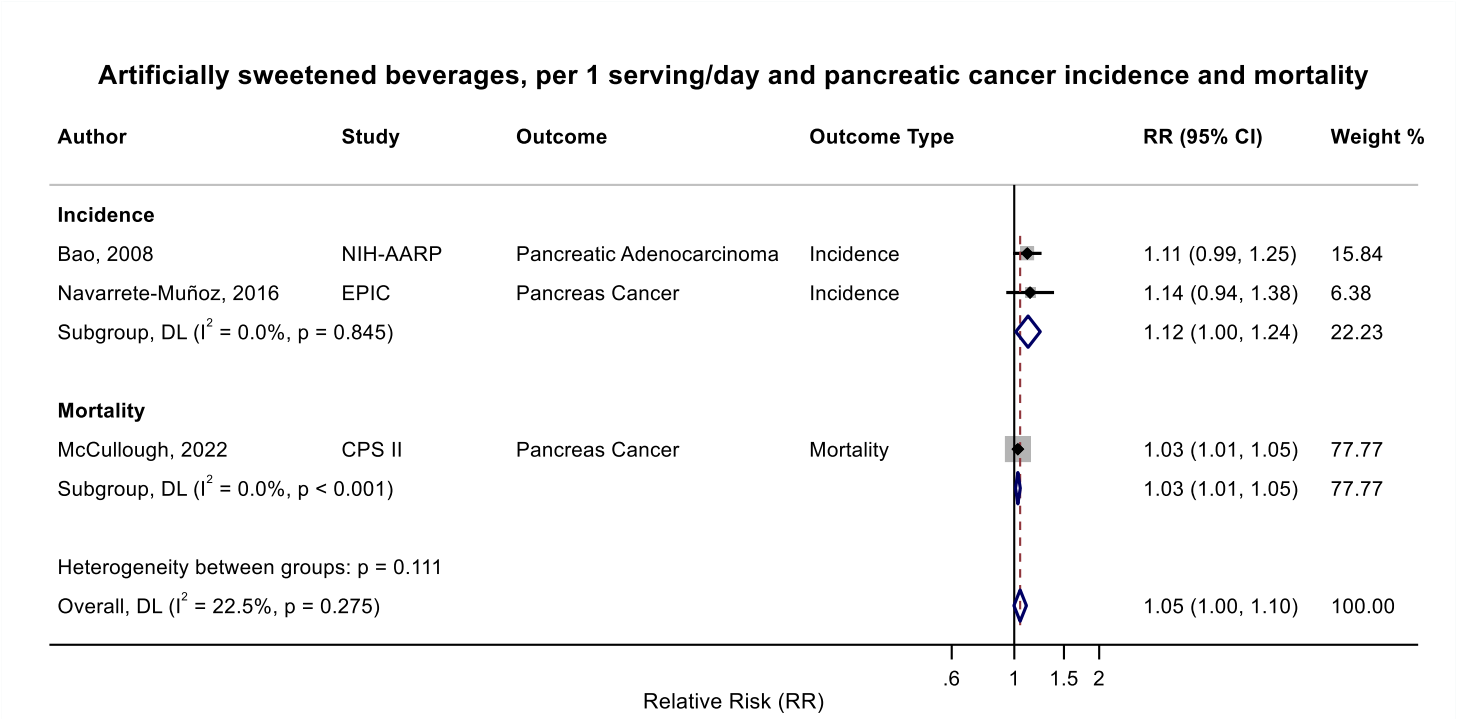


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Note: The pooled RR and 95%CIs with 3 decimal points are 1.12 (0.998 – 1.24) for incidence and 1.051 (0.997-1.109) for incidence and mortality combined.

Bao, 2008[39], Navarrete-Muñoz, 2016[127], McCullough, 2022[113]

Supplementary Figure 193. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and pancreatic cancer incidence.

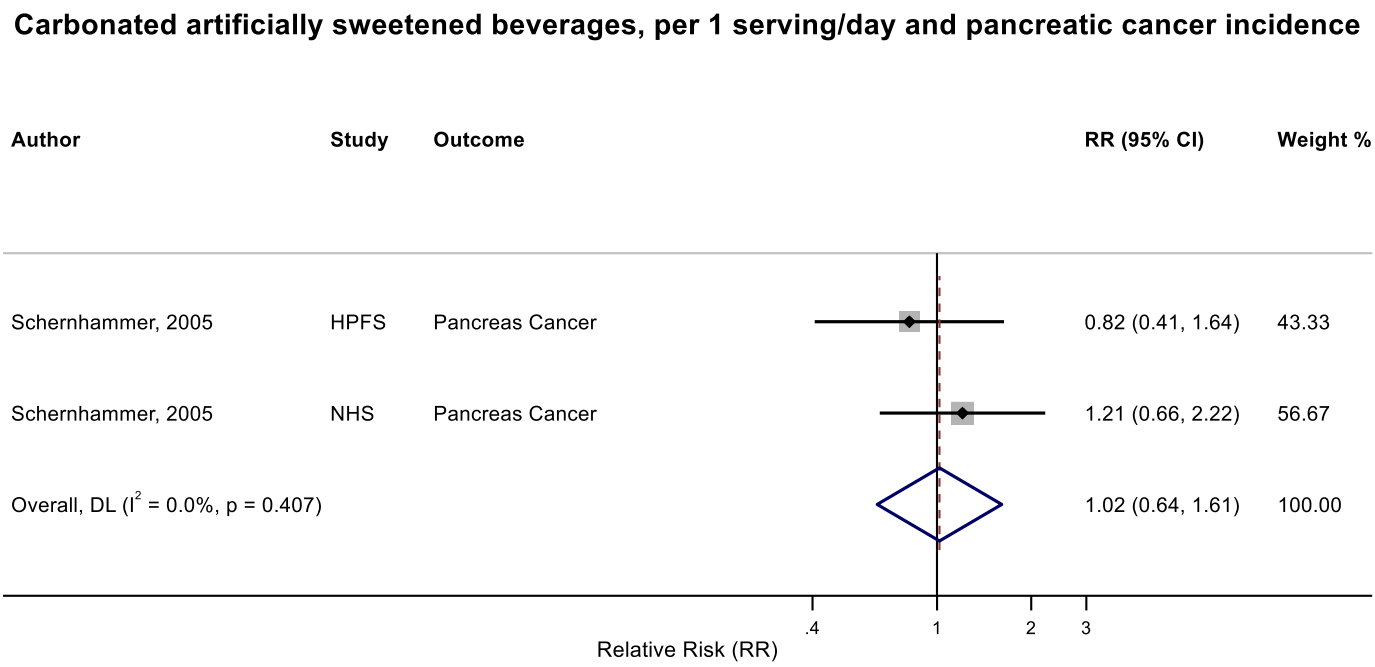


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Note: Both studies performed repeated dietary measurements (every 4 years).

Schernhammer, 2005[151]

Supplementary Figure 194. Linear dose-response meta-analysis of artificially sweetened and carbonated artificially sweetened beverages and pancreatic cancer incidence and mortality.

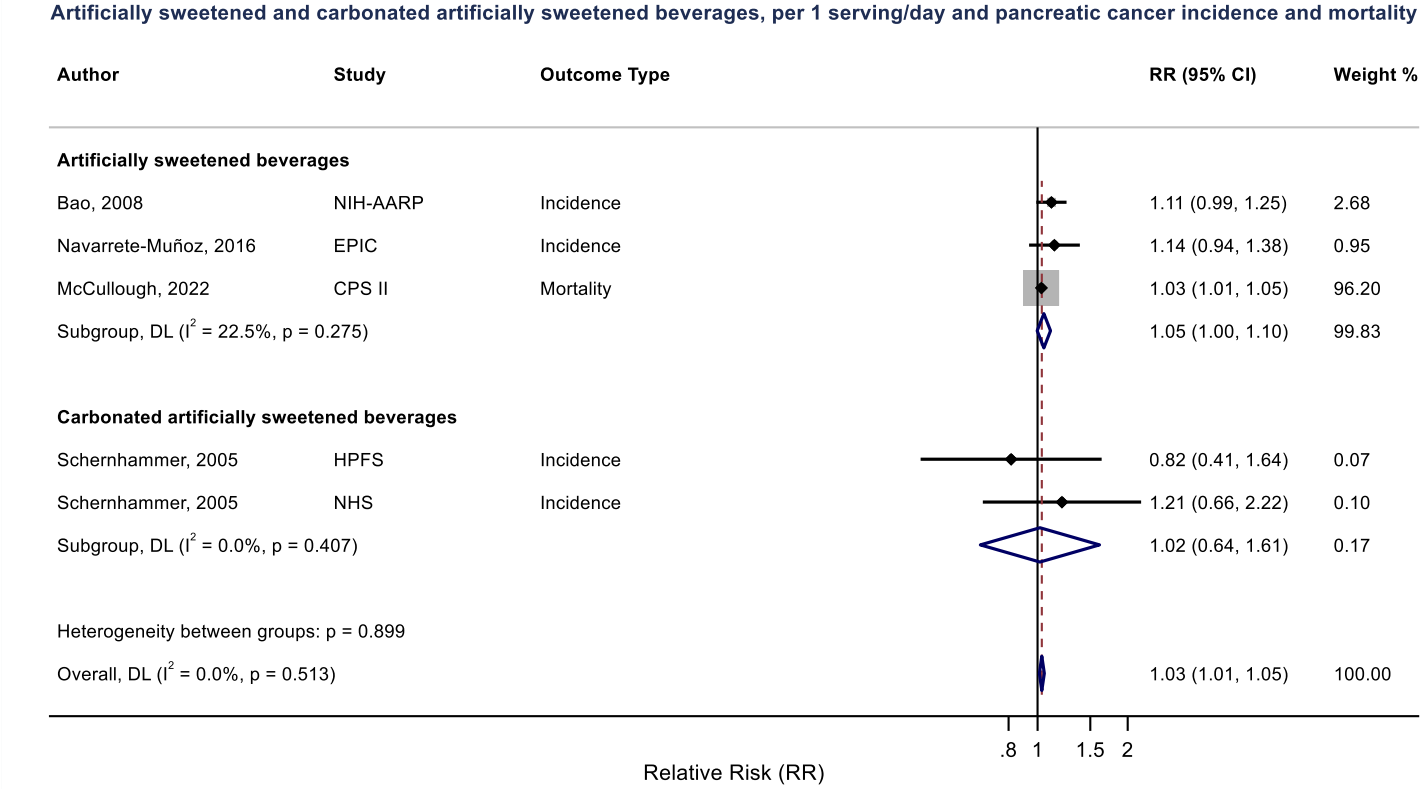


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II, HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Bao, 2008[39], Navarrete-Muñoz, 2016[127], McCullough, 2022[113], Schernhammer, 2005[151]

Supplementary Figure 195. Linear dose-response meta-analysis of artificially sweetened beverages and colorectal cancer incidence.

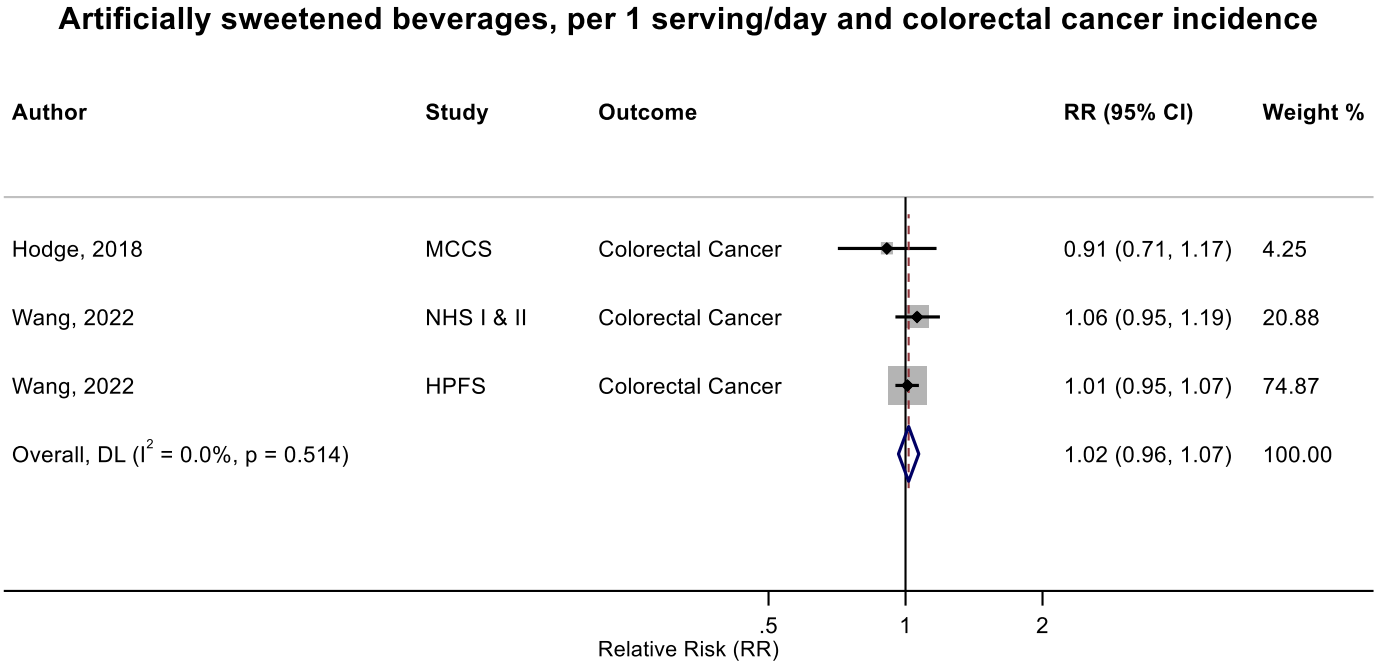


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study

Note: There was one French Cohort study (NutriNet-Santé)[44] that could not be included in the dose-response meta-analysis because of implausible effect size and reported no association between ASBs and colorectal cancer incidence (RR per 10 mL/day: 1.06, 95%CI: 0.77-1.48). There was another study (UK Biobank) that could not be included in the dose-response meta-analysis because of insufficient data format[78] and reported no association with colorectal cancer incidence per one SD increase in ASB intake (RR: 0.99, 95%CI: 0.94-1.05).

Hodge, 2018[70], Wang, 2022[168]

Supplementary Figure 196. Linear dose-response meta-analysis of artificially sweetened beverages and liver cancer incidence.

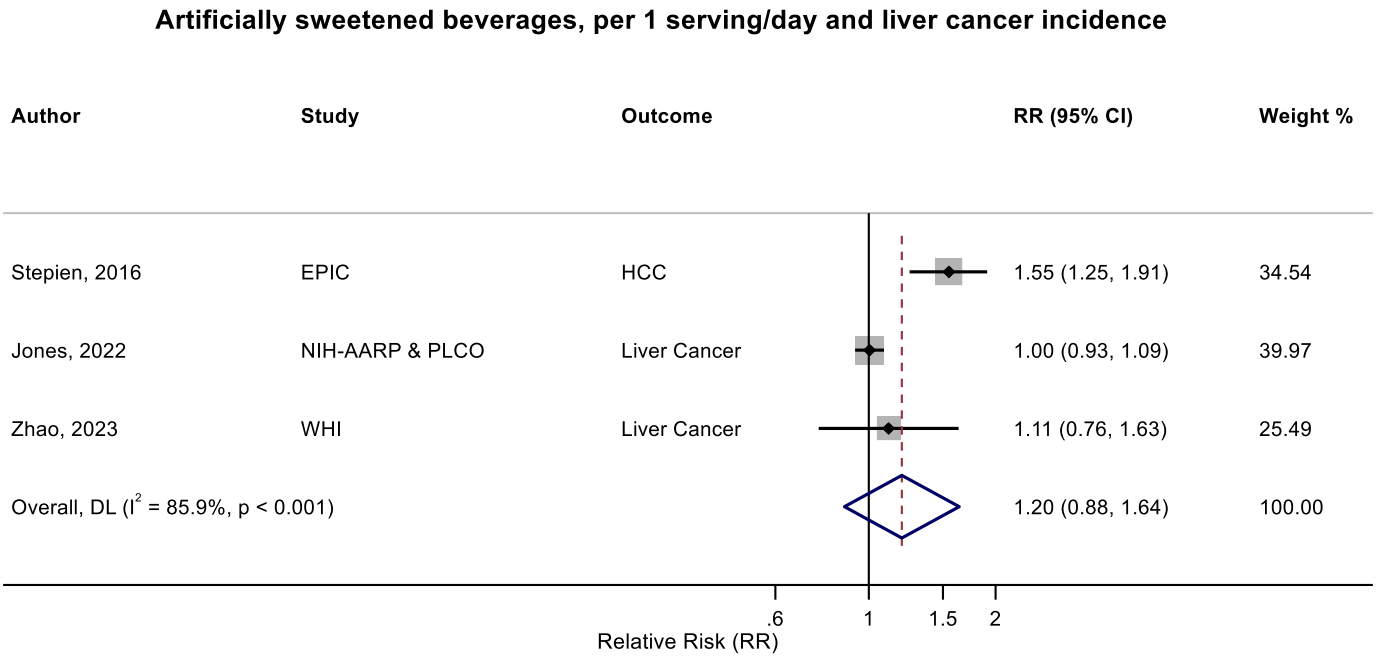


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Note. There was an additional study (Southern Community Cohort)[187] that could not be included in the dose-response meta-analysis because of insufficient data format and reported no association between ASB intake, as a component of ultraprocessed foods, and liver cancer incidence ($RR_{\geq median\ vs\ non\text{-}consumers}$: 0.83, 95%CI: 0.51-1.35).

Stepien, 2016[159], Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 197. Linear dose-response meta-analysis of artificially sweetened beverages and liver cancer incidence and mortality combined.

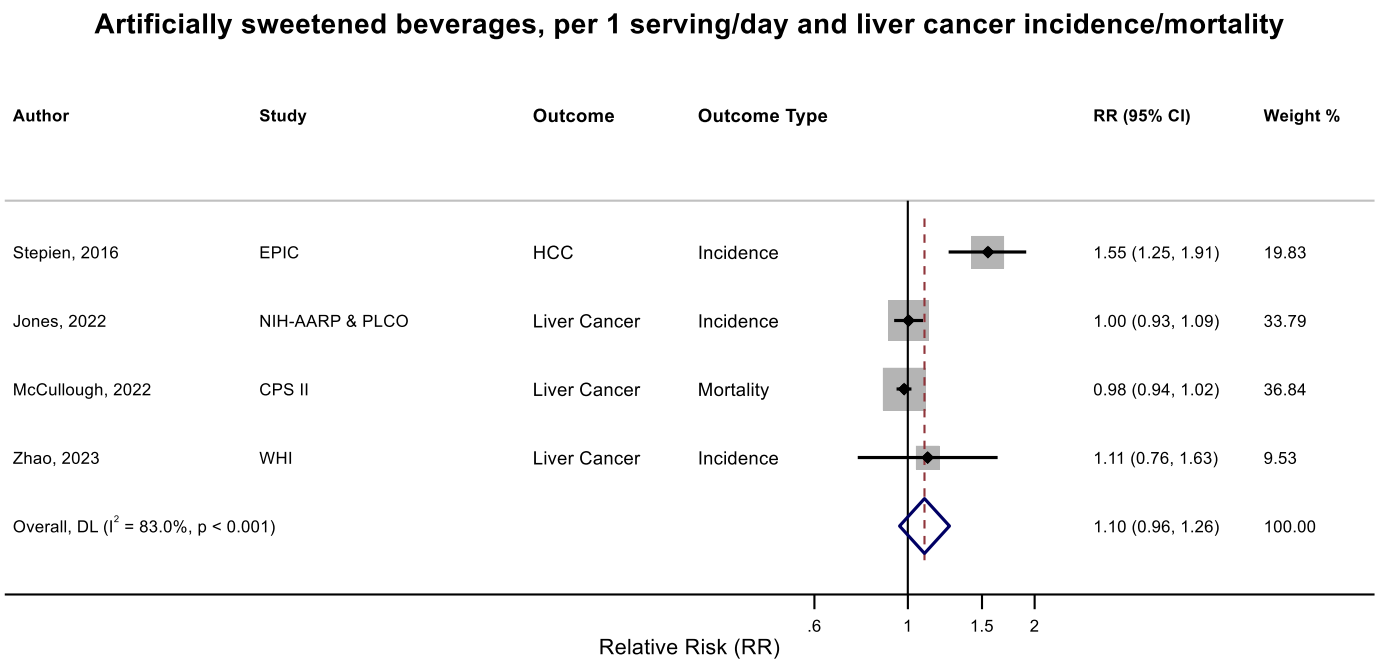


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study; CPS II, Cancer Prevention Study II

Stepien, 2016[159], Jones, 2022[79], McCullough, 2022[113], Zhao, 2023[186]

Supplementary Figure 198. Linear dose-response meta-analysis of artificially sweetened beverages components and liver cancer incidence.

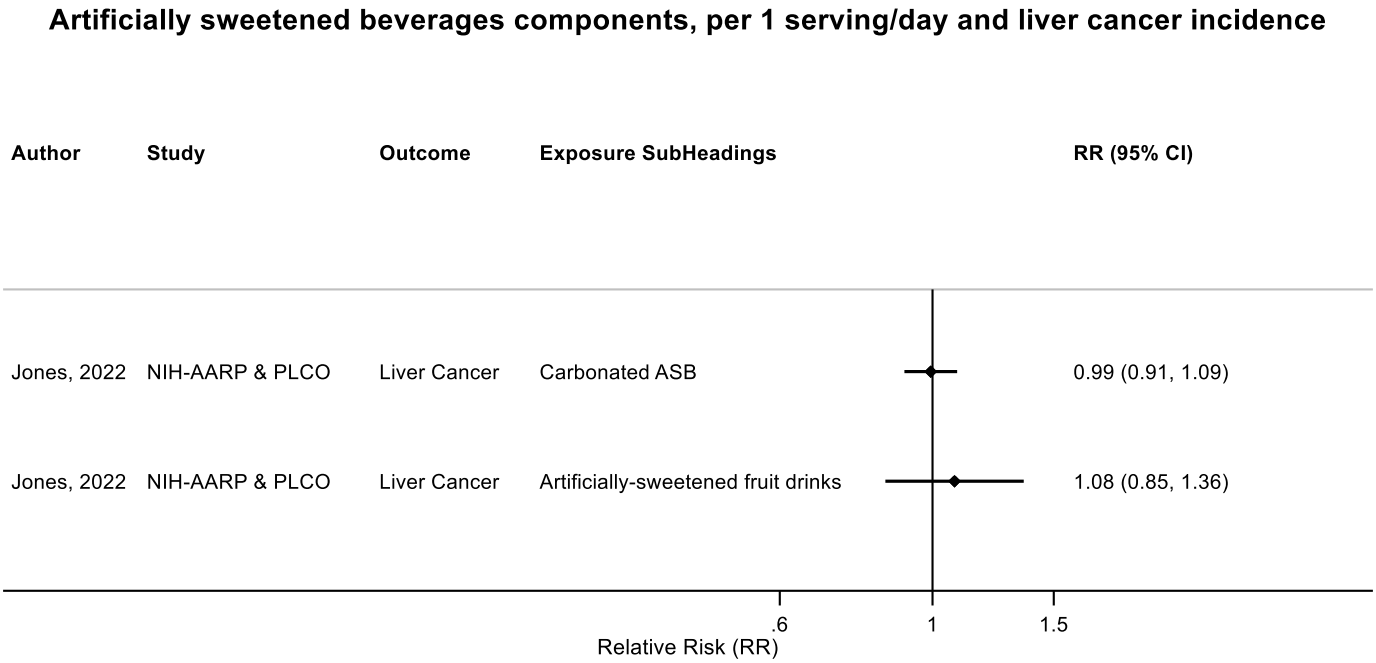


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages components/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Note: There was an additional study (Southern Community Cohort)[187] that could not be included in the dose-response meta-analysis because of insufficient data format and reported no association between carbonated artificially sweetened beverages and liver cancer (RR $_{\geq \text{median vs non-consumers}}$: 0.83, 95%CI: 0.51-1.35).

Jones, 2022[79]

Supplementary Figure 199. Linear dose-response meta-analysis of artificially sweetened cola and pancreatic cancer incidence.

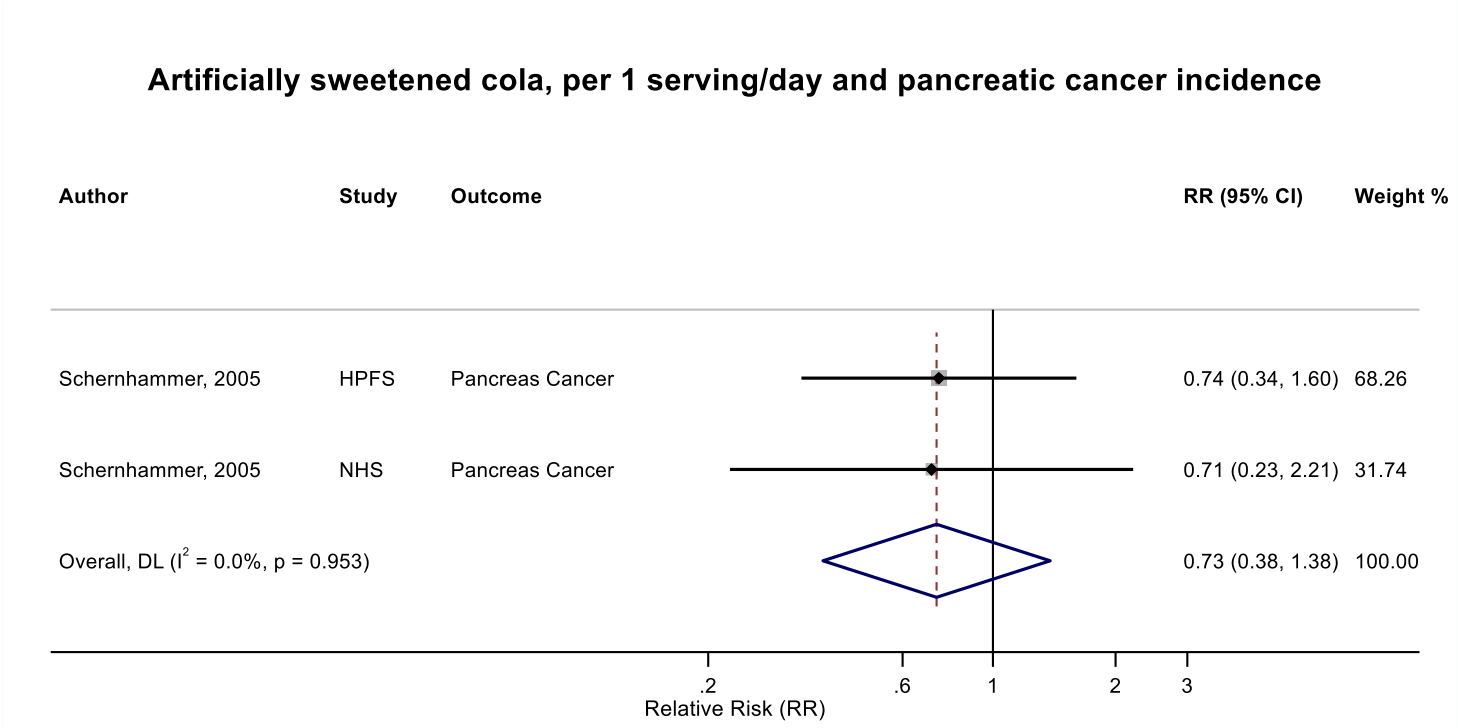


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened cola/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Note: Both studies performed repeated dietary measurements (every 4 years).

Schernhammer, 2005[151]

Supplementary Figure 200. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer incidence.

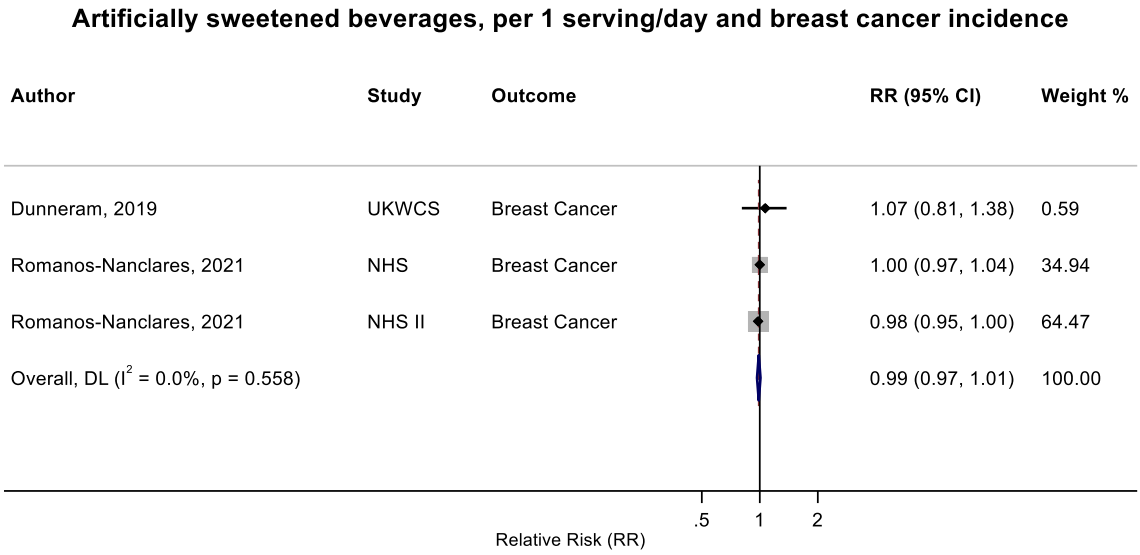


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Note: There was one French Cohort study (NutriNet-Santé)[44] that that could not be included in the dose-response meta-analysis because of implausible effect size and reported limited evidence of an association (RR $_{\text{per 10 mL/day}}$: 0.97, 95%CI: 0.84-1.12).

Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 201. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer incidence by menopausal status.

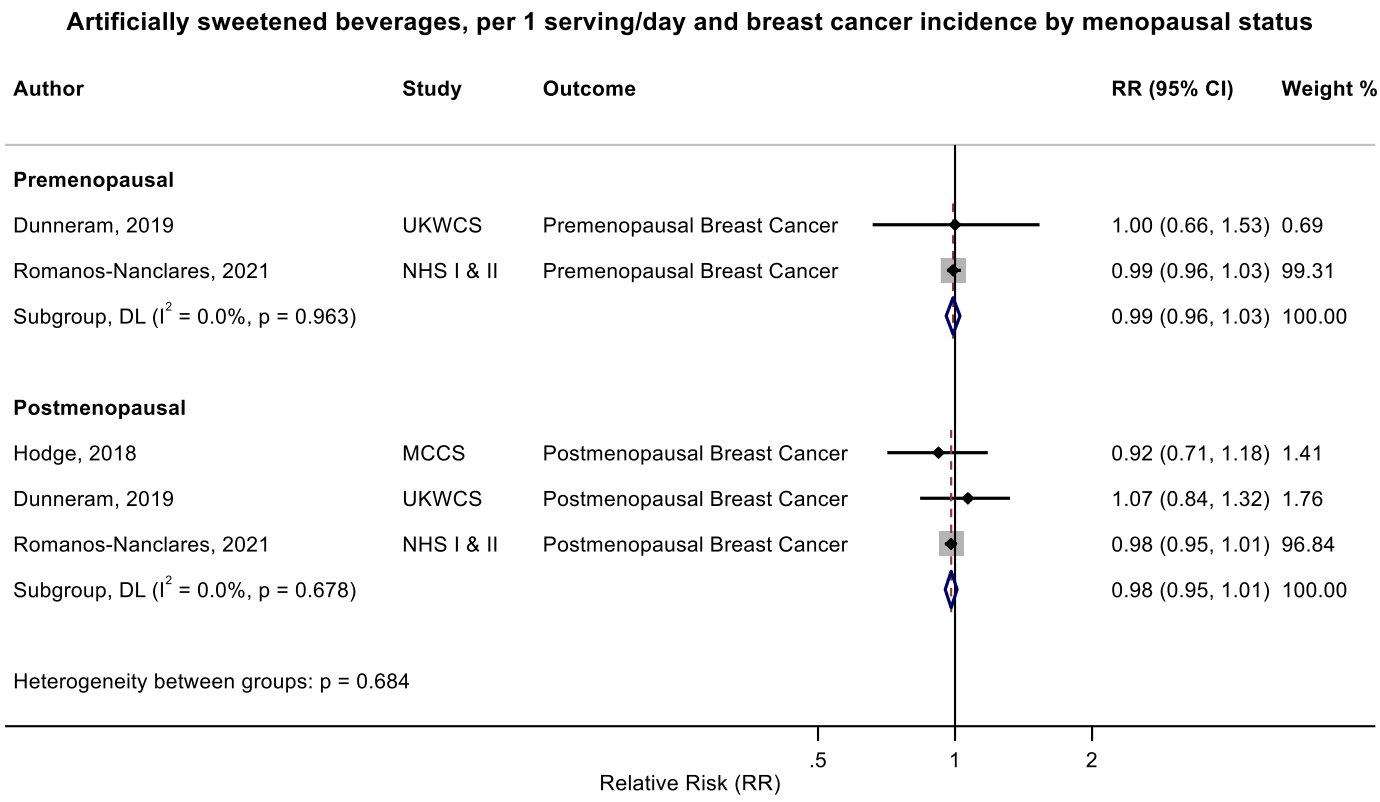


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; NHS I & II, Nurses' Health Study I & II; MCCS, Melbourne Collaborative Cohort Study

Note: There was one French Cohort study (NutriNet-Santé)[44] that that could not be included in the dose-response meta-analysis because of implausible effect size and reported limited evidence of an association with postmenopausal (RR $_{\text{per 10 mL/day}}$: 0.99, 95%CI: 0.78-1.25) and premenopausal (RR $_{\text{per 10 mL/day}}$: 0.95, 95%CI: 0.78-1.16) breast cancer incidence.

Dunneram, 2019[49], Romanos-Nanclares, 2021[145], Hodge, 2018[70]

Supplementary Figure 202. Linear dose-response meta-analysis of artificially sweetened beverages and incidence of breast cancer subtypes.

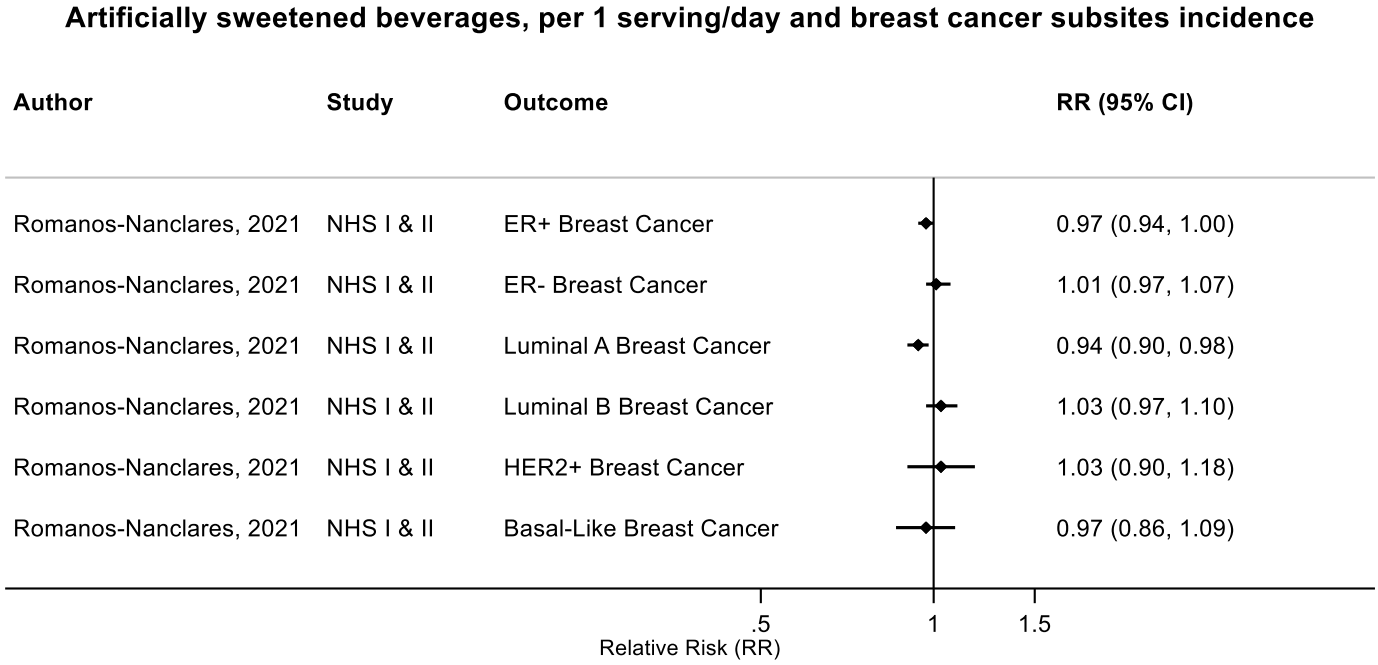


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I and II, Nurses' Health Study I and II

Romanos-Nanclares, 2021[145]

Supplementary Figure 203. Linear dose-response meta-analysis of artificially sweetened beverages and endometrial cancer incidence.

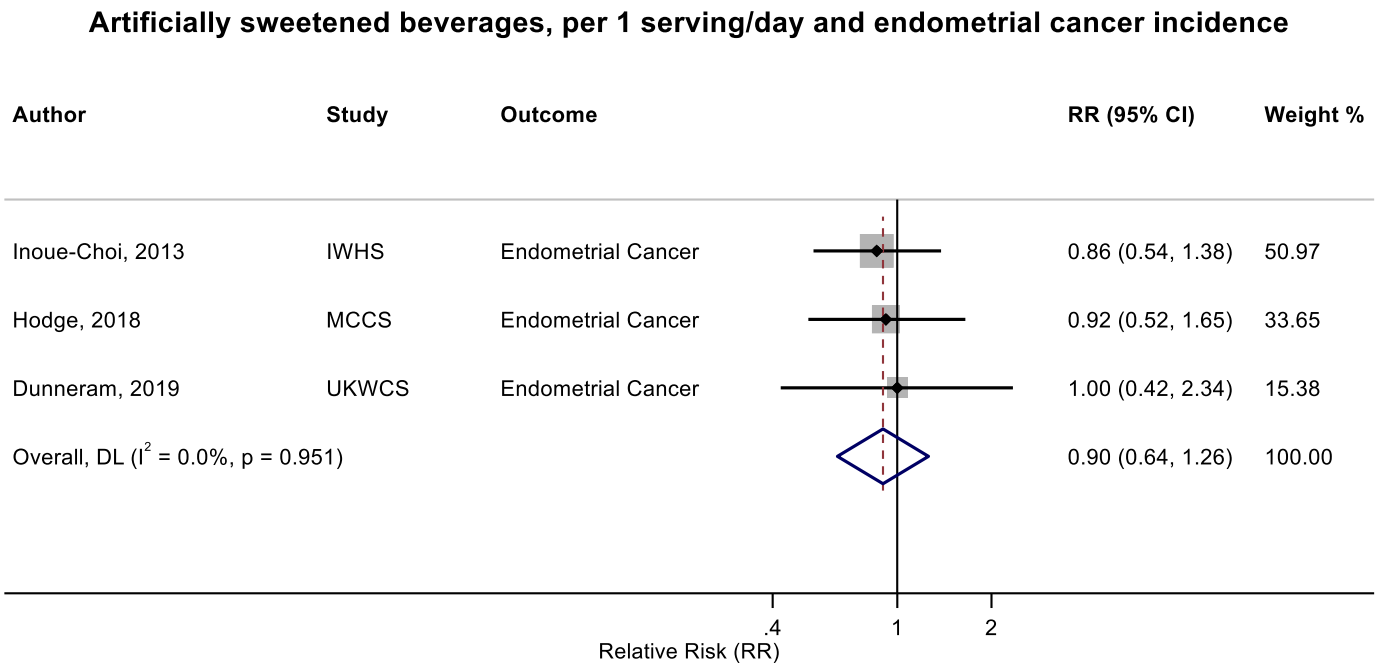


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study

Inoue-Choi, 2013[74], Hodge, 2018[70], Dunneram, 2019[49]

Supplementary Figure 204. Linear dose-response meta-analysis of artificially sweetened beverages and postmenopausal endometrial cancer incidence.

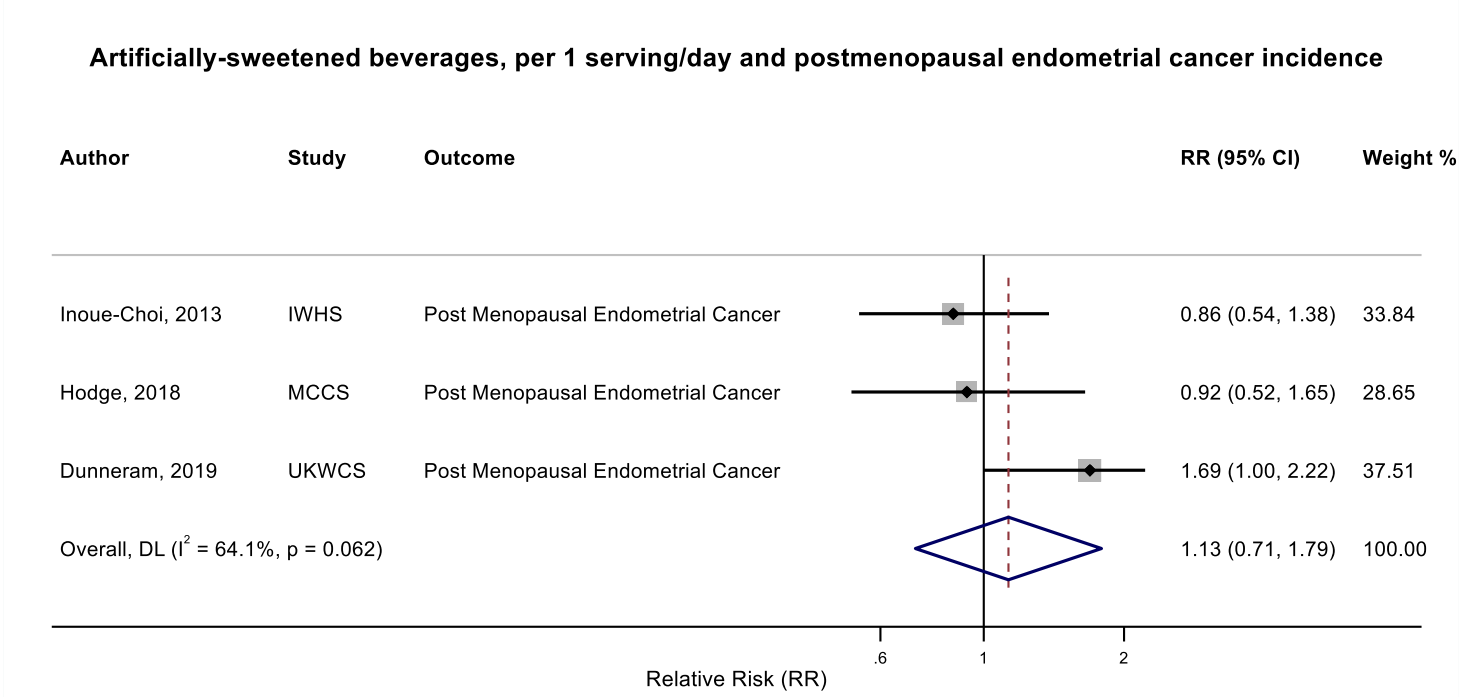


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study

Inoue-Choi, 2013[74], Hodge, 2018[70], Dunneram, 2019[49]

Supplementary Figure 205. Linear dose-response meta-analysis of artificially sweetened beverages and ovarian cancer incidence.

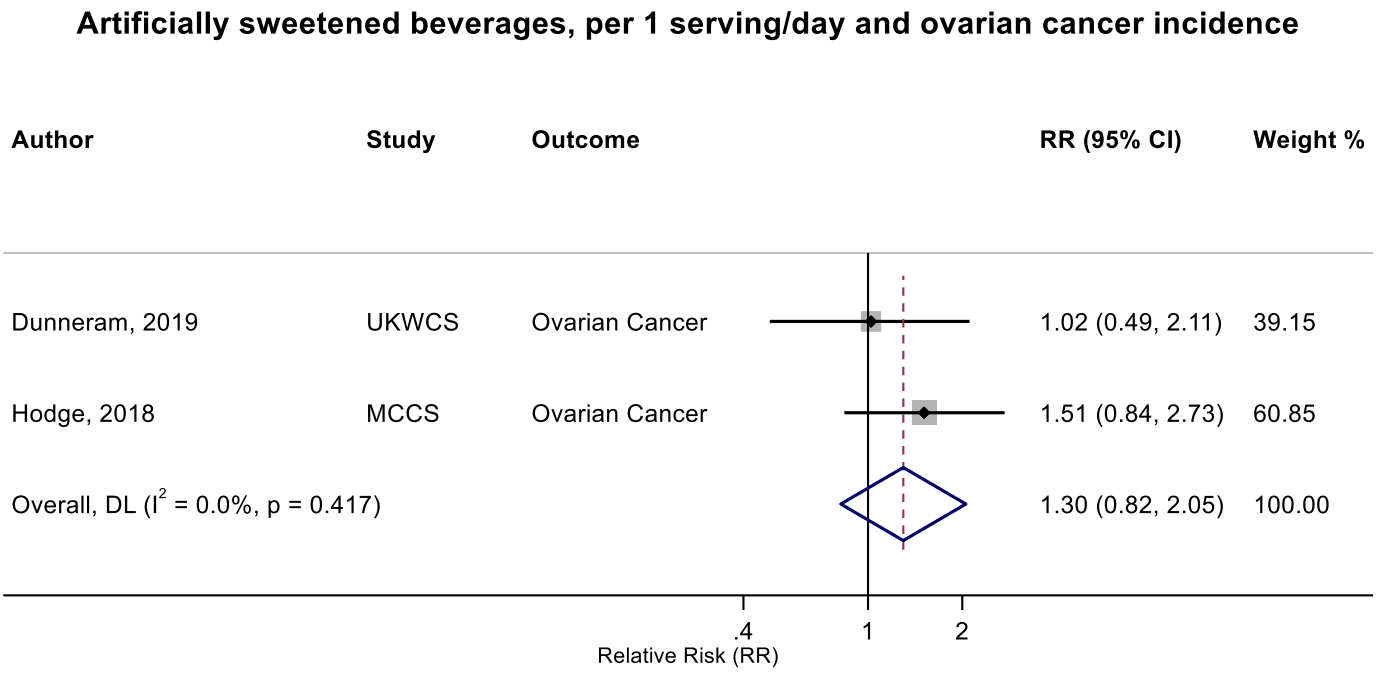


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; MCCS, Melbourne Collaborative Cohort Study

Dunneram, 2019[49], Hodge, 2018[70]

Supplementary Figure 206. Linear dose-response meta-analysis of artificially sweetened beverages and kidney cancer incidence.

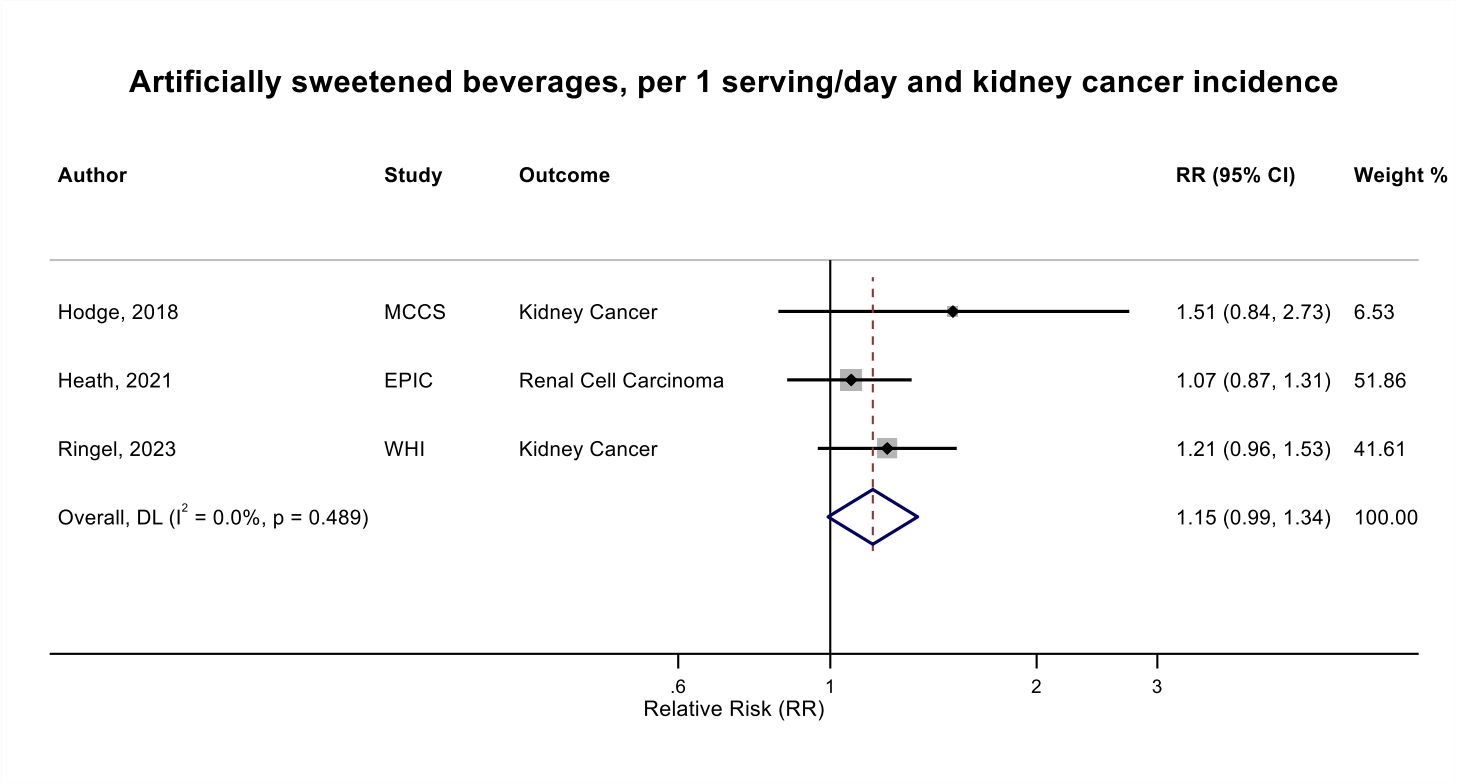


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; EPIC, European Prospective Investigation into Cancer and nutrition; WHI, Women's Health Initiative Study

Hodge, 2018[70], Heath, 2021[66], Ringel, 2023[144]

Supplementary Figure 207. Linear dose-response meta-analysis of artificially sweetened and carbonated artificially sweetened beverages and kidney cancer incidence.

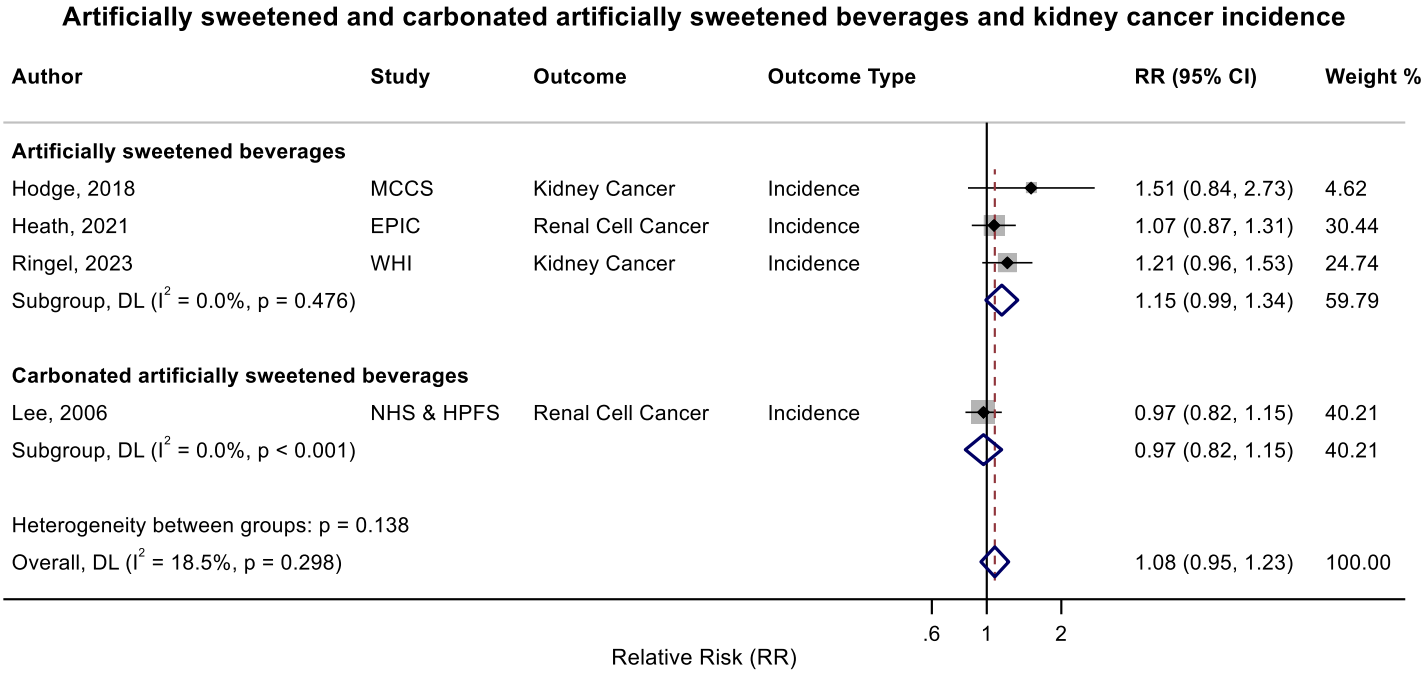


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; EPIC, European Prospective Investigation into Cancer and nutrition; WHI, Women's Health Initiative Study, HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Hodge, 2018[70], Heath, 2021[66], Ringel, 2023[144], Lee, 2006[98]

Supplementary Figure 208. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and multiple myeloma incidence.

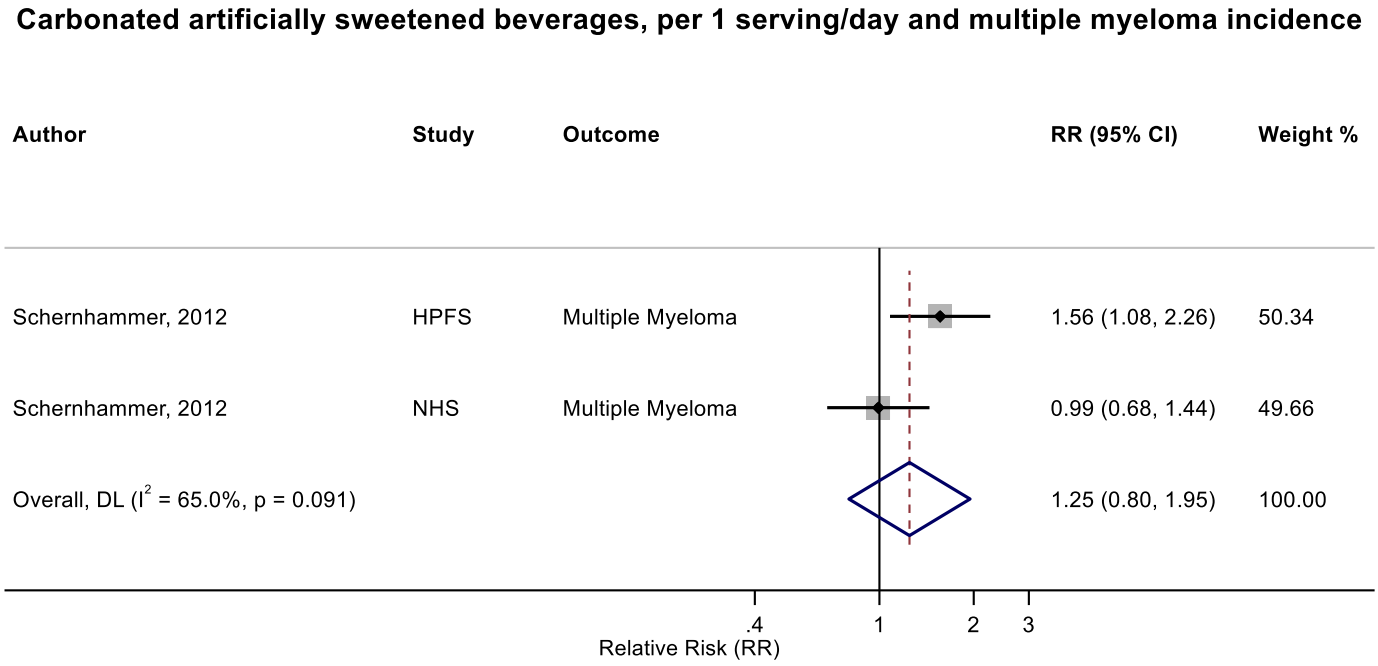


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Note: Both studies performed repeated dietary measurements (every 4 years).

Schernhammer, 2012[150]

Supplementary Figure 209. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and non-Hodgkin lymphoma incidence.

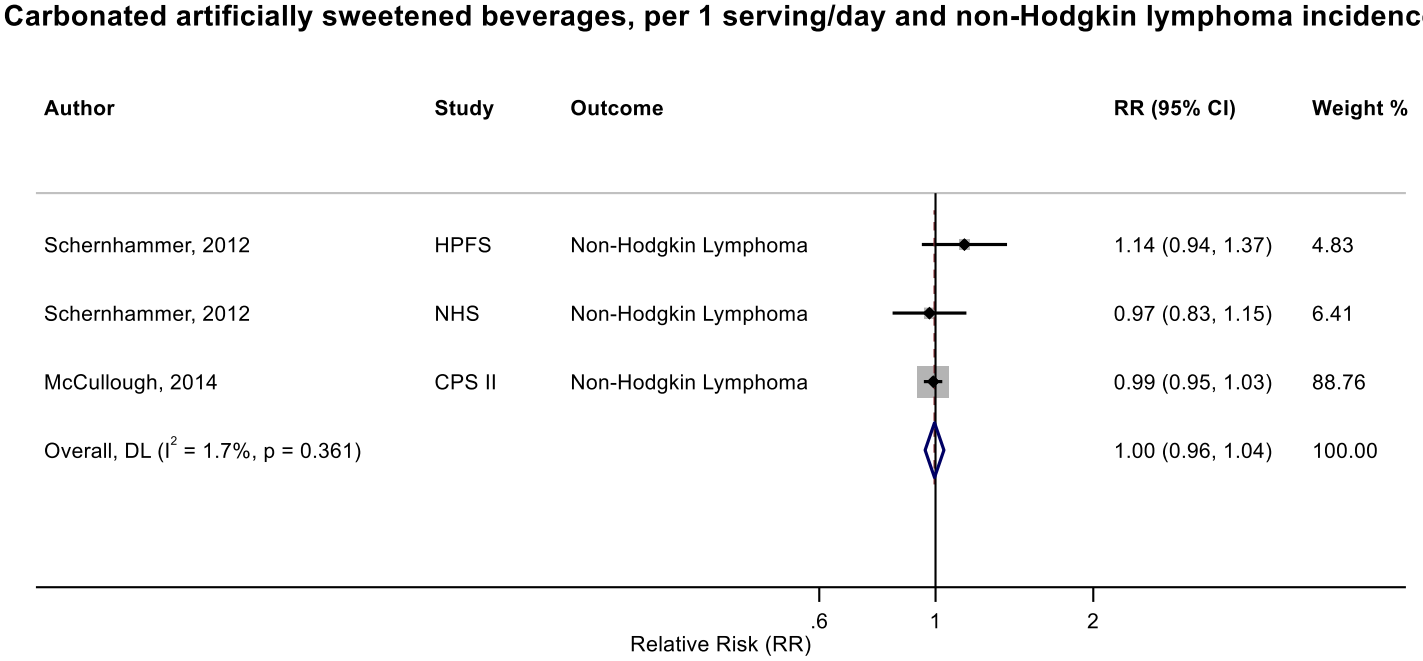


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Note: All studies performed repeated dietary measurements (2 times in CPS II and every 4 years in NHS and HPFS).

Schernhammer, 2012[150], McCullough, 2014[114]

Supplementary Figure 210. Linear dose-response meta-analysis of artificially sweetened beverages and colorectal cancer incidence by geographical region.

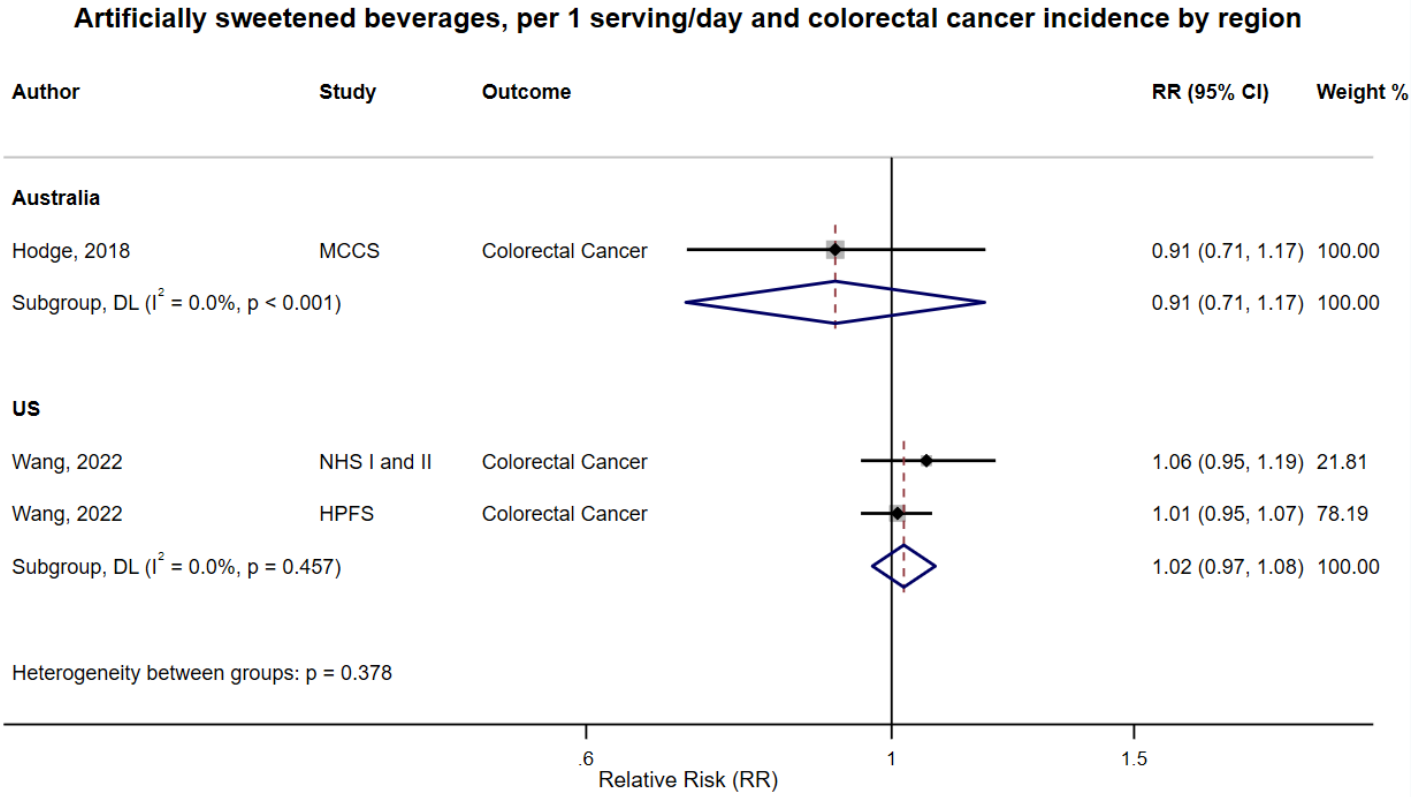


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS and HPFS, Nurses' Health Study and Health Professionals Follow-up Study; HPFS, Health Professionals Follow-up Study

Hodge, 2018[70], Wang, 2022[168]

Supplementary Figure 211. Linear dose-response meta-analysis of artificially sweetened beverages and colorectal cancer incidence by frequency of dietary assessment.

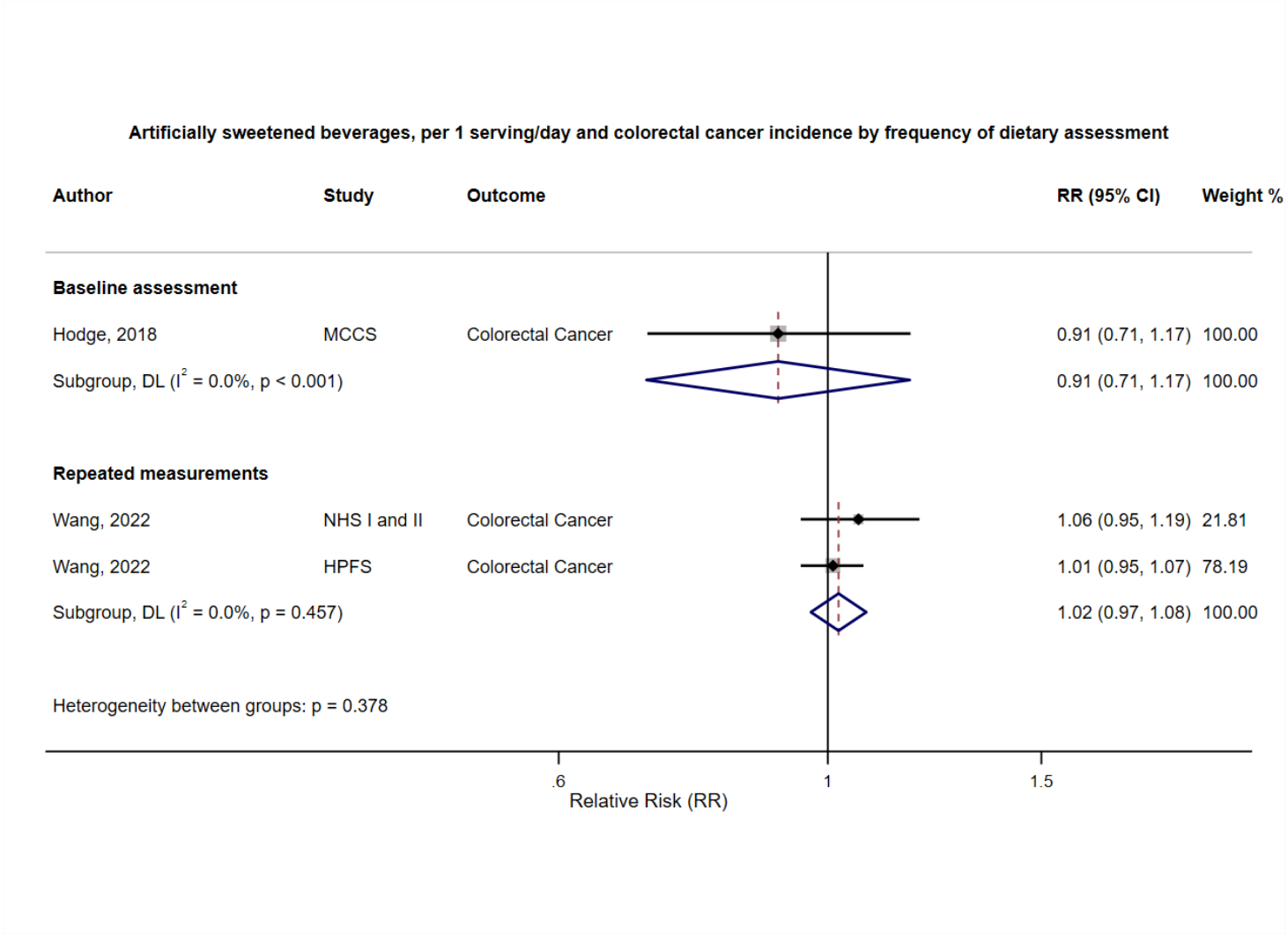


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; NHS I and II, Nurses' Health Study I and II; HPFS, Health Professionals Follow-up Study

Hodge, 2018[70], Wang, 2022[168]

Supplementary Figure 212. Linear dose-response meta-analysis of artificially sweetened beverages and pancreatic cancer incidence and mortality combined by sex.

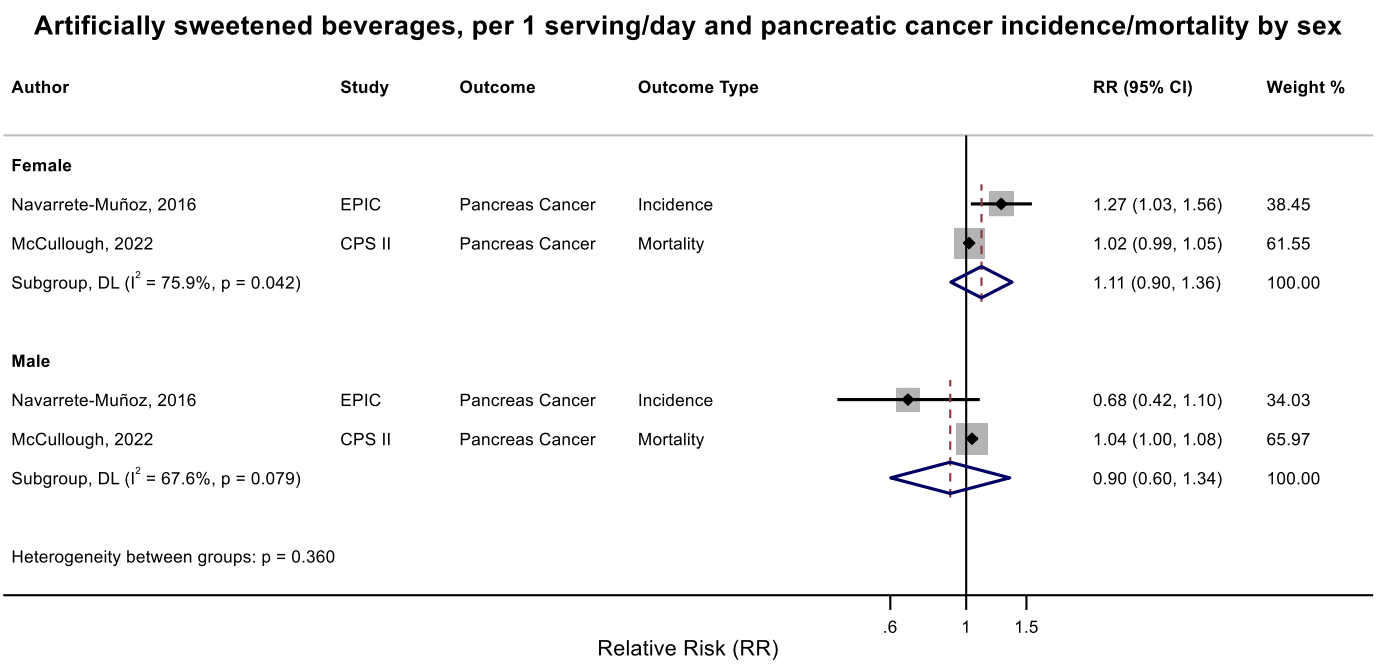


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Note: Since only two studies, one on incidence and one on mortality, reported risk estimated across sex, we combined incidence and mortality to be able to perform this subgroup analysis.

Navarrete-Muñoz, 2016[127], McCullough, 2022[113]

Supplementary Figure 213. Linear dose-response meta-analysis of artificially sweetened beverages and pancreatic cancer incidence, by smoking status.

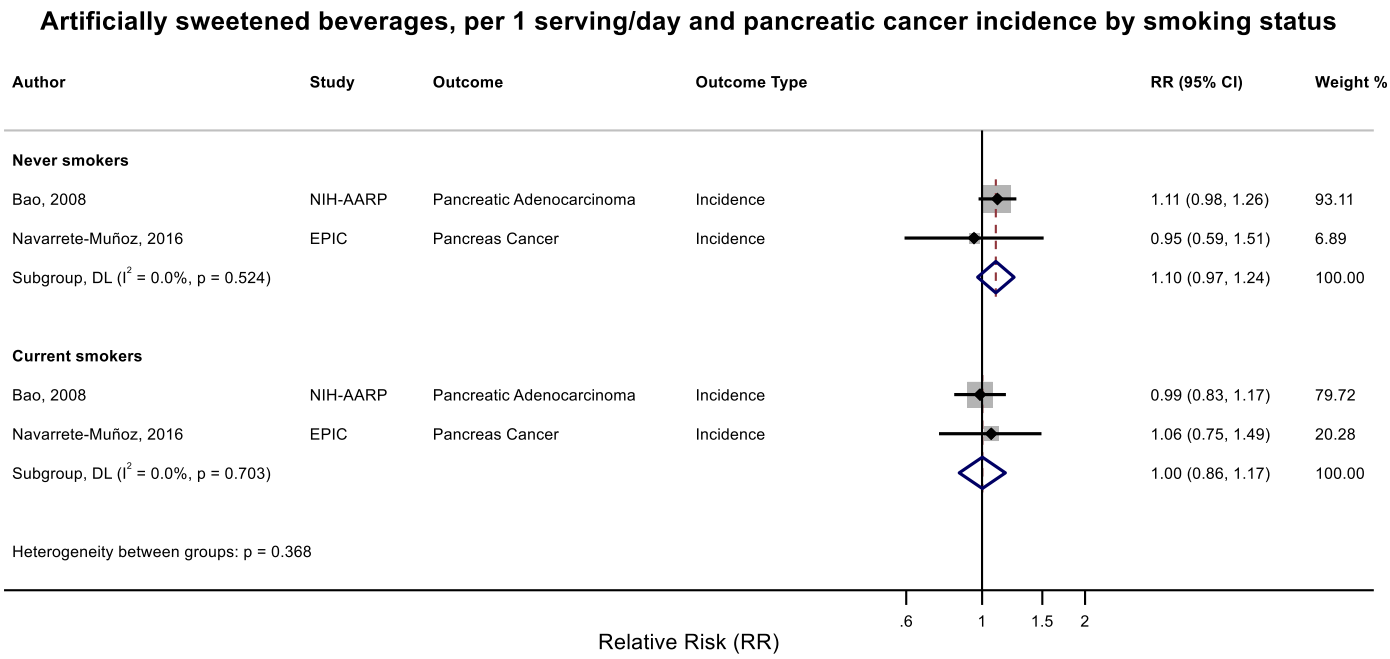


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Bao, 2008[39], Navarrete-Muñoz, 2016[127]

Supplementary Figure 214. Linear dose-response meta-analysis of artificially sweetened beverages and pancreatic cancer incidence and mortality combined by body mass index.

Artificially sweetened beverages, per 1 serving/day and pancreatic cancer incidence/mortality by body mass index

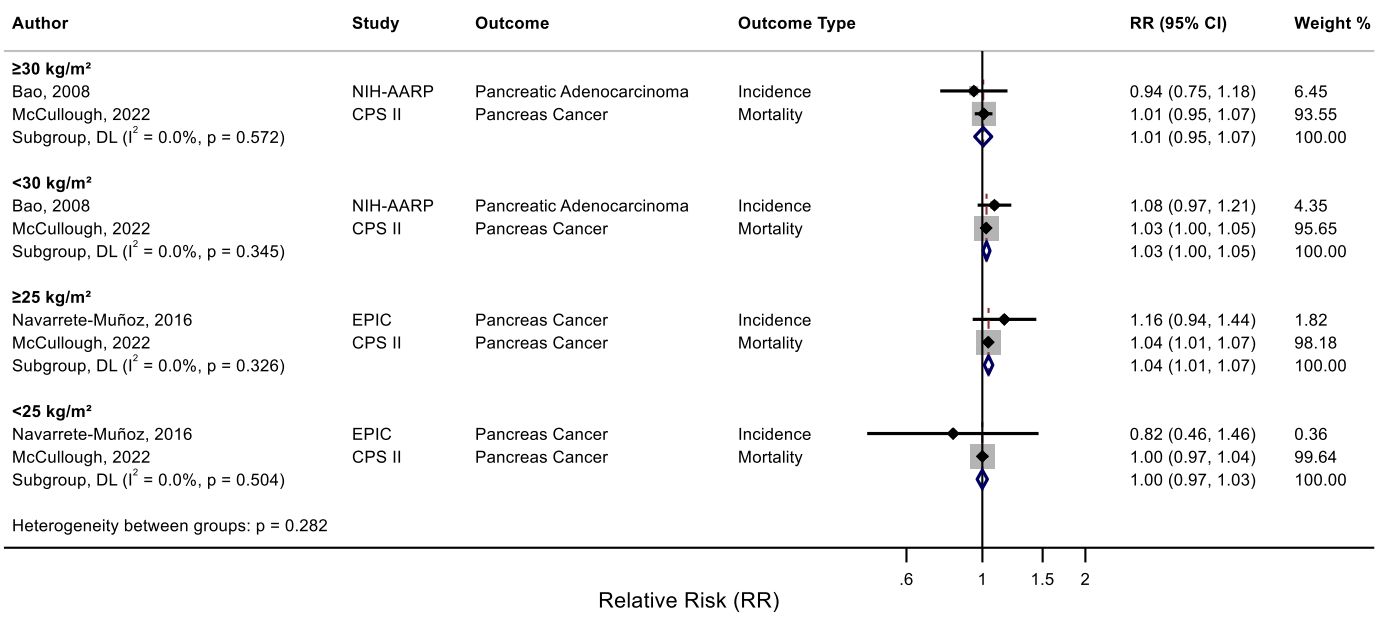


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI

Abbreviations: BMI, body mass index, CI, confidence interval; RR, relative risk.

Study abbreviations: CPS II, Cancer Prevention Study II; EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Note: We combined studies reporting on incidence and mortality outcomes to be able to perform subgroup analysis by baseline body mass index.

Navarrete-Muñoz, 2016[127], McCullough, 2022[113], Bao, 2008[39]

Supplementary Figure 215. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and pancreatic cancer incidence by body mass index.

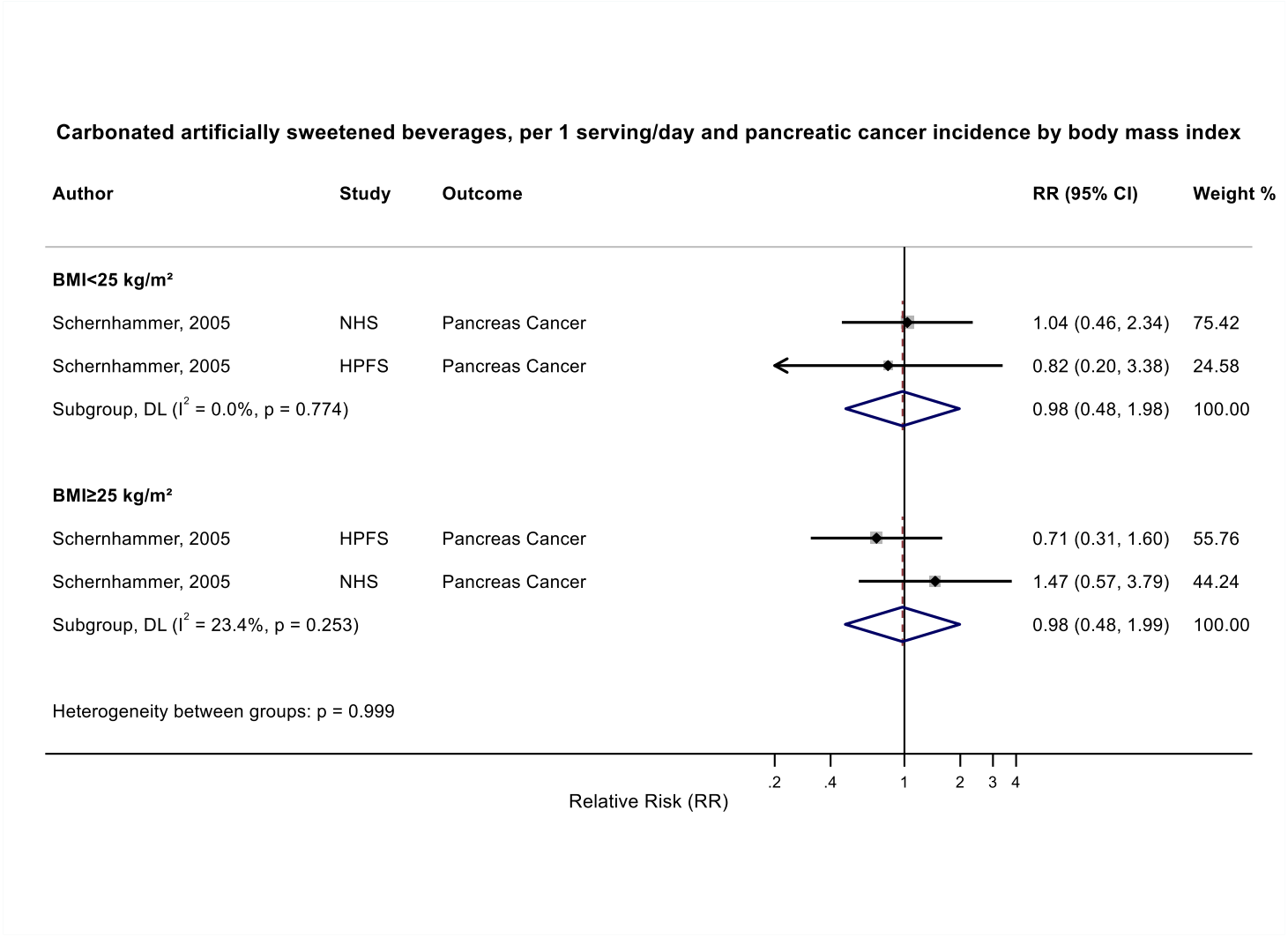


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study

Schernhammer, 2005[151]

Supplementary Figure 216. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer incidence by geographical region.

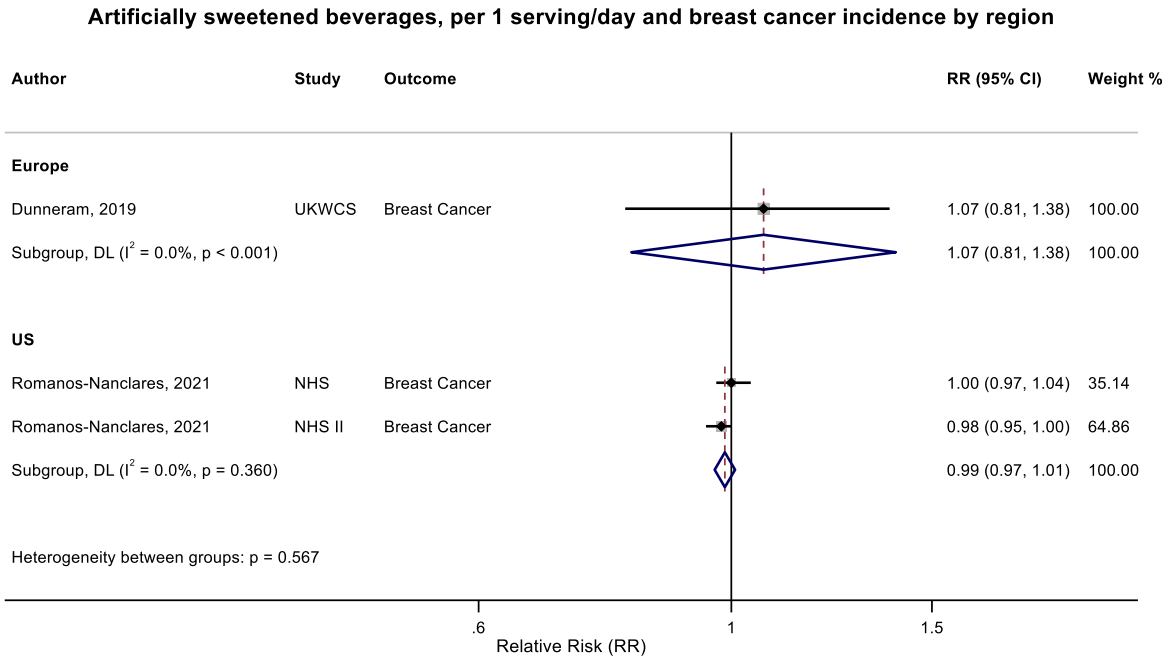


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 217. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer incidence by frequency of dietary assessment.

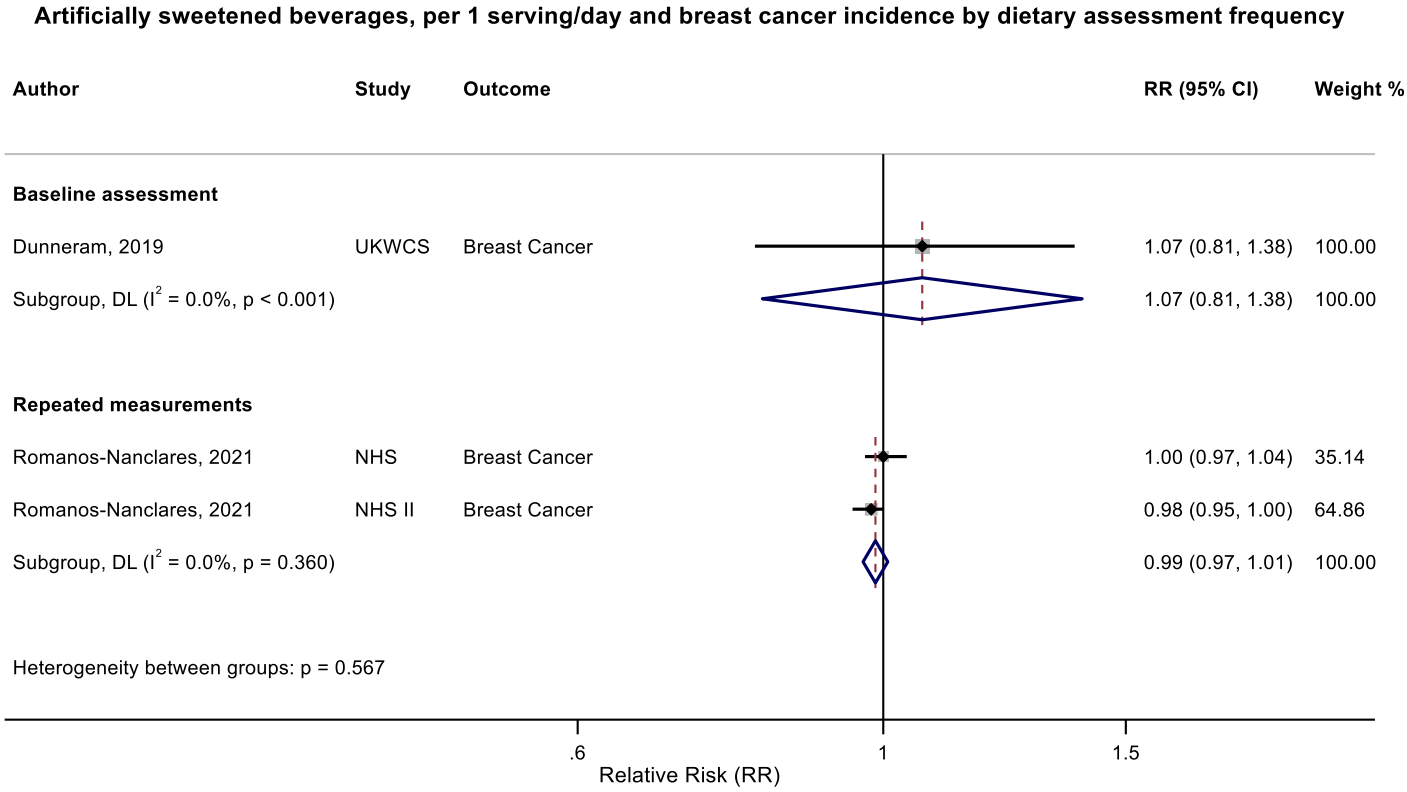


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 218. Linear dose-response meta-analysis of artificially sweetened beverages and postmenopausal breast cancer incidence by frequency of dietary assessment.

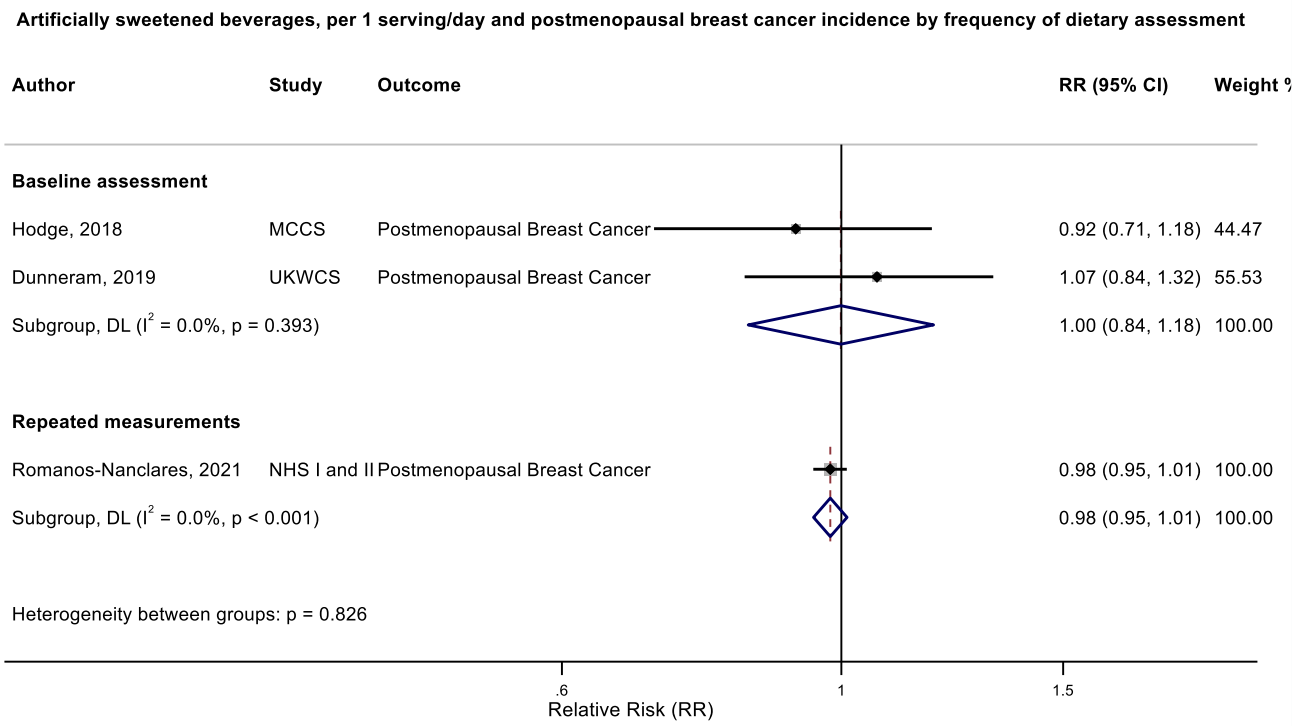


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study; NHS I and II, Nurses' Health Study I and II

Hodge, 2018[70], Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 219. Linear dose-response meta-analysis of artificially sweetened beverages and endometrial cancer incidence by exclusion of people with diabetes at baseline.

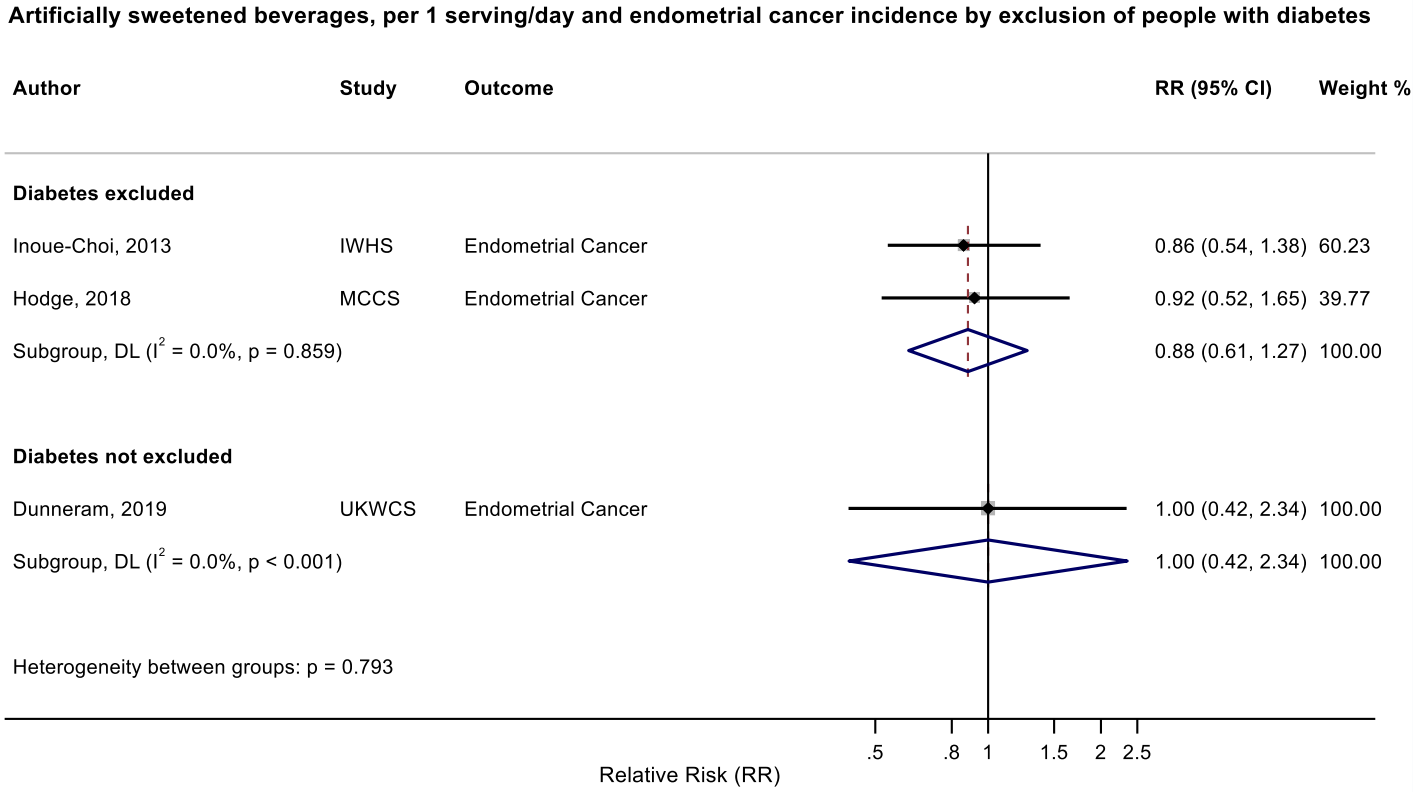


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study

Note: The UKWCS controlled for a history of diabetes in the analysis.

Inoue-Choi, 2013[74], Hodge, 2018[70], Dunneram, 2019[49]

Supplementary Figure 220. Linear dose-response meta-analysis of carbonated artificially sweetened beverages and haematological cancers incidence by alcohol drinking.

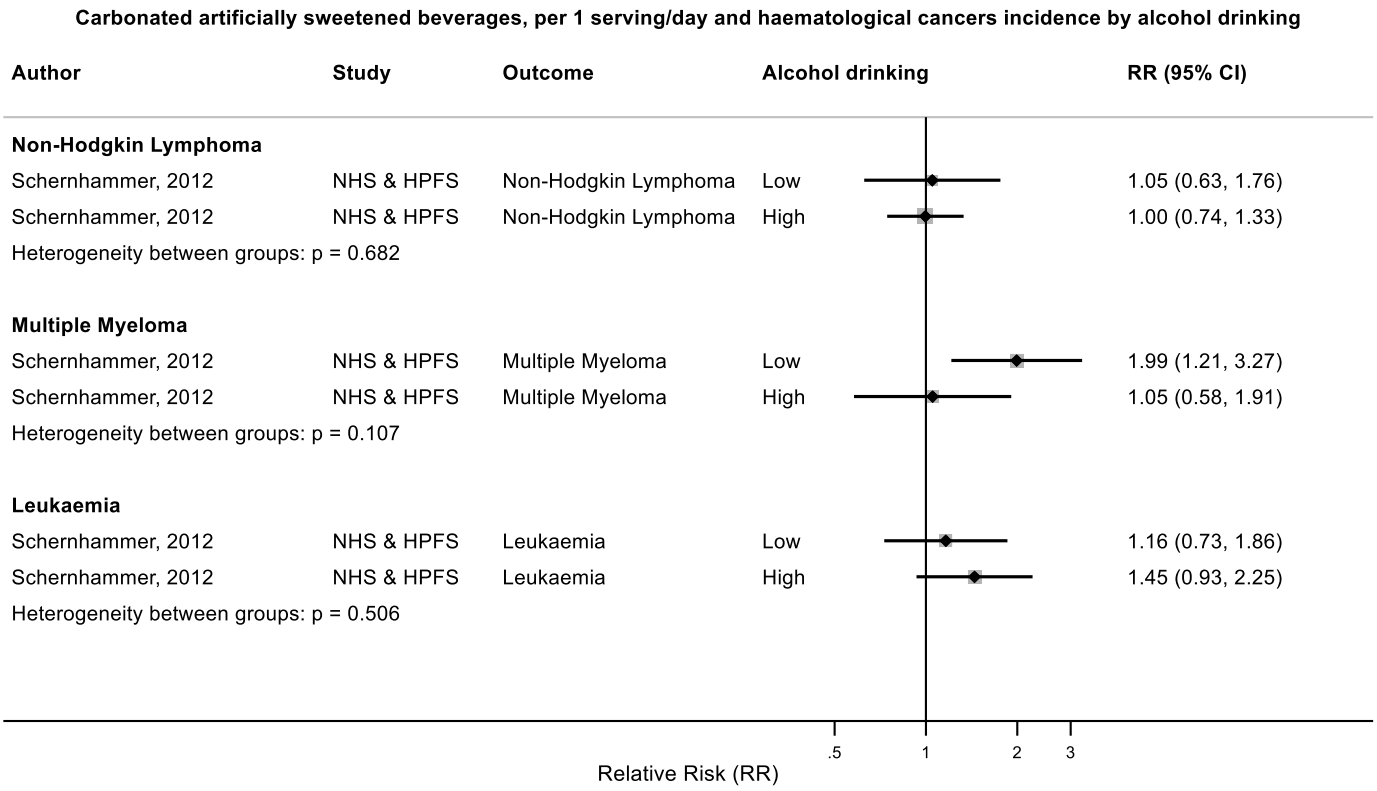


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Schernhammer, 2012[150]

Supplementary Figure 221. Linear dose-response meta-analysis of artificially sweetened beverages and colorectal cancer incidence, leave-one-out analysis.

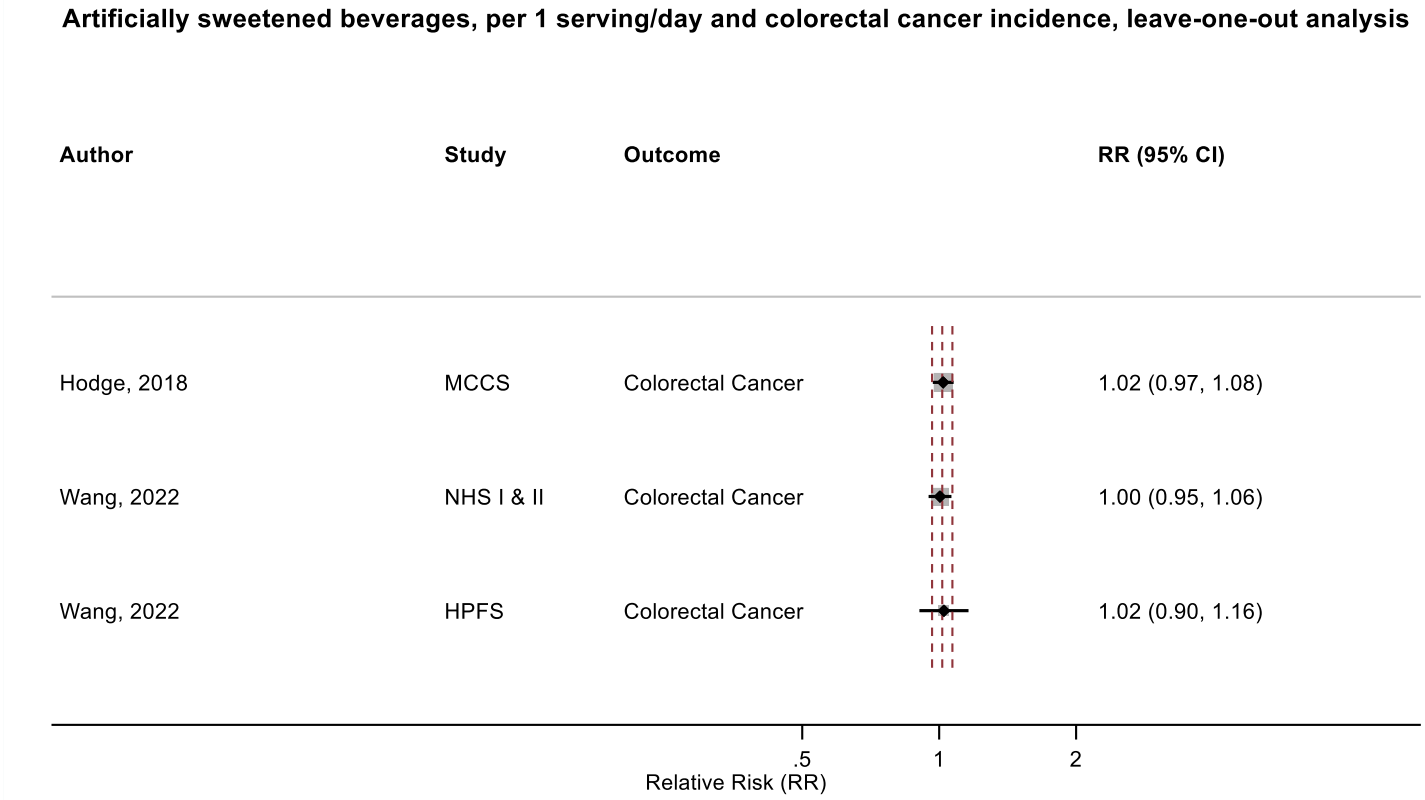


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; NHS I & II, Nurses' Health Study I & II; HPFS, Health Professionals Follow-up Study

Hodge, 2018[70], Wang, 2022[168]

Supplementary Figure 222. Linear dose-response meta-analysis of artificially sweetened beverages and liver cancer incidence, leave-one-out analysis.

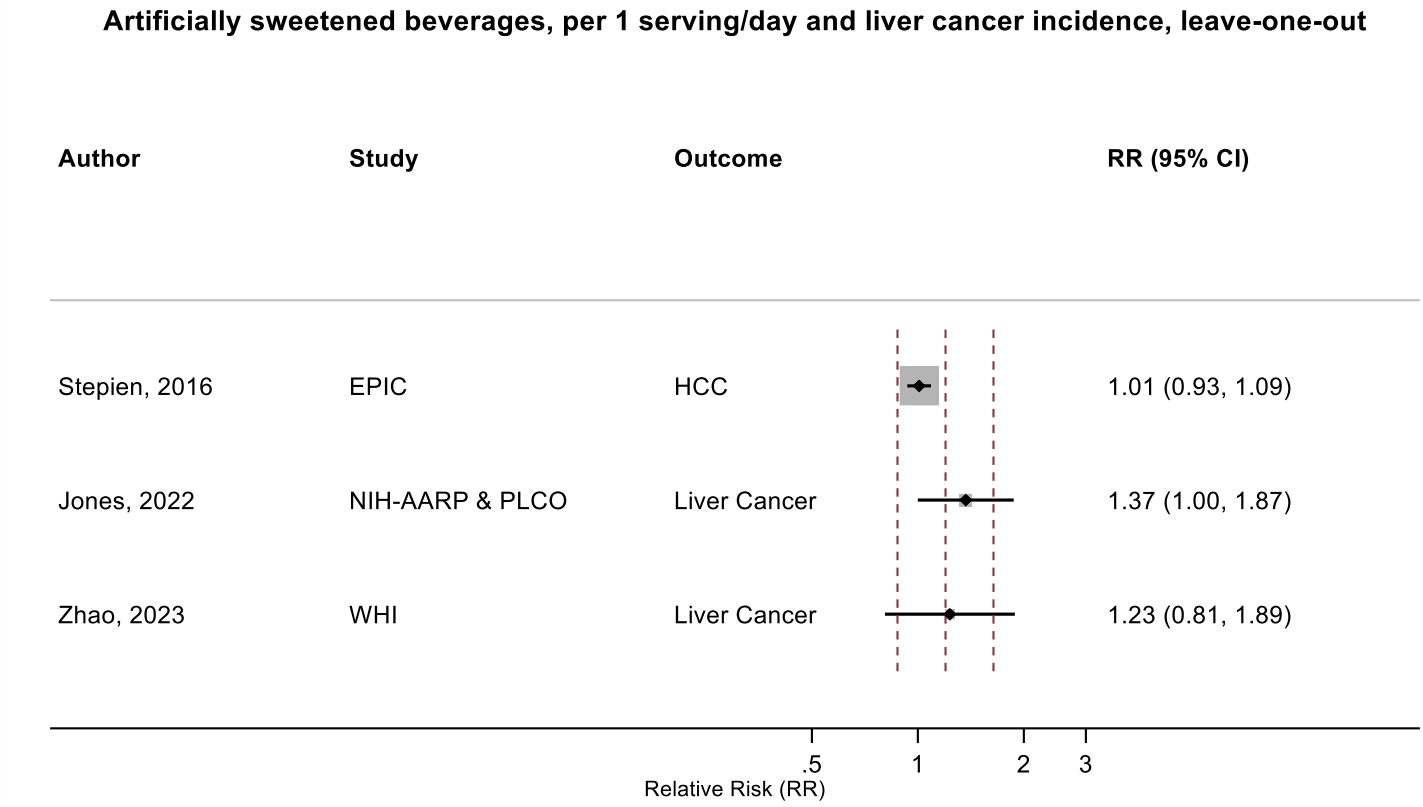


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; WHI, Women's Health Initiative Study

Stepien, 2016[159], Jones, 2022[79], Zhao, 2023[186]

Supplementary Figure 223. Linear dose-response meta-analysis of artificially sweetened beverages and pancreatic cancer incidence and mortality combined, leave-one-out analysis.

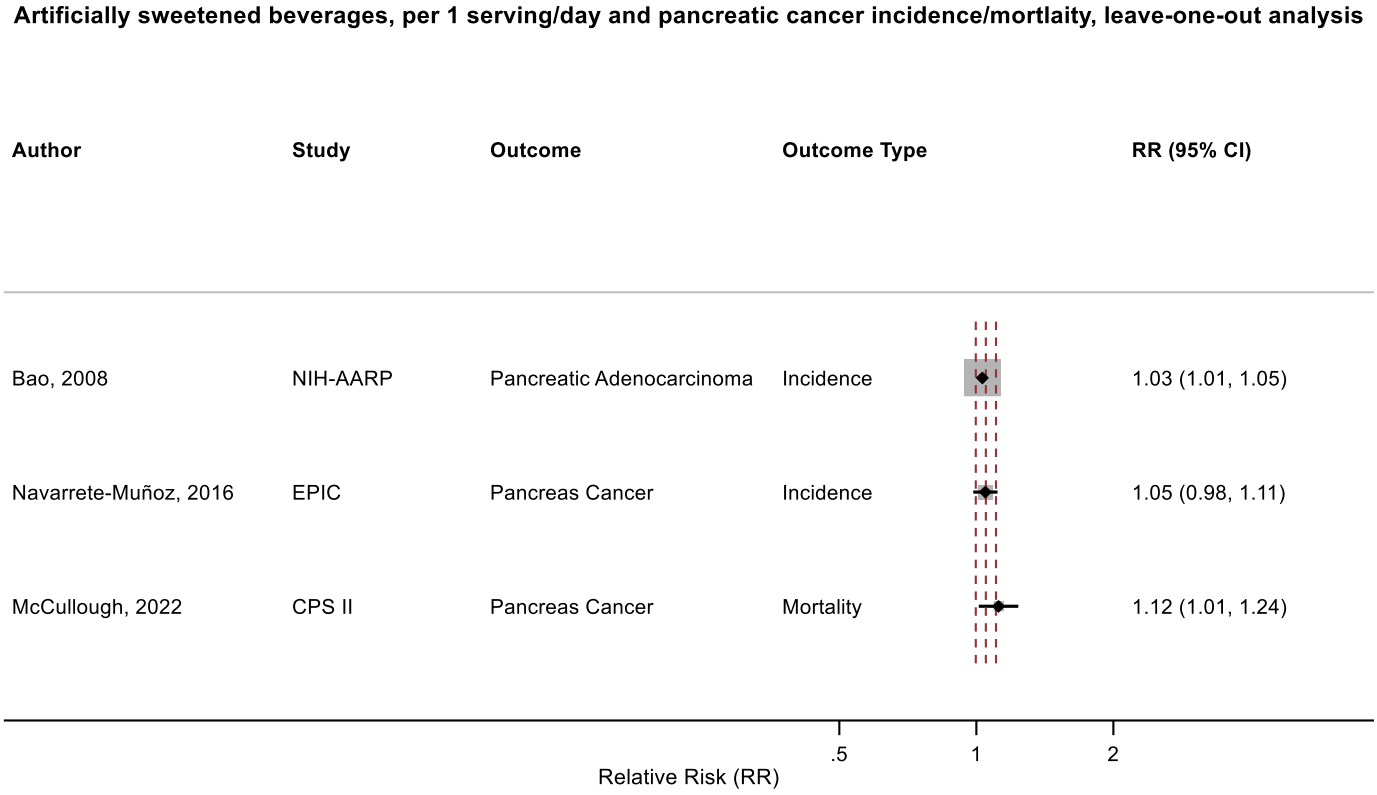


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Note: We did influence analysis for incidence and mortality combined, as only 2 studies were available for the analysis of incidence.

Bao, 2008[39], Navarrete-Muñoz, 2016[127], McCullough, 2022[113]

Supplementary Figure 224. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer incidence, leave-one-out analysis.

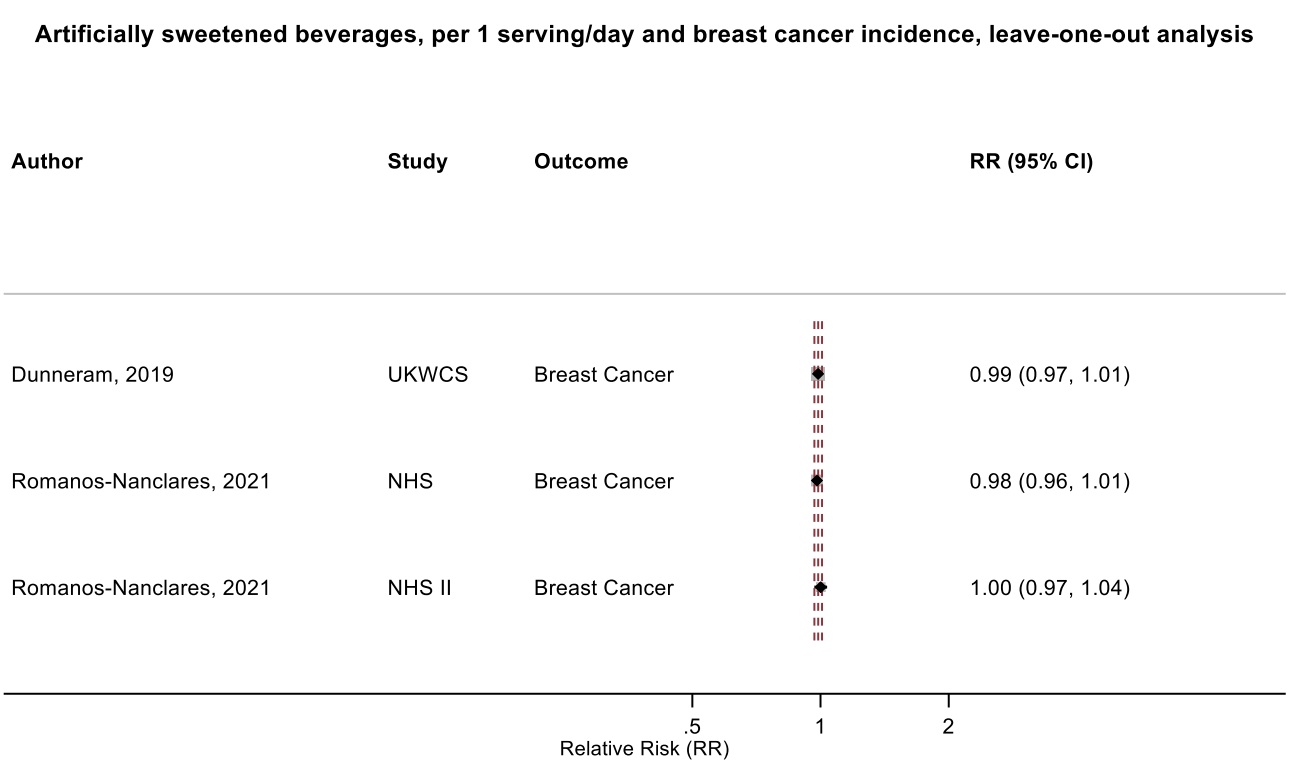


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, United Kingdom Women's Cohort Study; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 225. Linear dose-response meta-analysis of artificially sweetened beverages and postmenopausal breast cancer incidence, leave-one-out analysis.

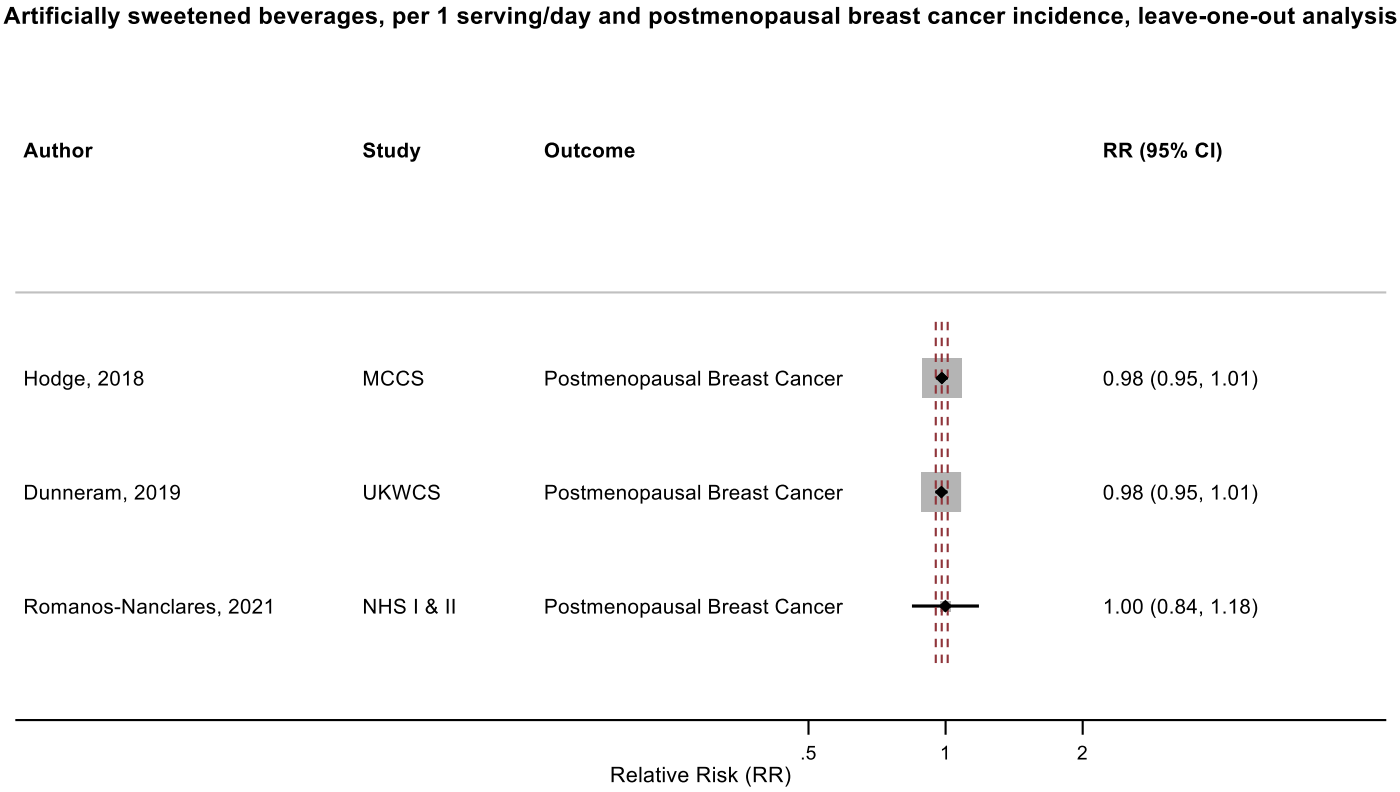


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study; NHS I & II, Nurses' Health Study I & II

Hodge, 2018[70], Dunneram, 2019[49], Romanos-Nanclares, 2021[145]

Supplementary Figure 226. Linear dose-response meta-analysis of artificially sweetened beverages and endometrial cancer incidence, leave-one-out analysis.

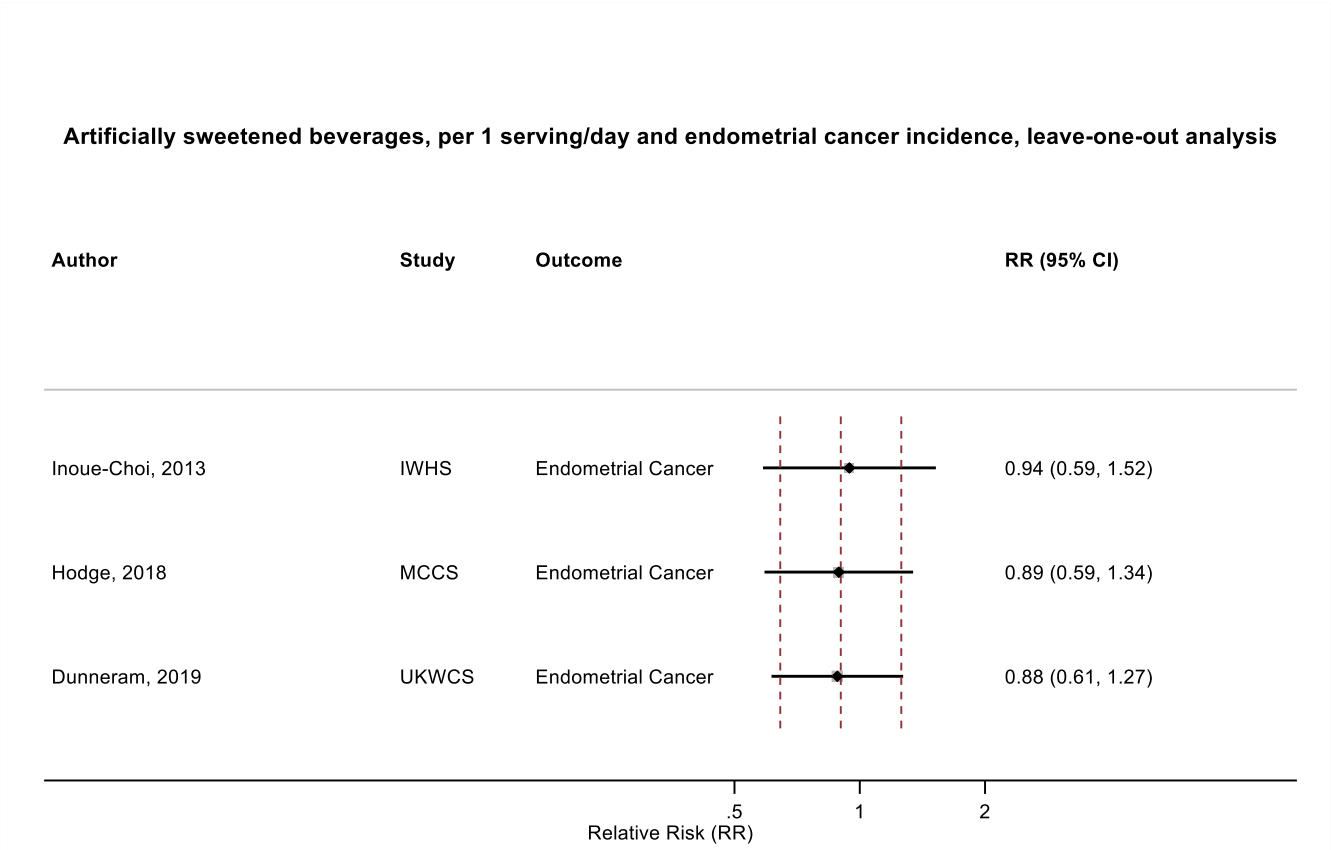


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study

Inoue-Choi, 2013[74], Hodge, 2018[70], Dunneram, 2019[49]

Supplementary Figure 227. Linear dose-response meta-analysis of artificially sweetened beverages and postmenopausal endometrial cancer incidence, leave-one-out analysis.

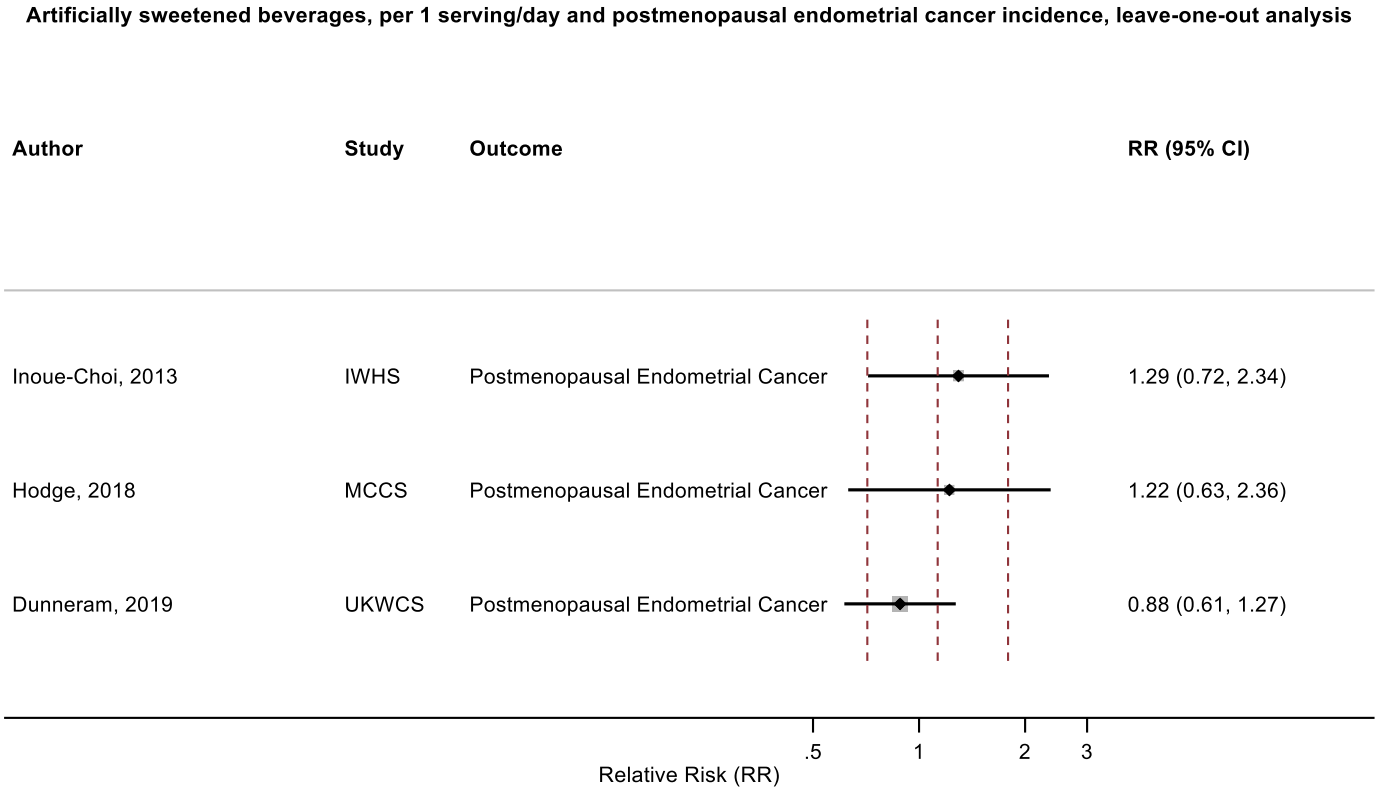


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, The Iowa Women's Health Study; MCCS, Melbourne Collaborative Cohort Study; UKWCS, United Kingdom Women's Cohort Study

Inoue-Choi, 2013[74], Hodge, 2018[70], Dunneram, 2019[49]

Supplementary Figure 228. Linear dose-response meta-analysis of artificially sweetened beverages and kidney cancer incidence, leave-one-out analysis.

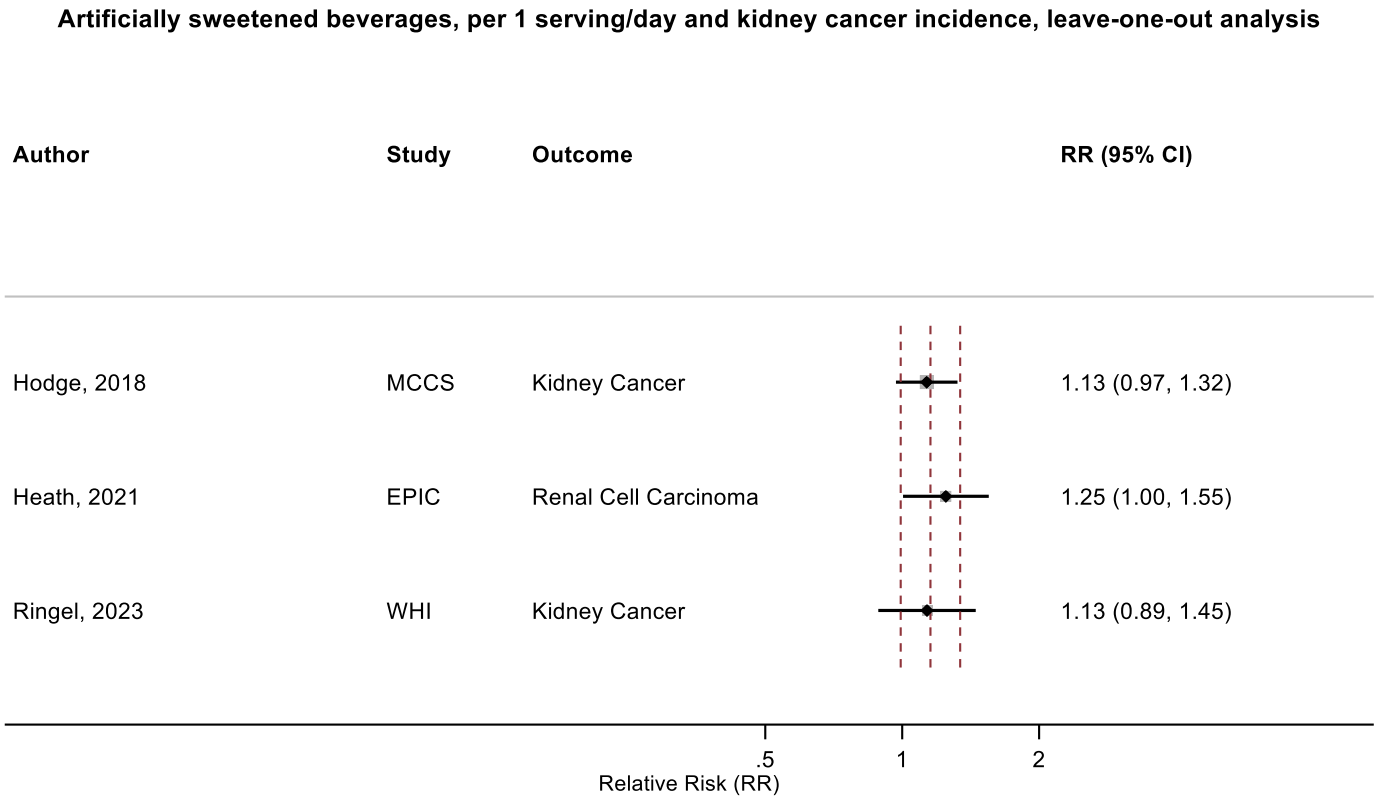


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MCCS, Melbourne Collaborative Cohort Study; EPIC, European Prospective Investigation into Cancer and nutrition; WHI, Women's Health Initiative Study

Hodge, 2018[70], Heath, 2021[66], Ringel, 2023[144]

Supplementary Figure 229. Linear dose-response meta-analysis of artificially sweetened beverages and lung cancer mortality.

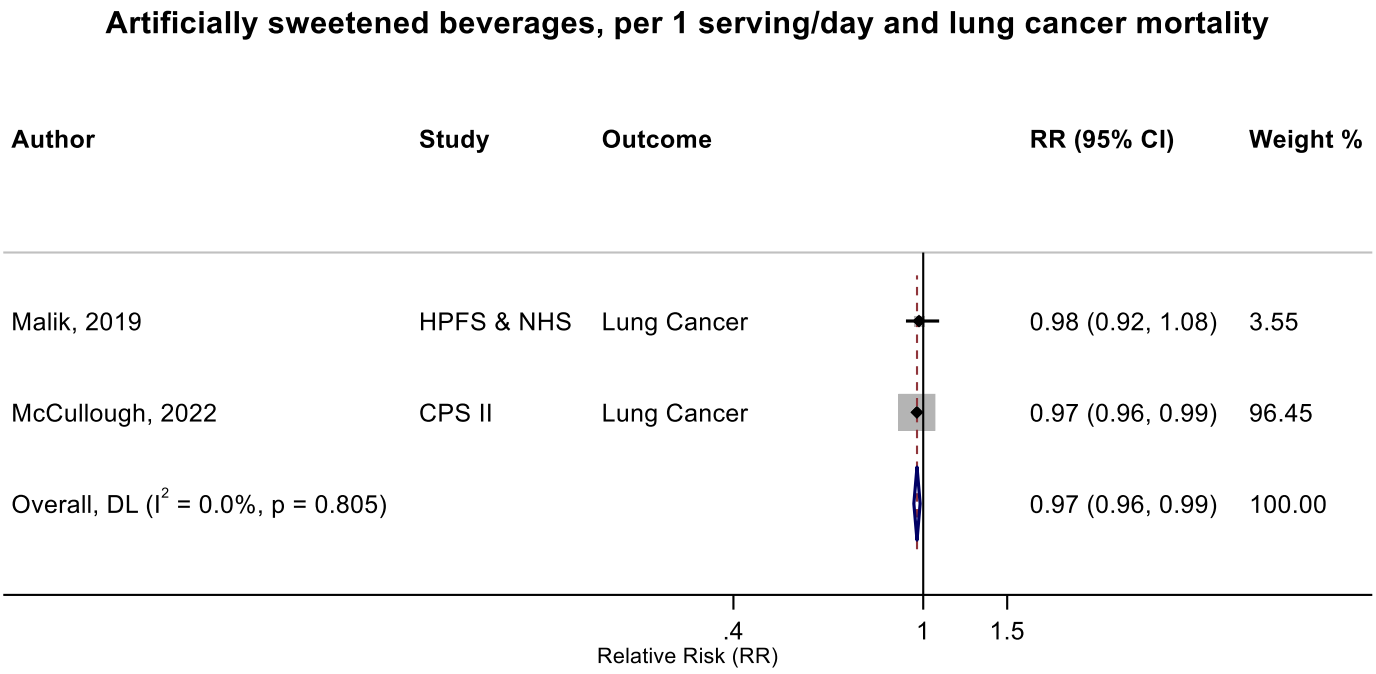


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS & NHS, Health Professionals Follow-up Study & Nurses' Health Study; CPS II, Cancer Prevention Study II

Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 230. Linear dose-response meta-analysis of artificially sweetened beverages and colorectal cancer and colon cancer mortality.

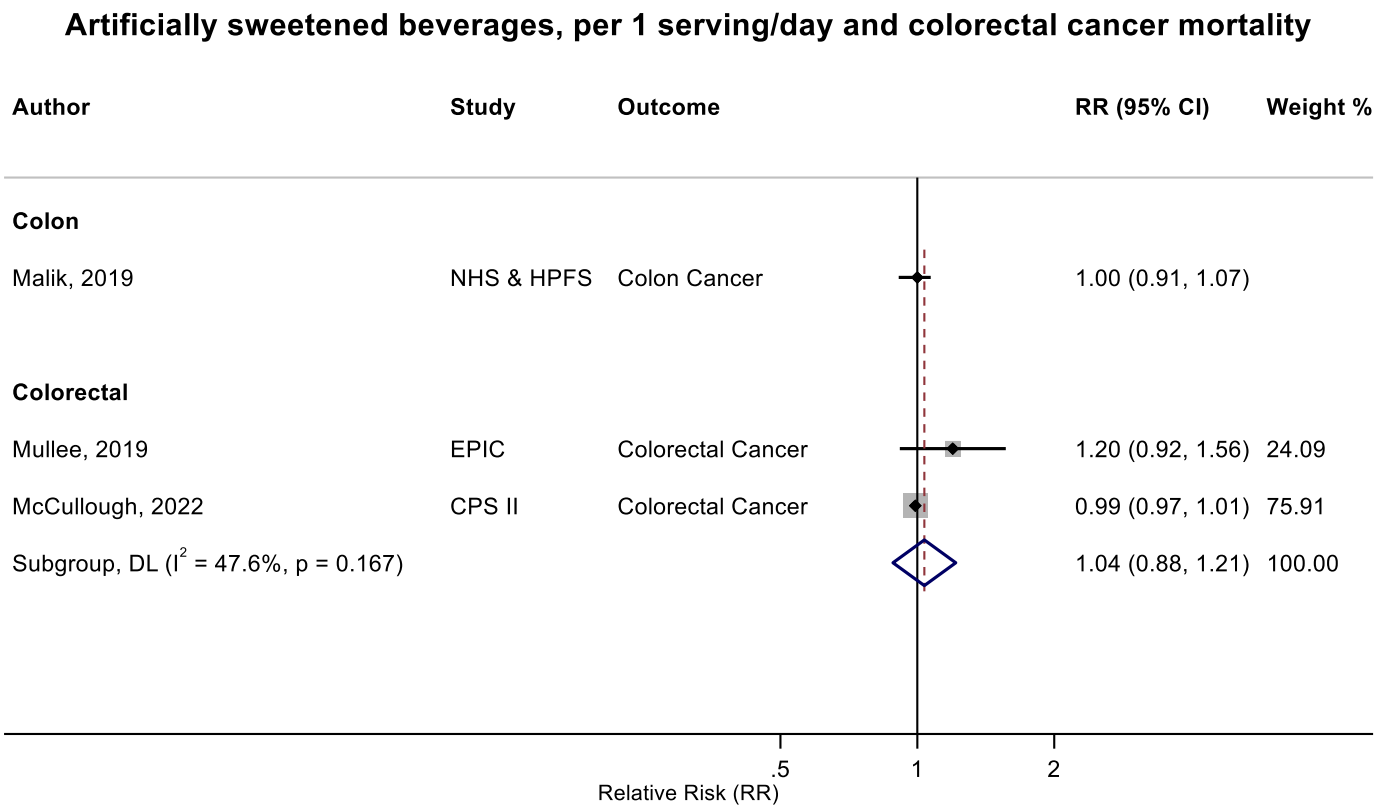


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Malik, 2019[109], Mullee, 2019[126], McCullough, 2022[113]

Supplementary Figure 231. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer mortality.

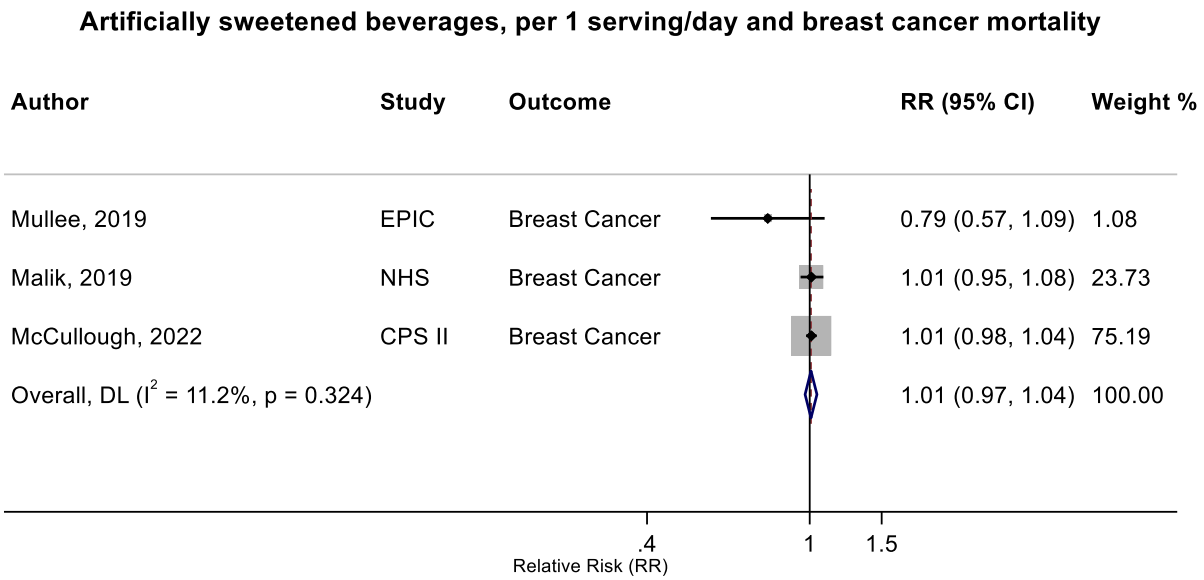


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 232. Linear dose-response meta-analysis of artificially sweetened beverages and prostate cancer mortality.

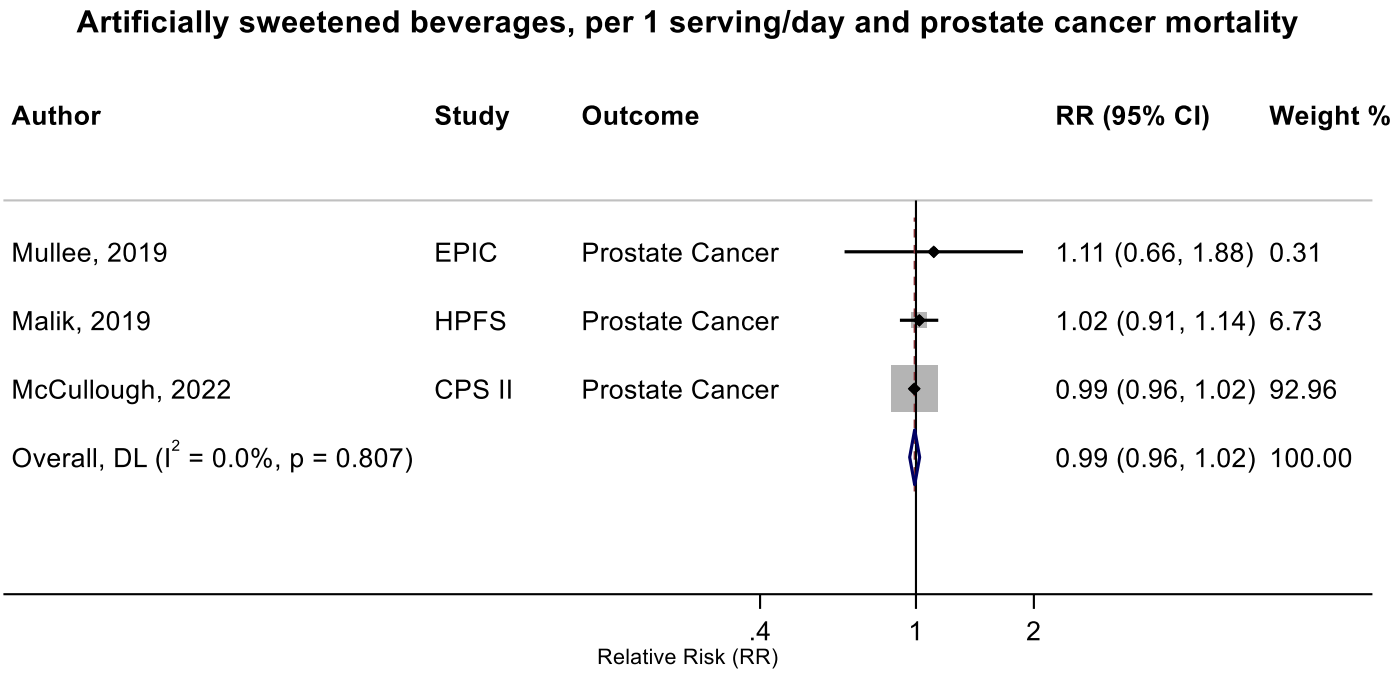


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 233. Linear dose-response meta-analysis of artificially sweetened beverages and kidney cancer mortality.

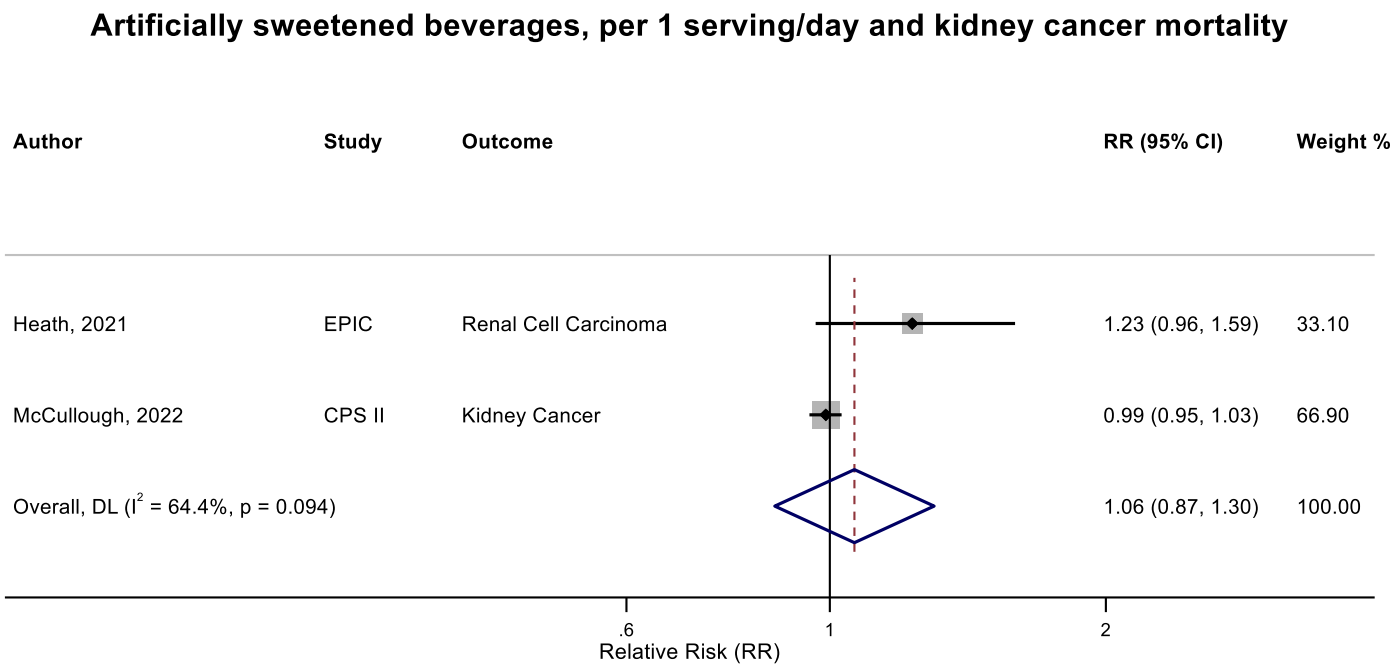


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Heath, 2021[66], McCullough, 2022[113]

Supplementary Figure 234. Linear dose-response meta-analysis of artificially sweetened beverages and kidney cancer mortality by sex.

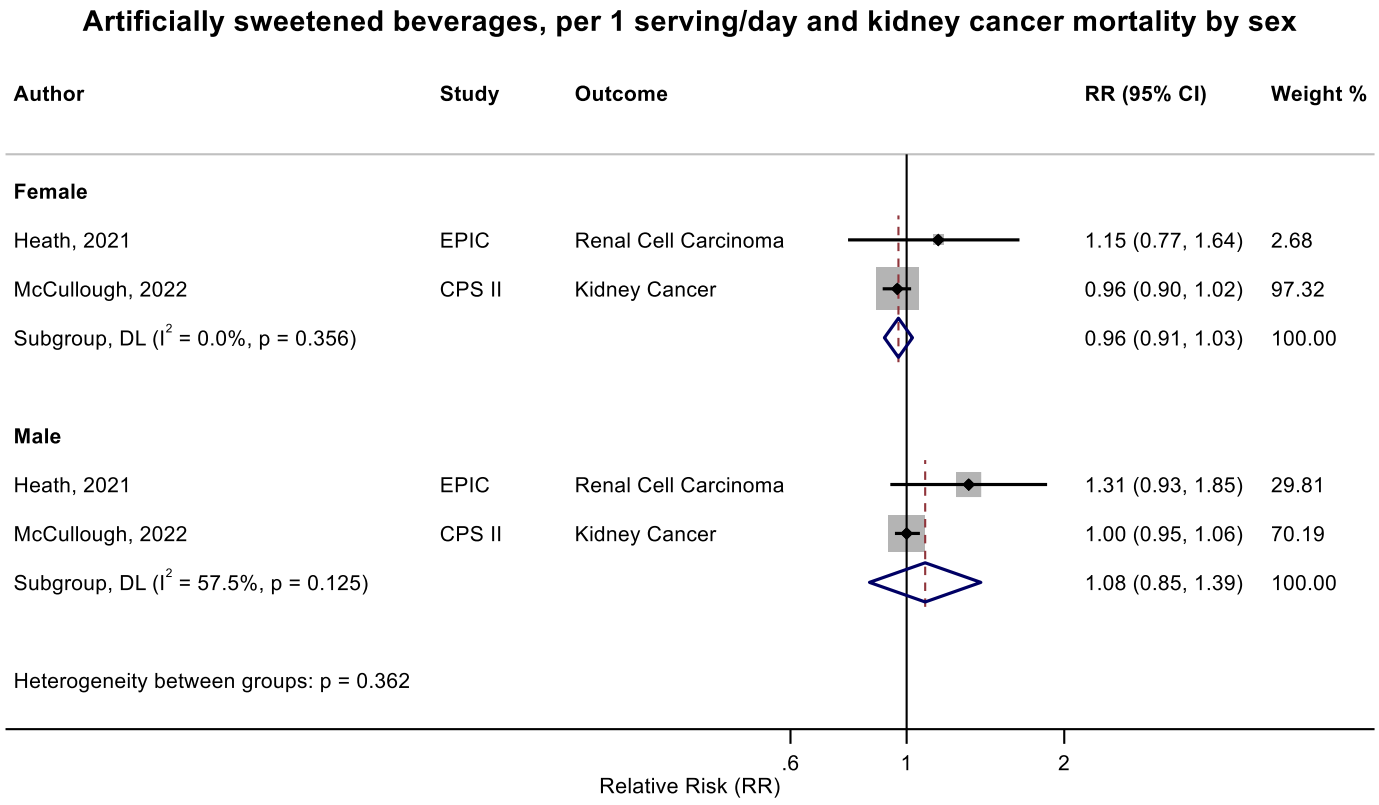


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II

Heath, 2021[66], McCullough, 2022[113]

Supplementary Figure 235. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer mortality by frequency of dietary assessment.

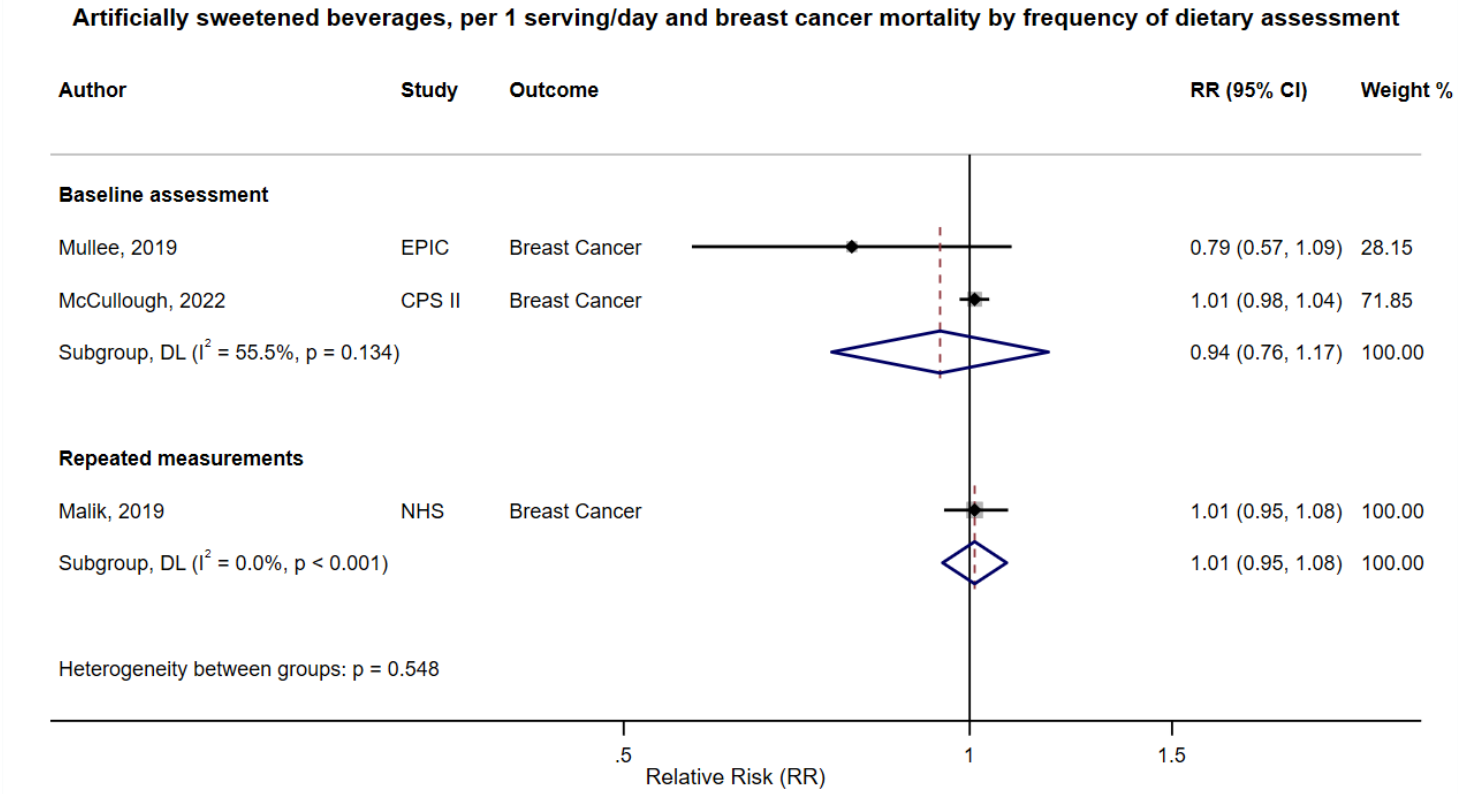


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; NHS, Nurses' Health Study

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 236. Linear dose-response meta-analysis of artificially sweetened beverages and prostate cancer mortality by frequency of dietary assessment.

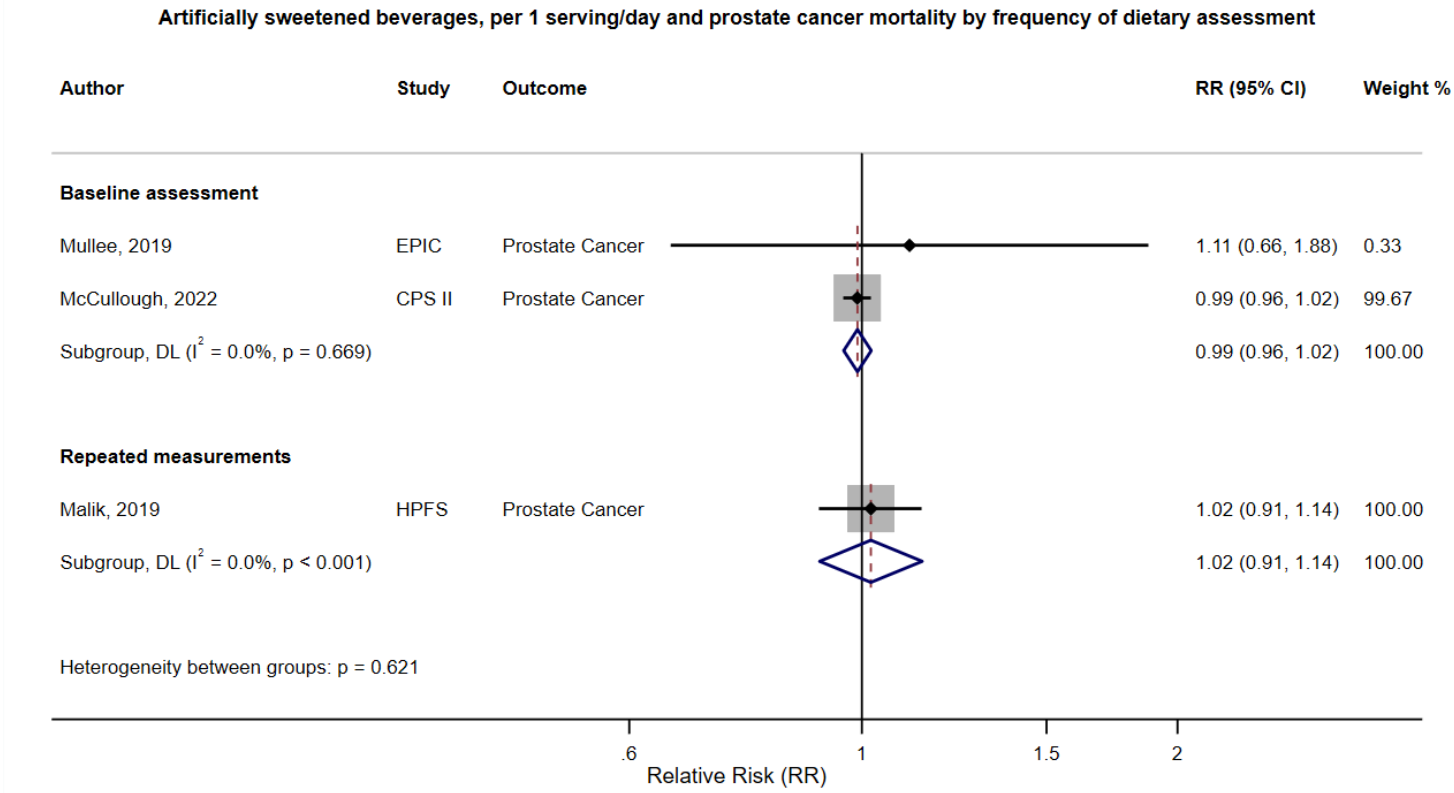


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 237. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer mortality by geographical region.

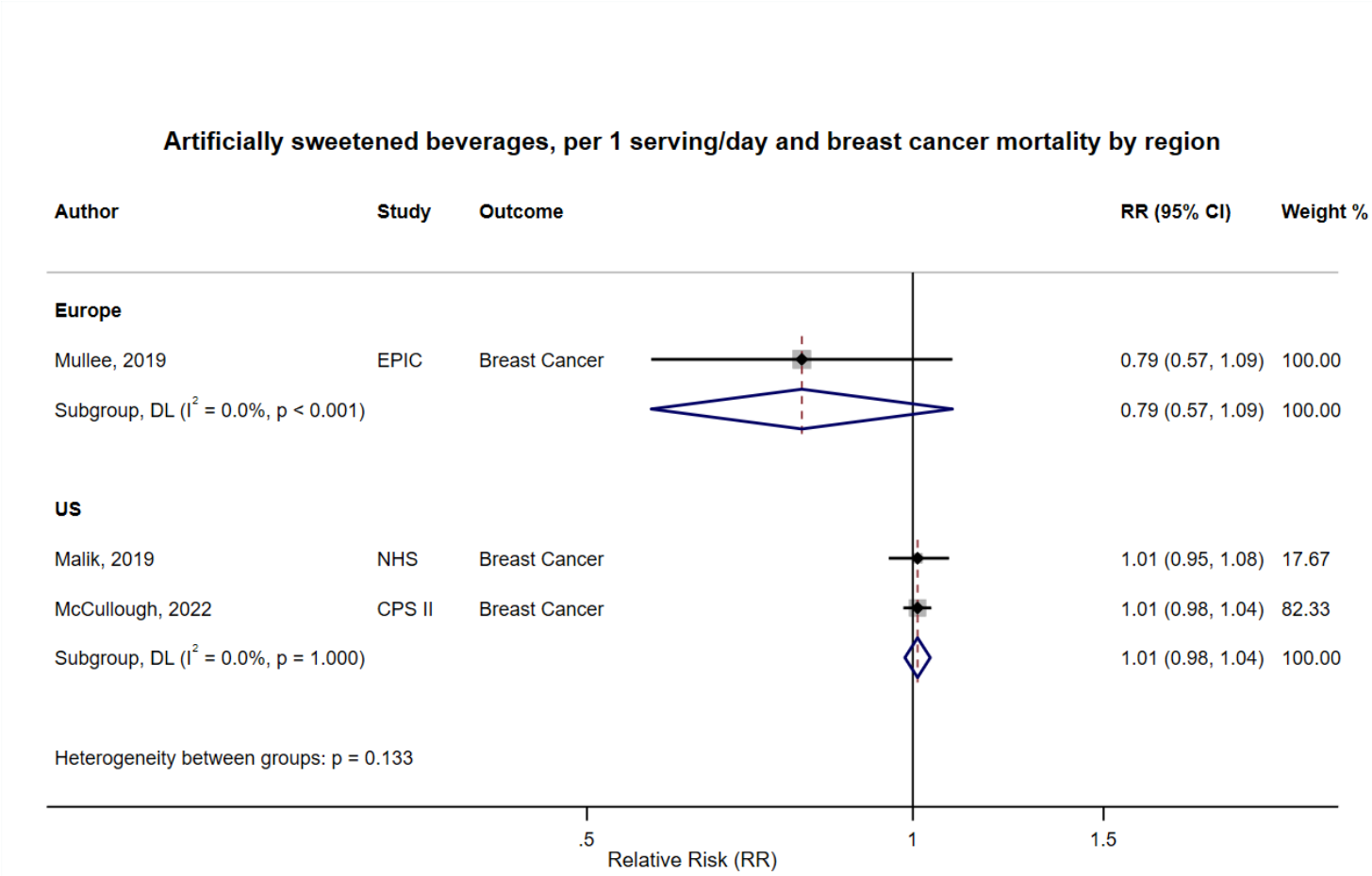


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 238. Linear dose-response meta-analysis of artificially sweetened beverages and prostate cancer mortality by geographical region.

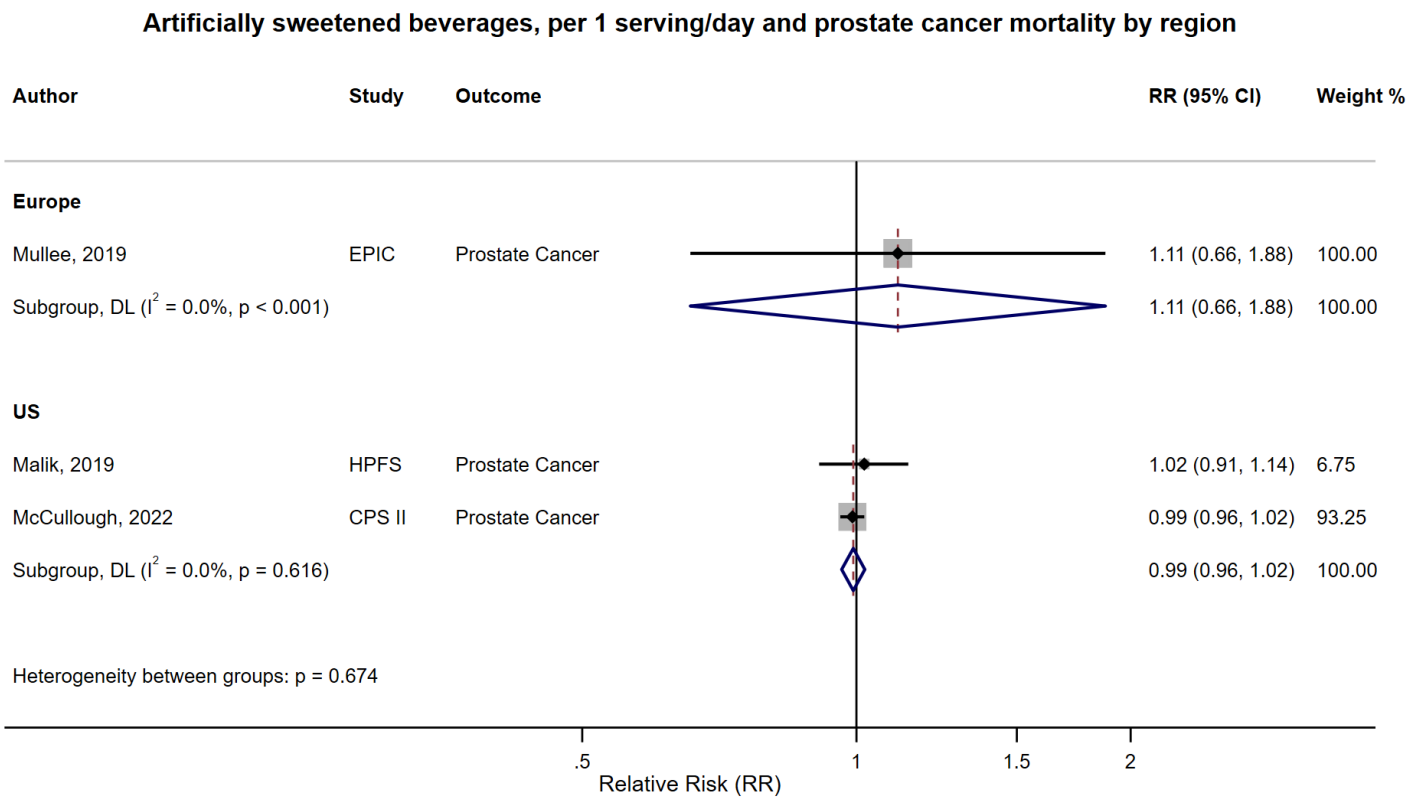


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 239. Linear dose-response meta-analysis of artificially sweetened beverages and prostate cancer mortality by exclusion of people with diabetes at baseline.

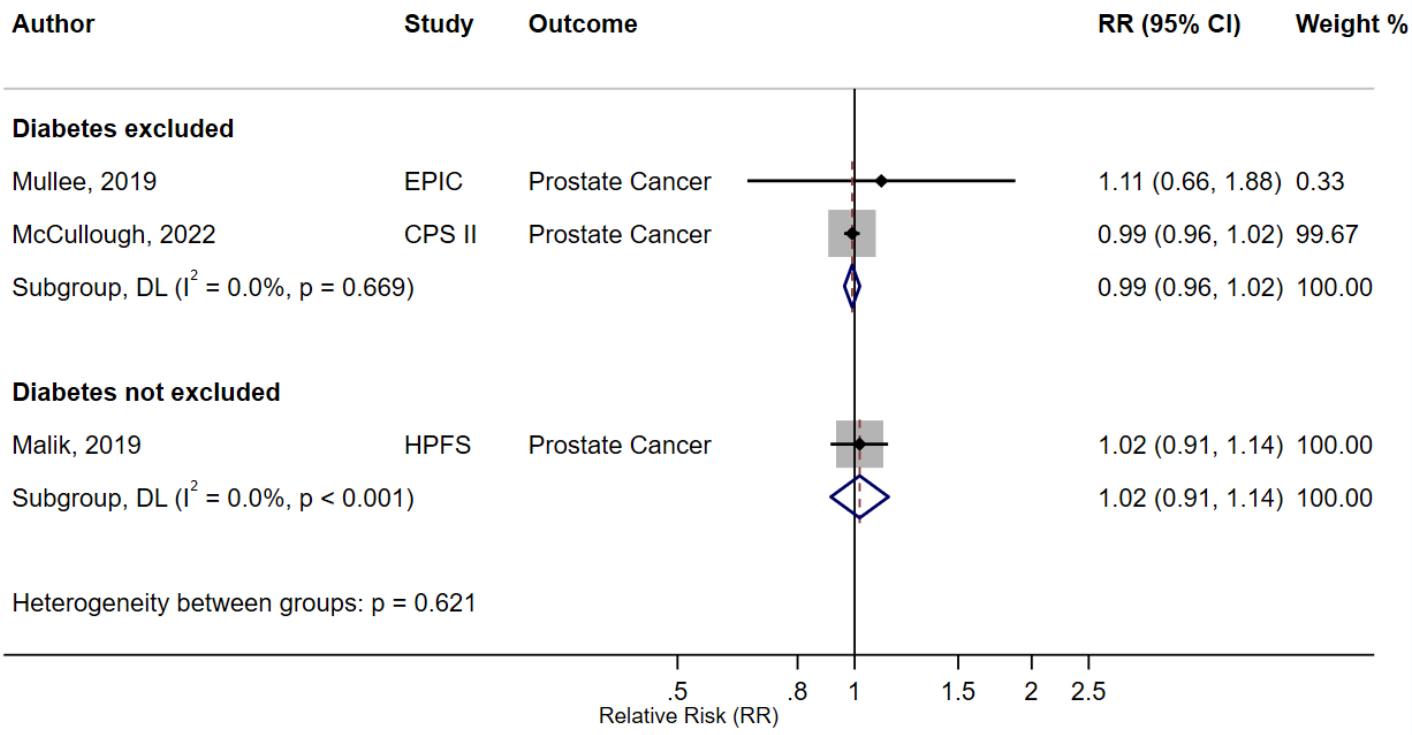


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; CPS II, Cancer Prevention Study II; HPFS, Health Professionals Follow-up Study

Mullee, 2019[126], McCullough, 2022[113], Malik, 2019[109]

Supplementary Figure 240. Linear dose-response meta-analysis of artificially sweetened beverages and breast cancer mortality, leave-one-out analysis.

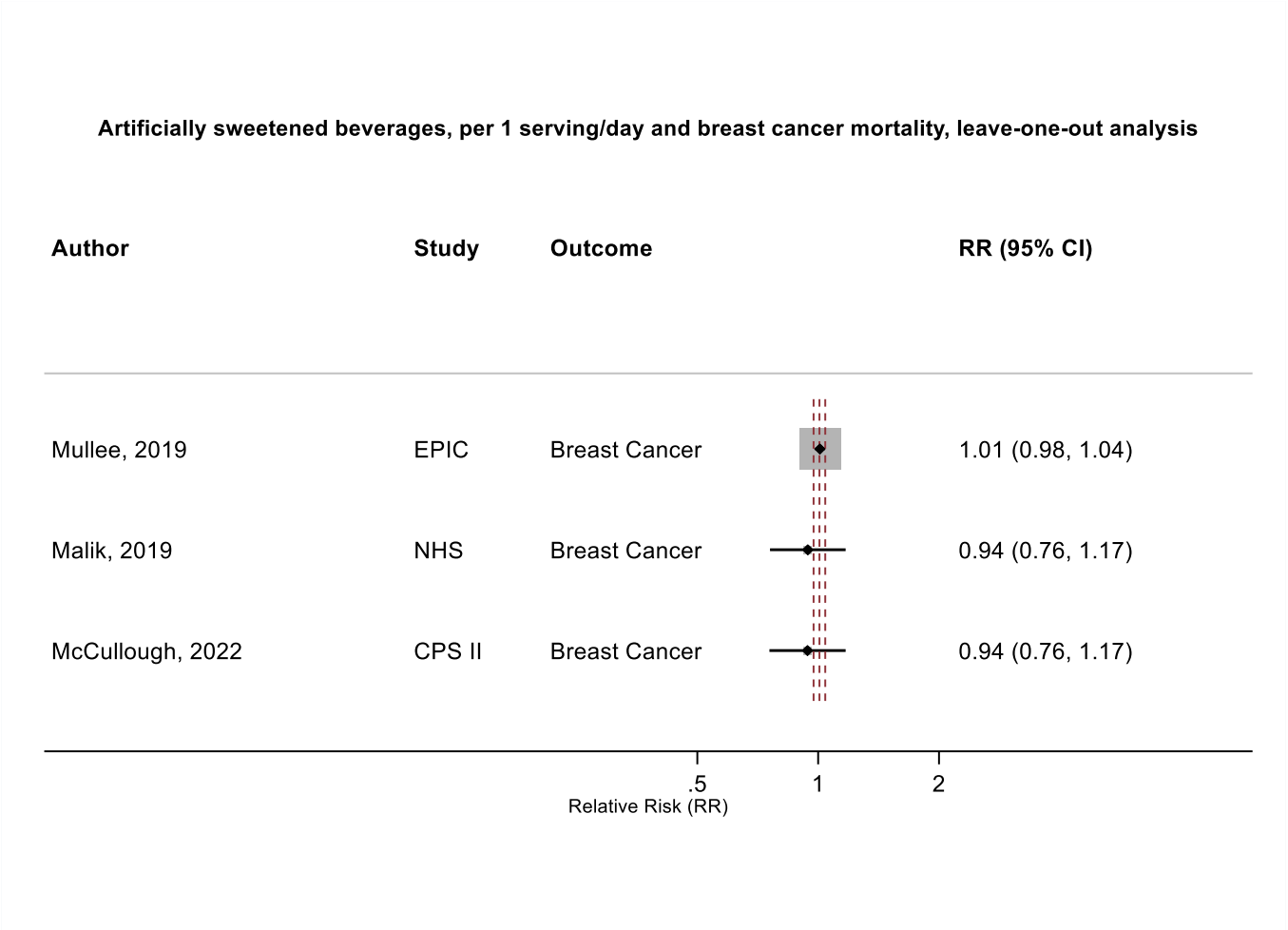


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: : EPIC, European Prospective Investigation into Cancer and nutrition; NHS, Nurses' Health Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 241. Linear dose-response meta-analysis of artificially sweetened beverages and prostate cancer mortality, leave-one-out analysis.

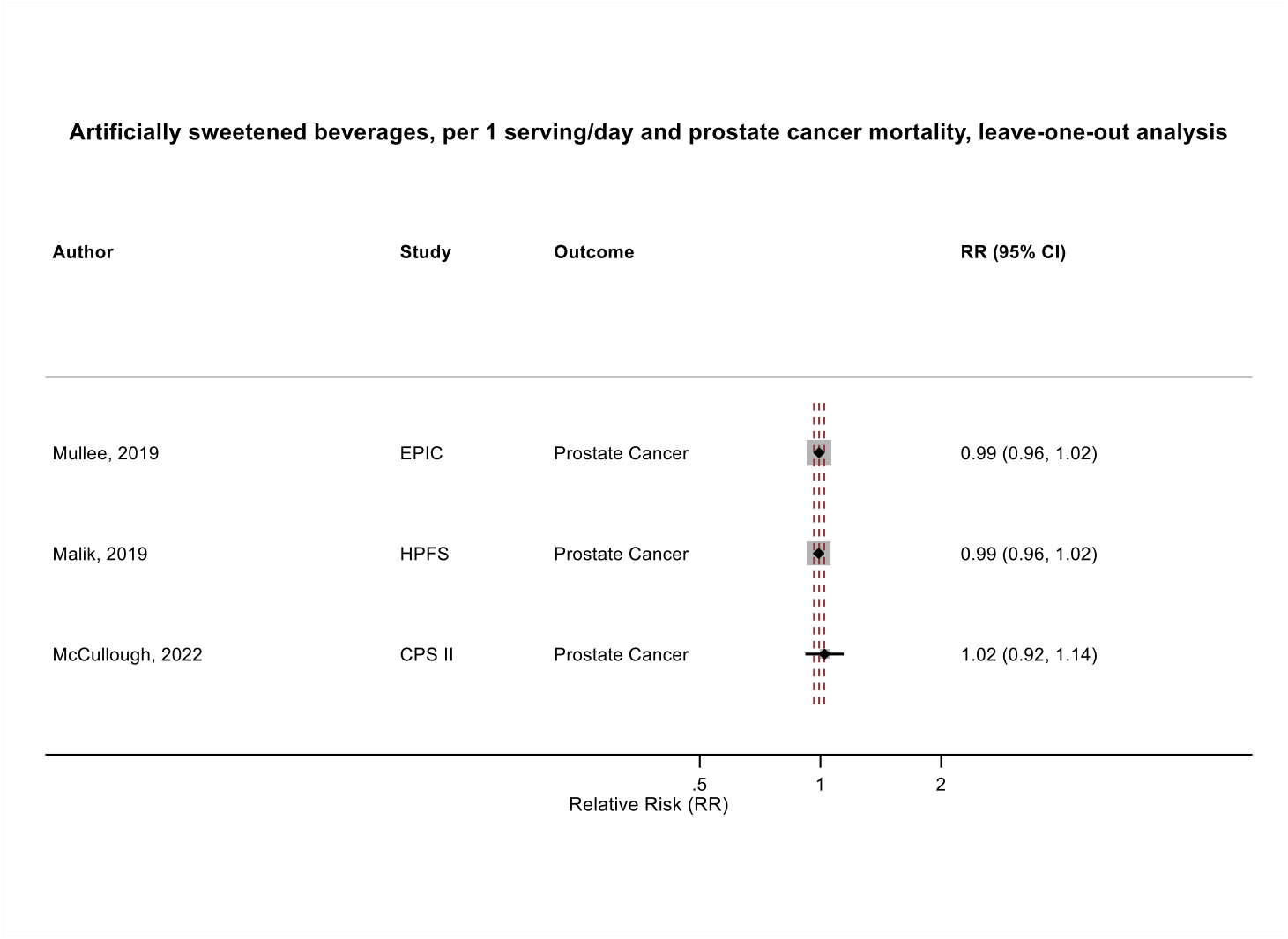


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of artificially sweetened beverages/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; HPFS, Health Professionals Follow-up Study; CPS II, Cancer Prevention Study II

Mullee, 2019[126], Malik, 2019[109], McCullough, 2022[113]

Supplementary Figure 242. Fixed effect linear dose-response meta-analysis of fruit juice and prostate cancer incidence.

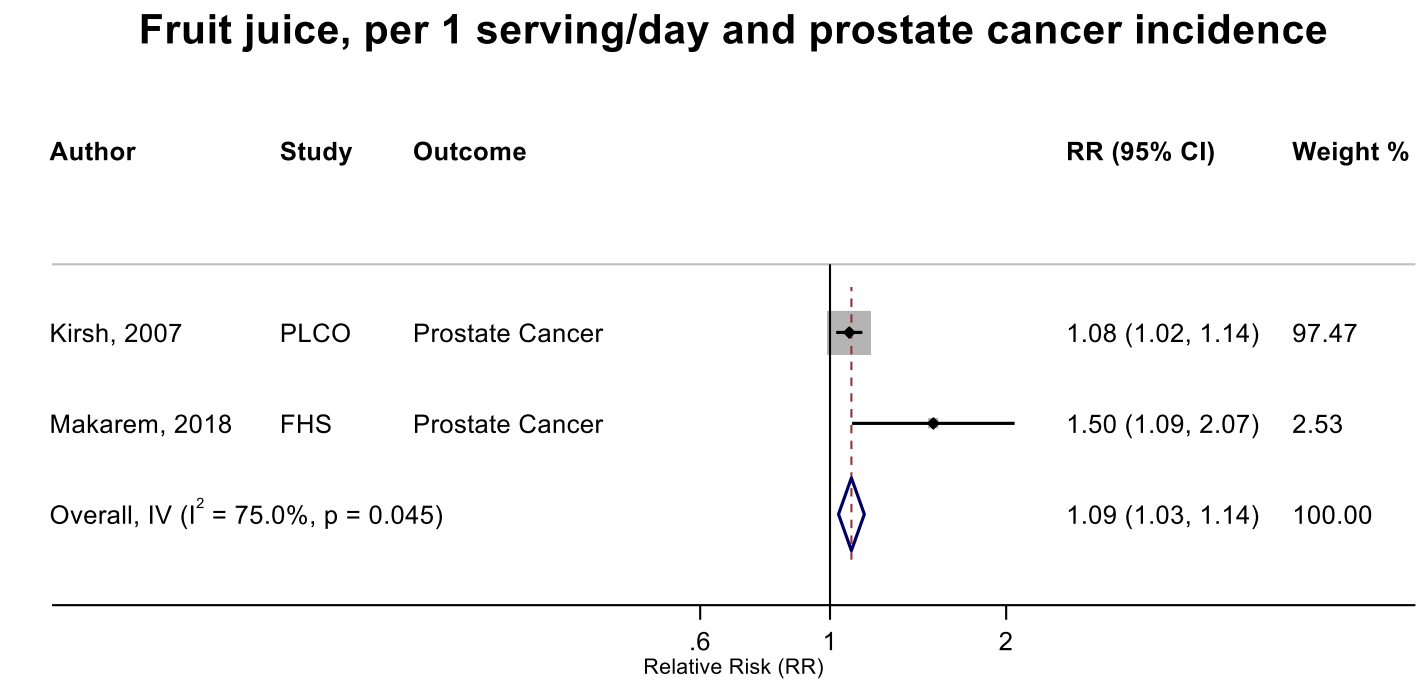


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI), and the diamond's horizontal line is the 95% prediction interval (PI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study

Note: The pooled RR and 95%CI of prostate cancer from the random effects linear dose-response meta-analysis are 1.22 (95%CI: 0.89 – 1.68) (Supplementary Figure 245). Both studies reported significant positive associations, but due to heterogeneity in the data, the random-effects meta-analysis indicated non-significant results. The random-effects model gives more weight to the smaller study with lower number of cases. Therefore, we considered fixed-effect meta-analysis as the main analysis.

Kirsh, 2007[89], Makarem, 2018[108]

Supplementary Figure 243. Linear dose-response meta-analysis of fruit juice and prostate cancer incidence.

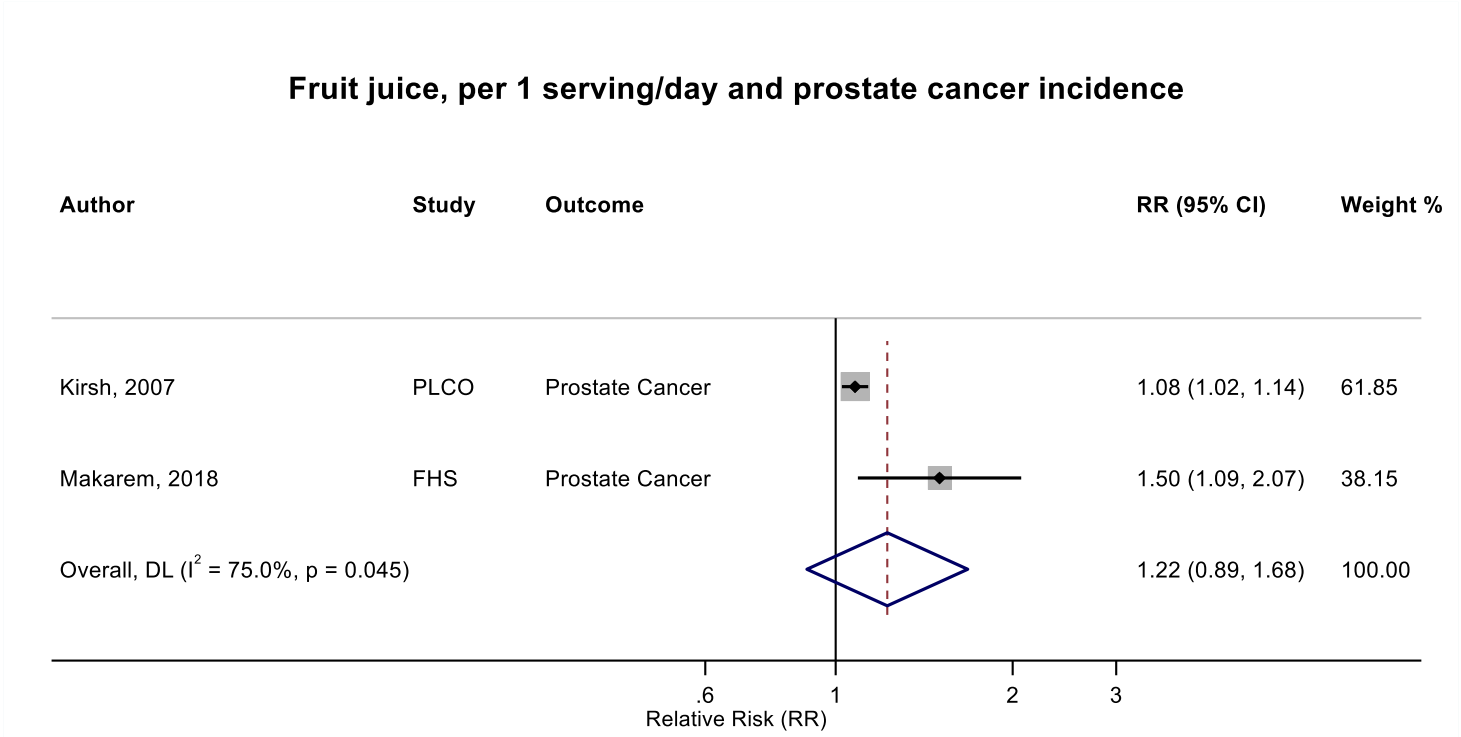


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI. Both studies reported significant positive associations, but due to heterogeneity in the data, the random-effects meta-analysis indicated non-significant result. Therefore, we considered fixed-effect meta-analysis (Supplementary Figure 244) as the main analysis.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study

Note: Two other publications that could not be included in the dose-response meta-analysis because of insufficient data format reported on fruit juice and prostate cancer incidence: the Multiethnic Cohort Study[161] reported a positive association but with 95%CI crossing the null value when comparing extreme categories of intake (RR $_{\geq 64.9 \text{ vs } \leq 2.5 \text{ g/1000 kcal}}$: 1.09, 95%CI: 0.98-1.20); and the Malmö Diet and Cancer cohort[47] reported limited evidence of an association (RR $_{200 \text{ vs } 0 \text{ g/day}}$: 0.99, 95%CI: 0.81-1.22). So, we performed a supporting categorical high vs low meta-analysis (see Supplementary Figure 246).

Kirsh, 2007[89], Makarem, 2018[108]

Supplementary Figure 244. Categorical highest versus the lowest meta-analysis of fruit juice and prostate cancer incidence.

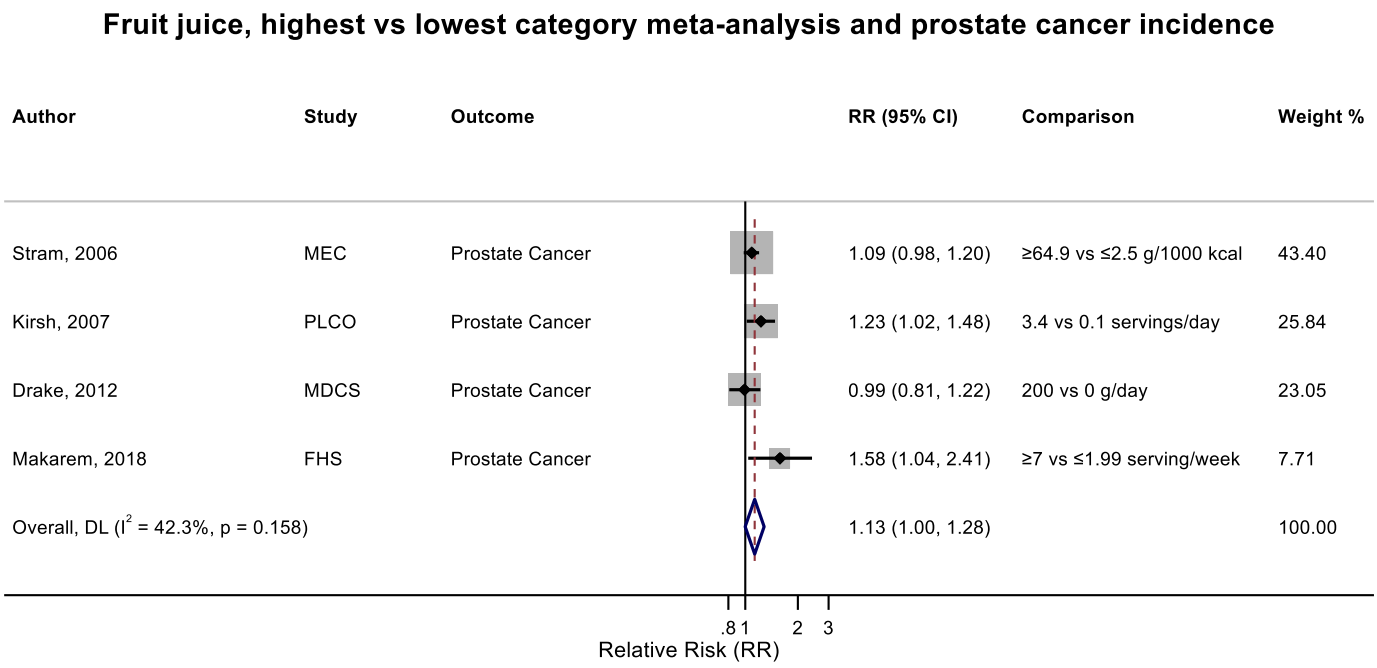


Figure legend: Forest plot shows the highest versus the lowest category results of fruit juice from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MEC, Multiethnic Cohort Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; MDCS, Malmö Diet and Cancer Study; FHS, Framingham Heart Study

Note: The pooled RR and 95%CI with 3 decimal point are 1.132 (0.999-1.282).

Stram, 2006[139], Kirsh, 2007[89], Drake, 2012[47], Makarem, 2018[108]

Supplementary Figure 245. Fixed effect linear dose-response meta-analysis of fruit juice and pure fruit juice combined and prostate cancer incidence.

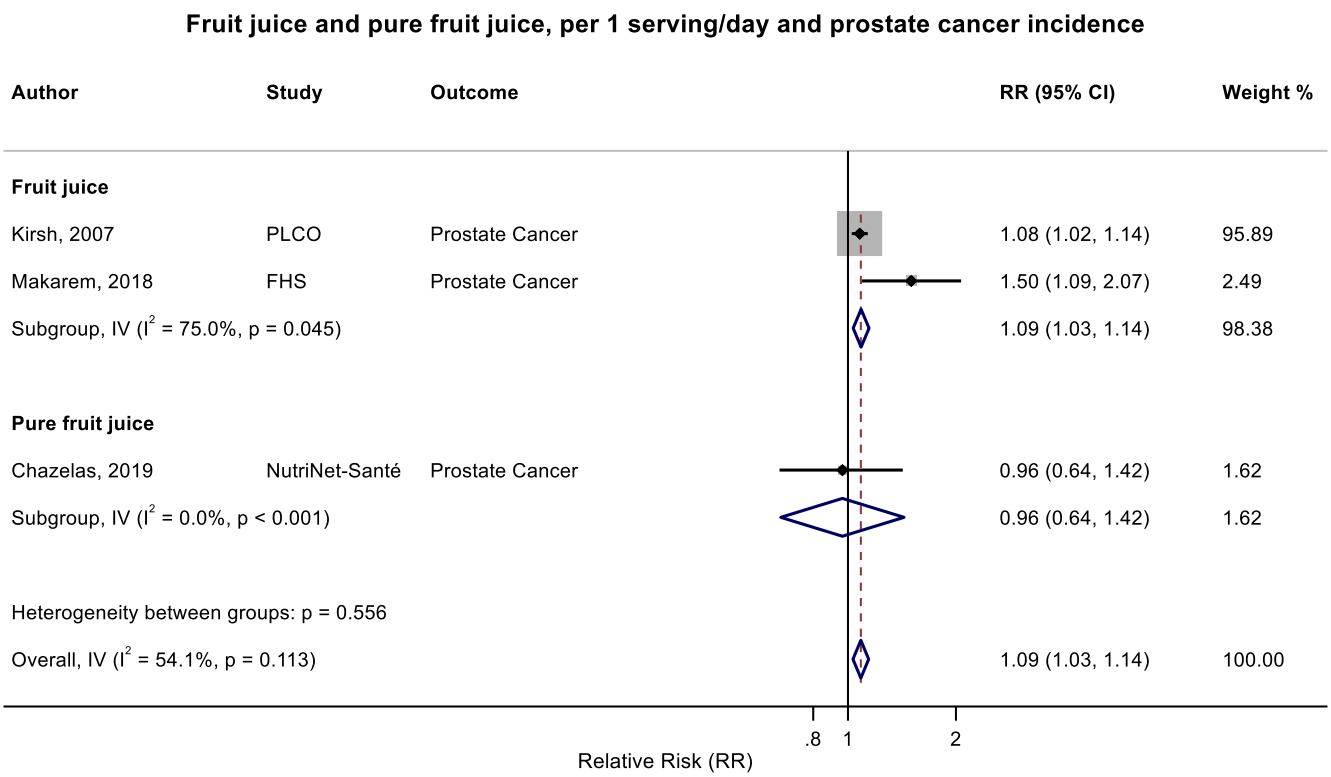


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study

Kirsh, 2007[89], Makarem, 2018[108], Chazelas, 2019[44]

Note: We used a fixed-effect meta-analysis for consistency with the meta-analysis of fruit juice and prostate cancer incidence.

Supplementary Figure 246. Categorical highest versus the lowest meta-analysis of fruit juice and high-grade/high-risk/aggressive prostate cancer incidence.

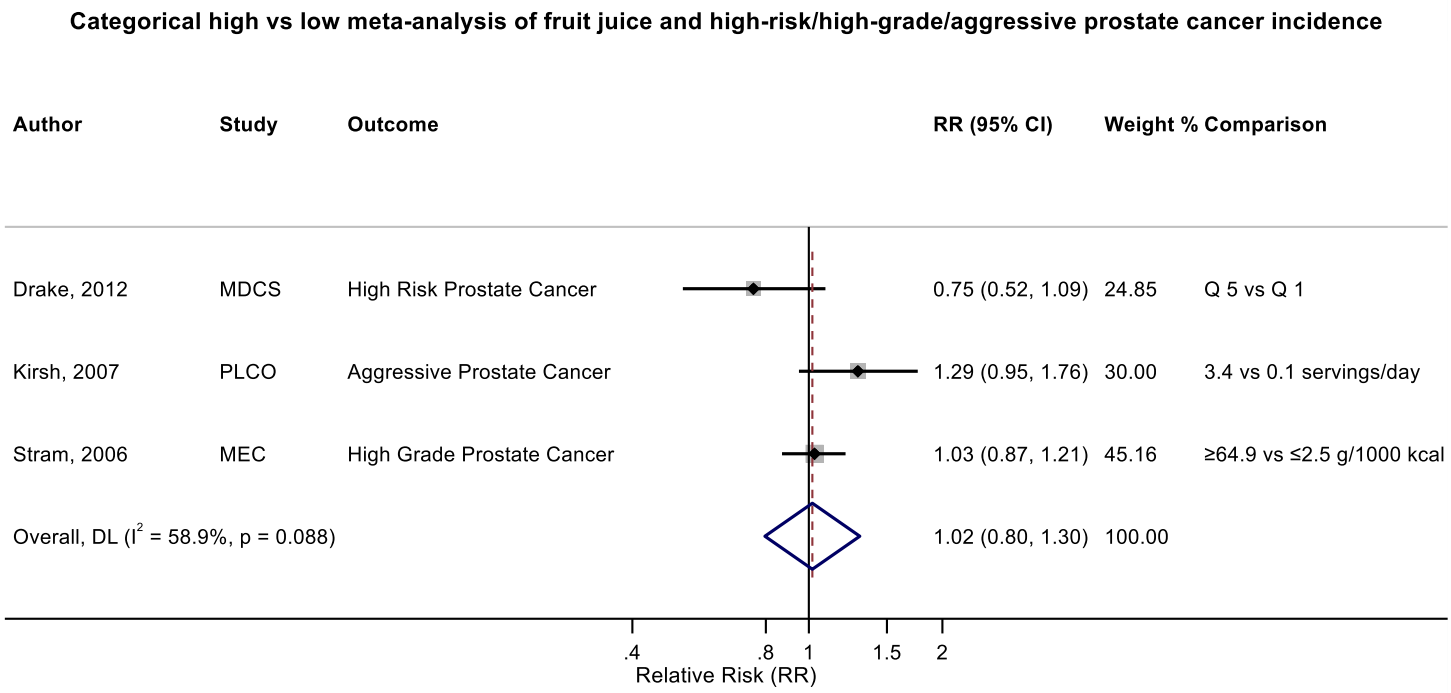


Figure legend: Forest plot shows the highest versus the lowest category results of pure fruit juice from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MDCS, Malmo Diet and Cancer Study; MEC, Multi-ethnic Cohort; PLCO, Prostate , Lung, Colorectal and Ovarian cancer Screening Trial

Drake, 2012[79], Kirsh, 2007[89], Stram, 2006[161]

Note: This analysis was performed as an additional analysis combining high grade, aggressive, and advanced prostate cancer cases.

Supplementary Figure 247. Linear dose-response meta-analysis of fruit and vegetable juices and prostate cancer incidence.

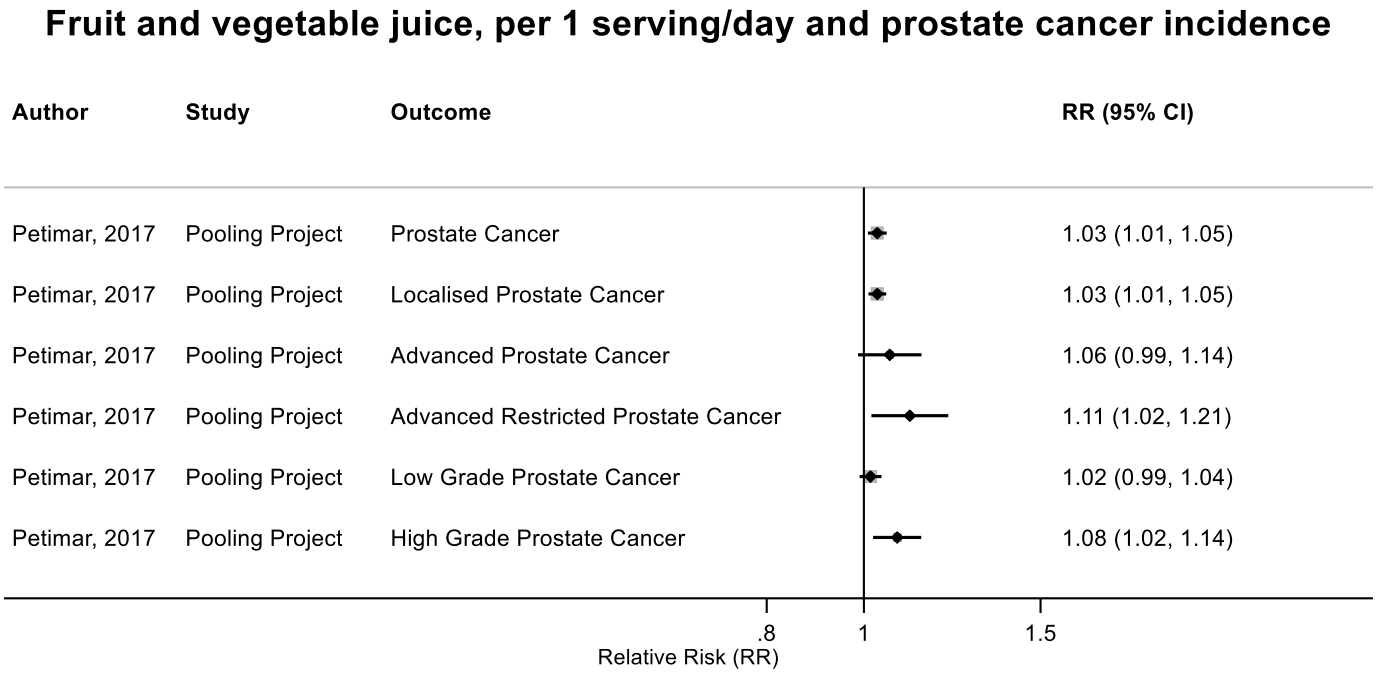


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. Each square represents the summary relative risk (RR) estimate and the square's horizontal line is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=15).

Petimar, 2017[139]

Supplementary Figure 248. Linear dose-response meta-analysis of fruit juice and head and neck cancers incidence.

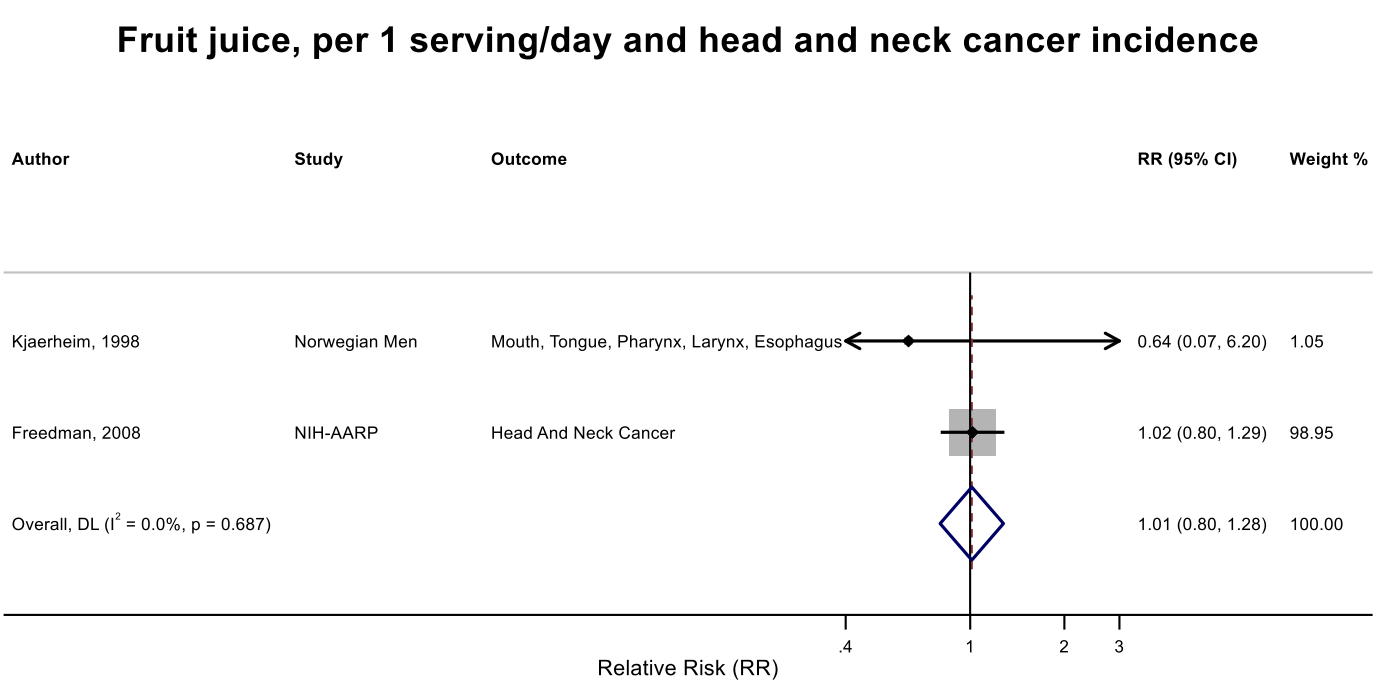


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study

Kjaerheim, 1998[90], Freedman, 2008[59]

Supplementary Figure 249. Linear dose-response meta-analysis of fruit juice and colorectal cancer incidence.

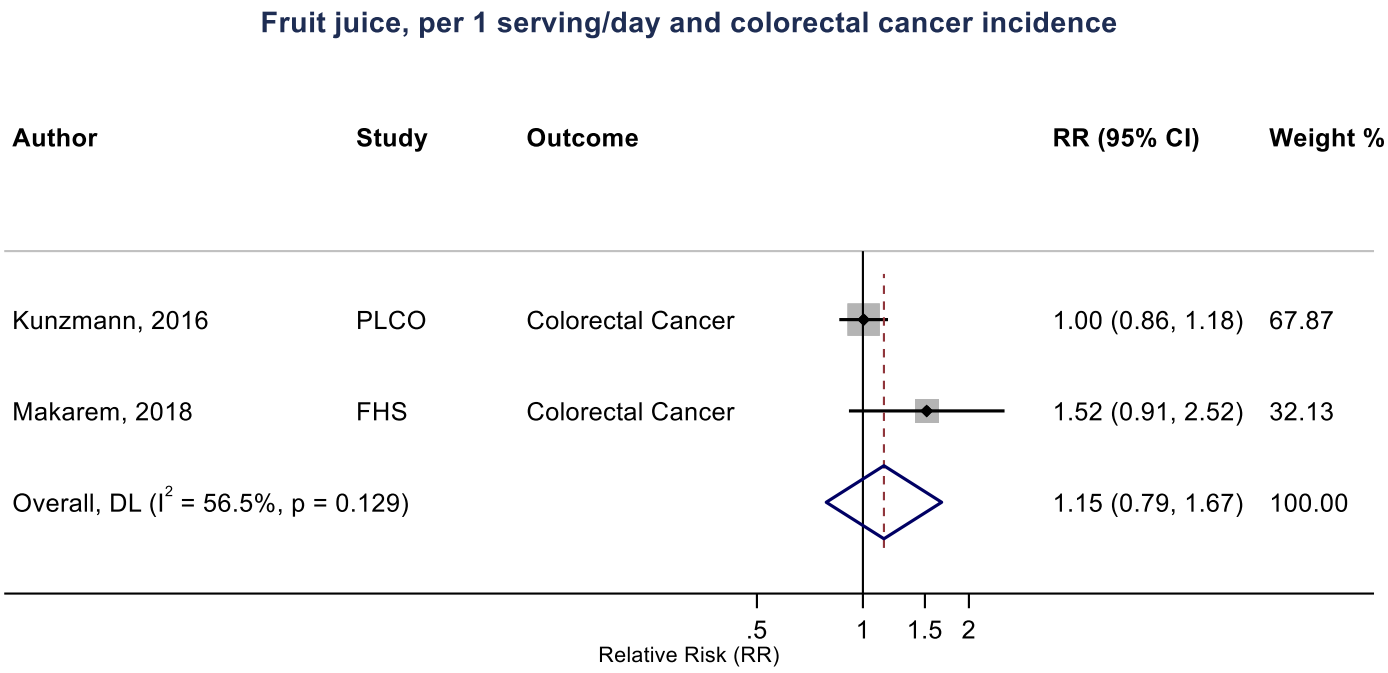


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study

Note: There were two other studies that could not be included in the dose-response meta-analysis because of insufficient data format: one publication from UK Biobank [78] that reported little evidence of an association (RR: 1.01, 95%CI: 0.96-1.06) per each one standard deviation increase in fruit juice intake, and one publication from Multiethnic Cohort Study[87] that reported a borderline inverse association per each one standard deviation increase in fruit juice intake (RR: 0.96, 95%CI: 0.92-1.00).

Kunzmann, 2016[93], Makarem, 2018[108]

Supplementary Figure 250. Linear dose-response meta-analysis of pure fruit juice and colorectal cancer incidence.

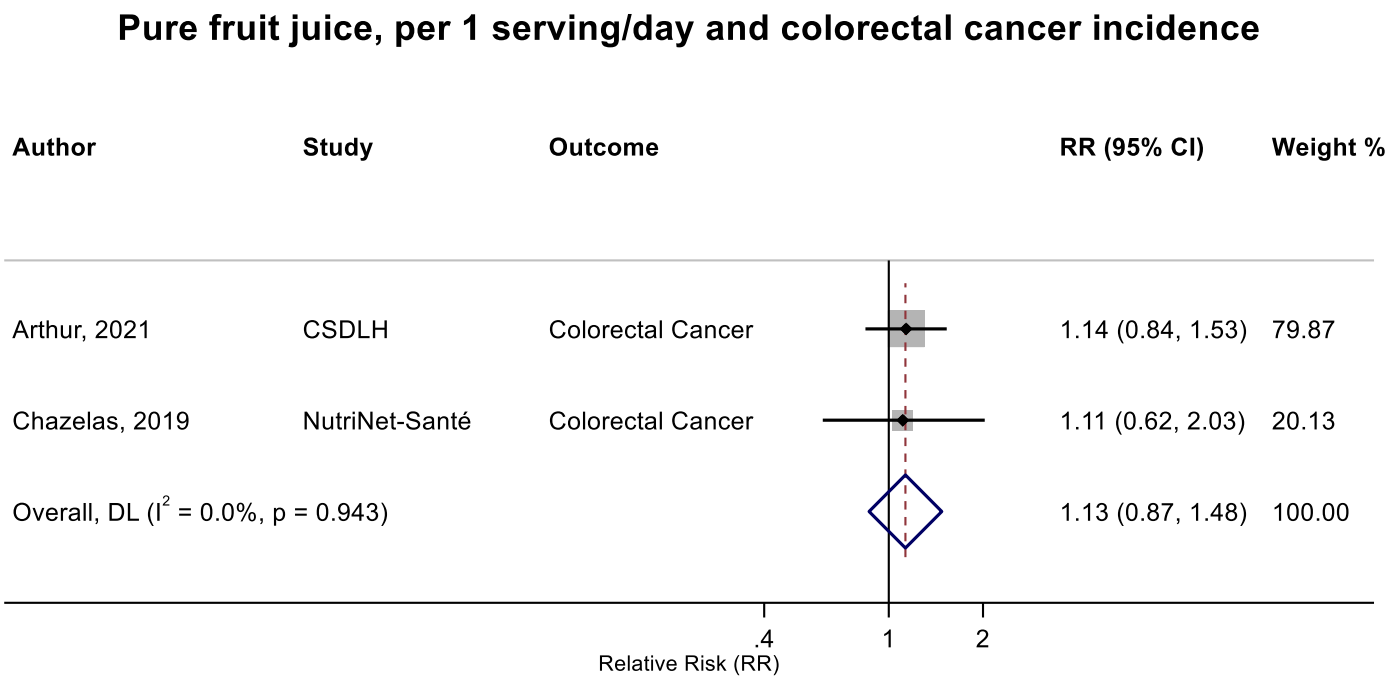


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CSDLH, Canadian Study of Diet, Lifestyle and Health

Arthur, 2021[38], Chazelas, 2019[44]

Supplementary Figure 251. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and colorectal cancer incidence.

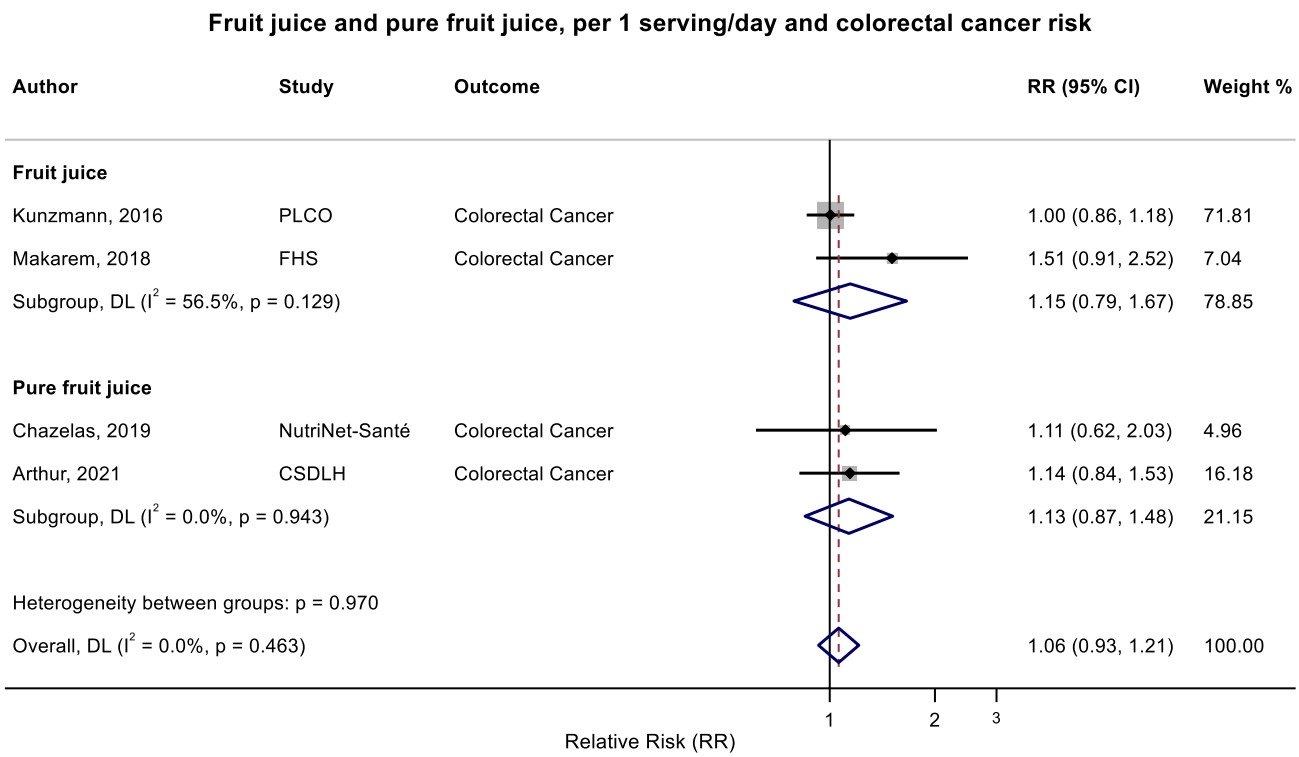


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; FHS, Framingham Heart Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Kunzmann, 2016[93], Makarem, 2018[108], Arthur, 2021[38], Chazelas, 2019[44]

Supplementary Figure 252. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and liver cancer incidence/mortality.

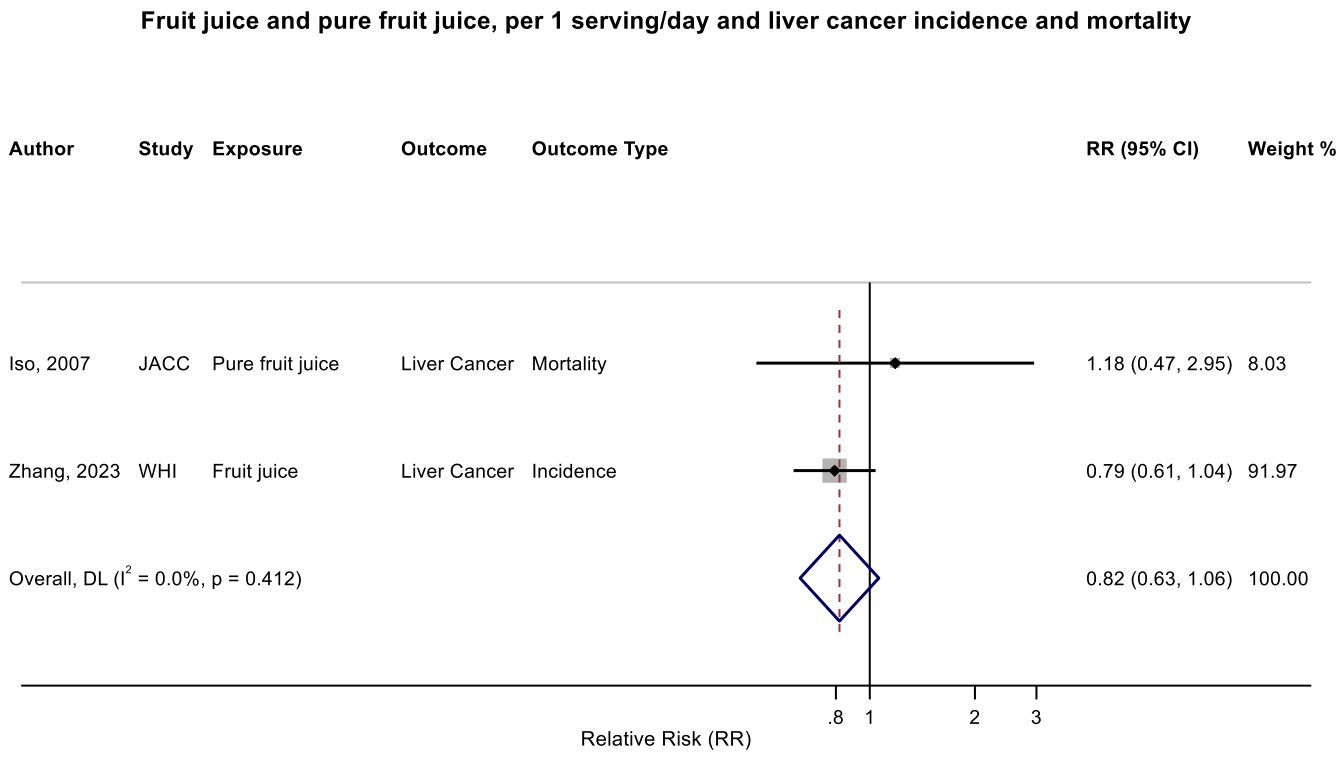


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JACC, Japan Collaborative Cohort study; WHI, Women's Health Initiative

Iso, 2007[76], Zhang, 2023[183]

Supplementary Figure 253. Linear dose-response meta-analysis of fruit juice and pancreatic cancer incidence.

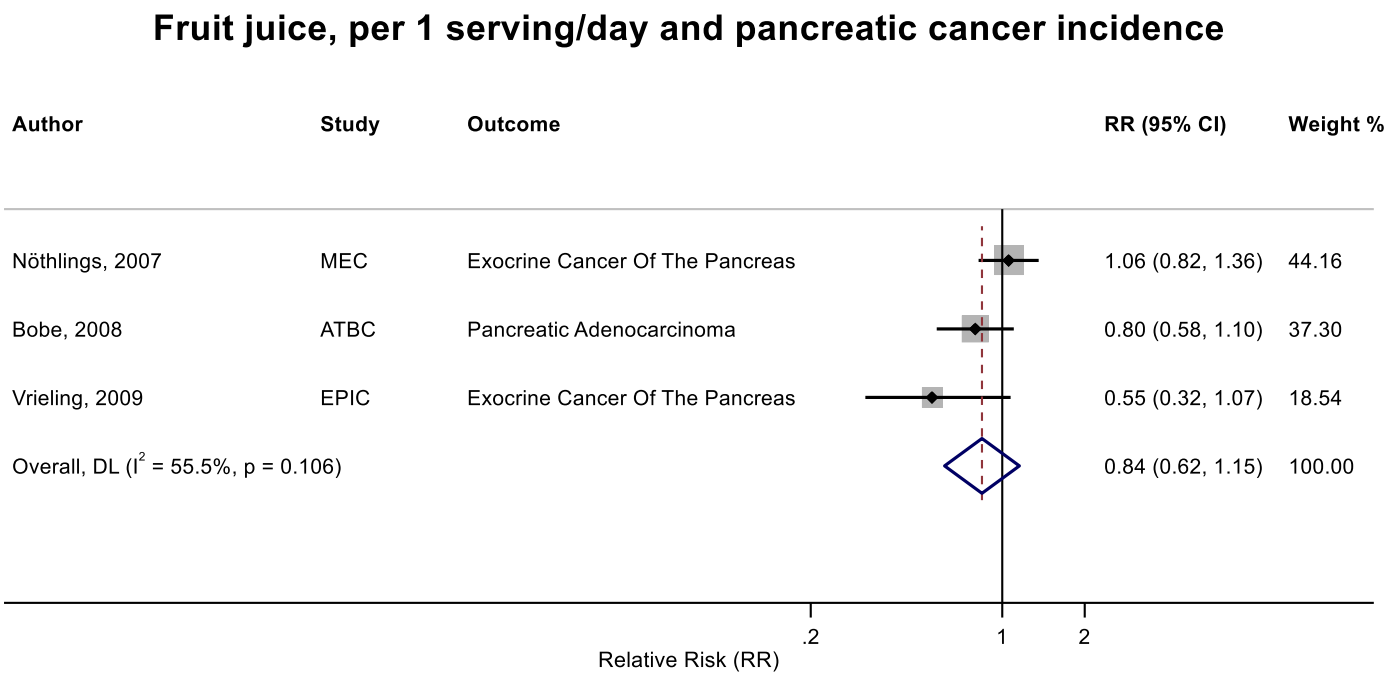


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MEC, Multiethnic Cohort Study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; EPIC, European Prospective Investigation into Cancer and nutrition

Note: There was another study (PLCO)[188] that could not be included in the dose-response meta-analysis because of insufficient data format and reported a positive association with pancreatic cancer when comparing extreme categories of fruit juice intake as a component of unhealthful plant-based dietary index ($RR_{Q4\ vs\ Q1}$: 1.76, 95%CI: 1.29-2.40).

Nöthlings, 2007[131], Bobe, 2008[41], Vrieling, 2009[167]

Supplementary Figure 254. Categorical highest versus the lowest meta-analysis of pure fruit juice and pancreatic cancer incidence.

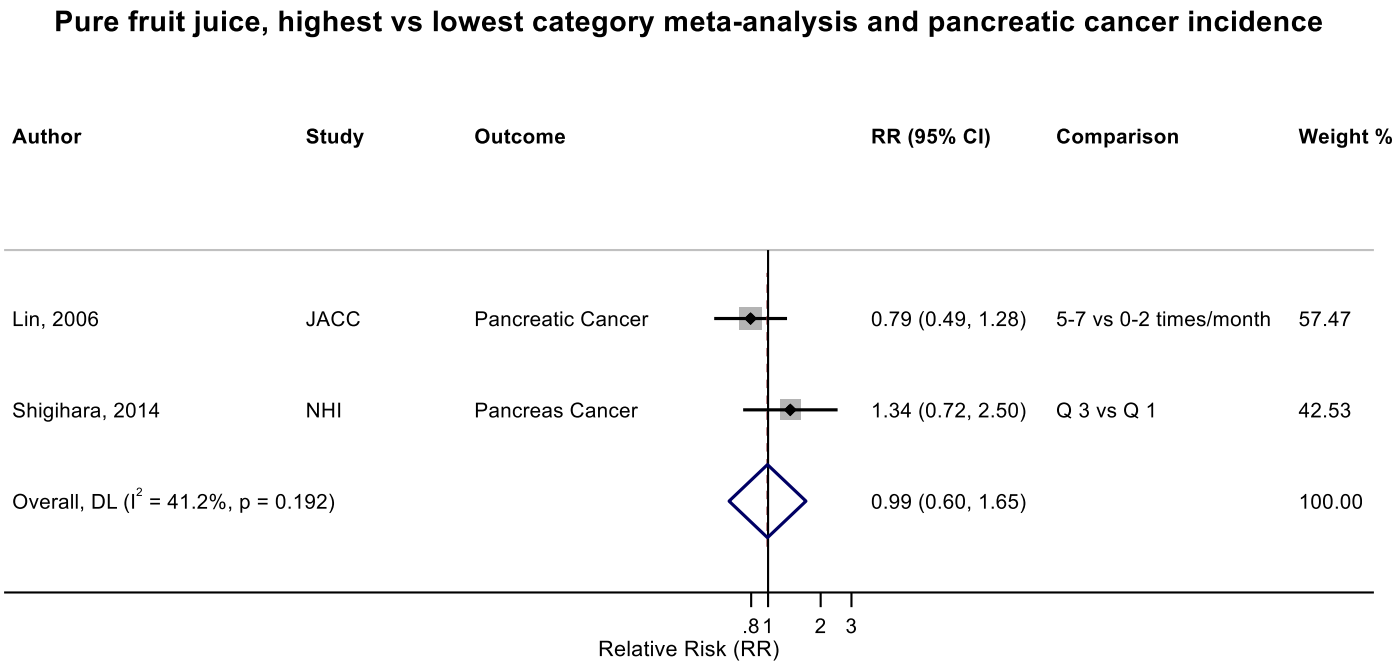


Figure legend: Forest plot shows the highest versus the lowest category results of pure fruit juice from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: JACC, Japan Collaborative Cohort study; NHI, Ohsaki National Health Insurance Cohort Study

Lin, 2006[103], Shigihara, 2014[154]

Supplementary Figure 255. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and pancreatic cancer incidence/mortality.

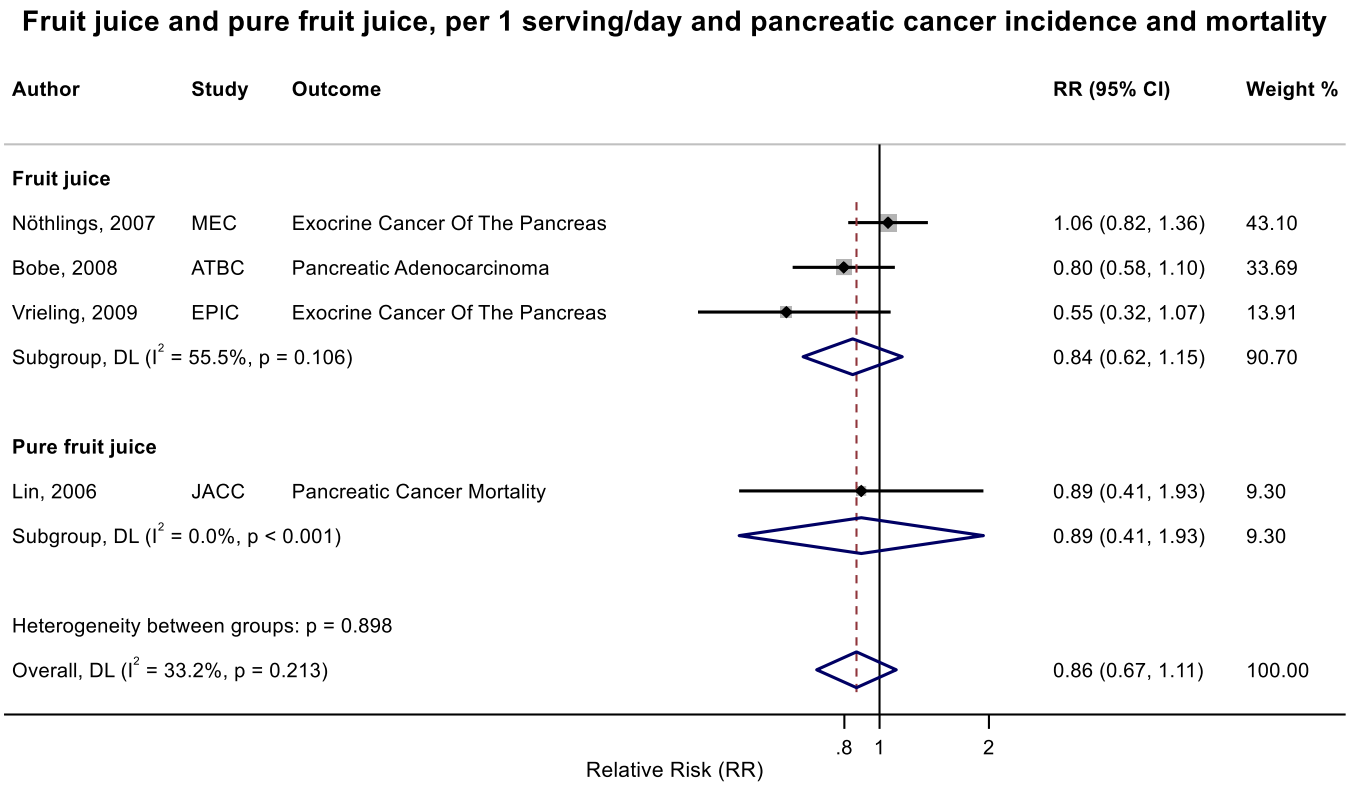


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MEC, Multiethnic Cohort Study; ATBC, Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; EPIC, European Prospective Investigation into Cancer and nutrition; JACC, Japan Collaborative Cohort study;

Nöthlings, 2007[131], Bobe, 2008[41], Vrieling, 2009[167], Lin, 2006[103]

Supplementary Figure 256. Linear dose-response meta-analysis of fruit juice and breast cancer incidence.

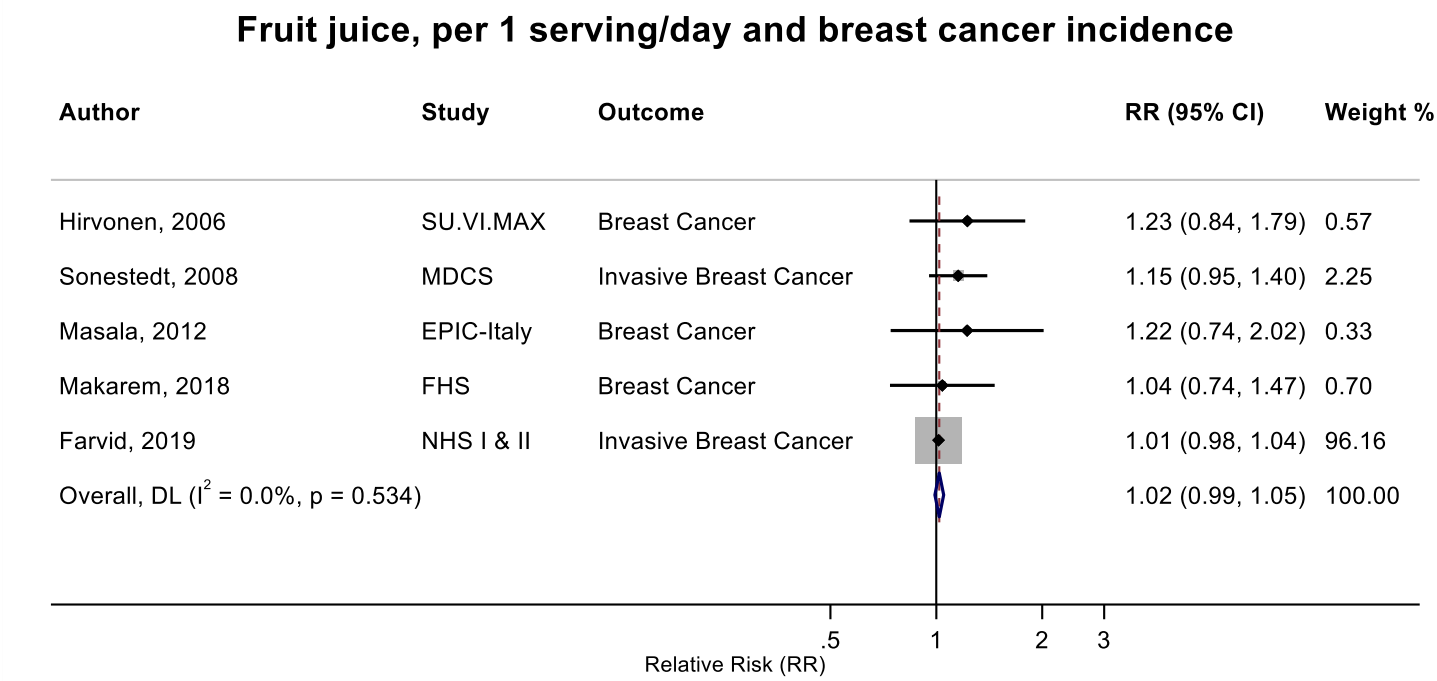


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; MDCS, Malmö Diet and Cancer Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition Italy cohort; FHS, Framingham Heart Study; NHS I & II, Nurses' Health Study I & II

Hirvonen, 2006[69], Sonestedt, 2008[156], Masala, 2012[112], Makarem, 2018[108], Farvid, 2019[52]

Supplementary Figure 257. Linear dose-response meta-analysis of fruit juice and breast cancer incidence by menopausal status.

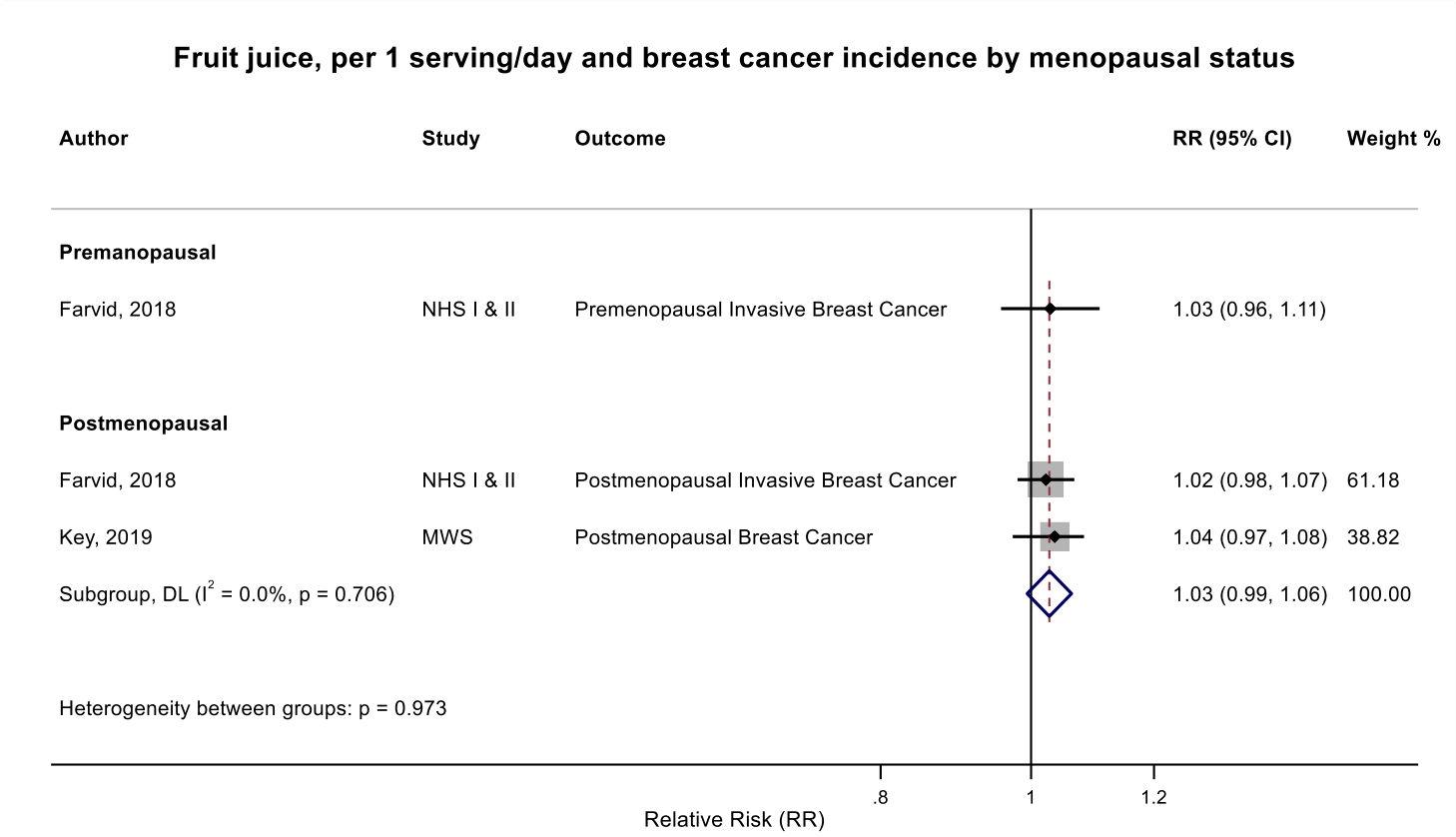


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II; MWS, Million Women Study

Farvid, 2019[52], Key, 2019[83]

Supplementary Figure 258. Linear dose-response meta-analysis of pure fruit juice and breast cancer incidence.

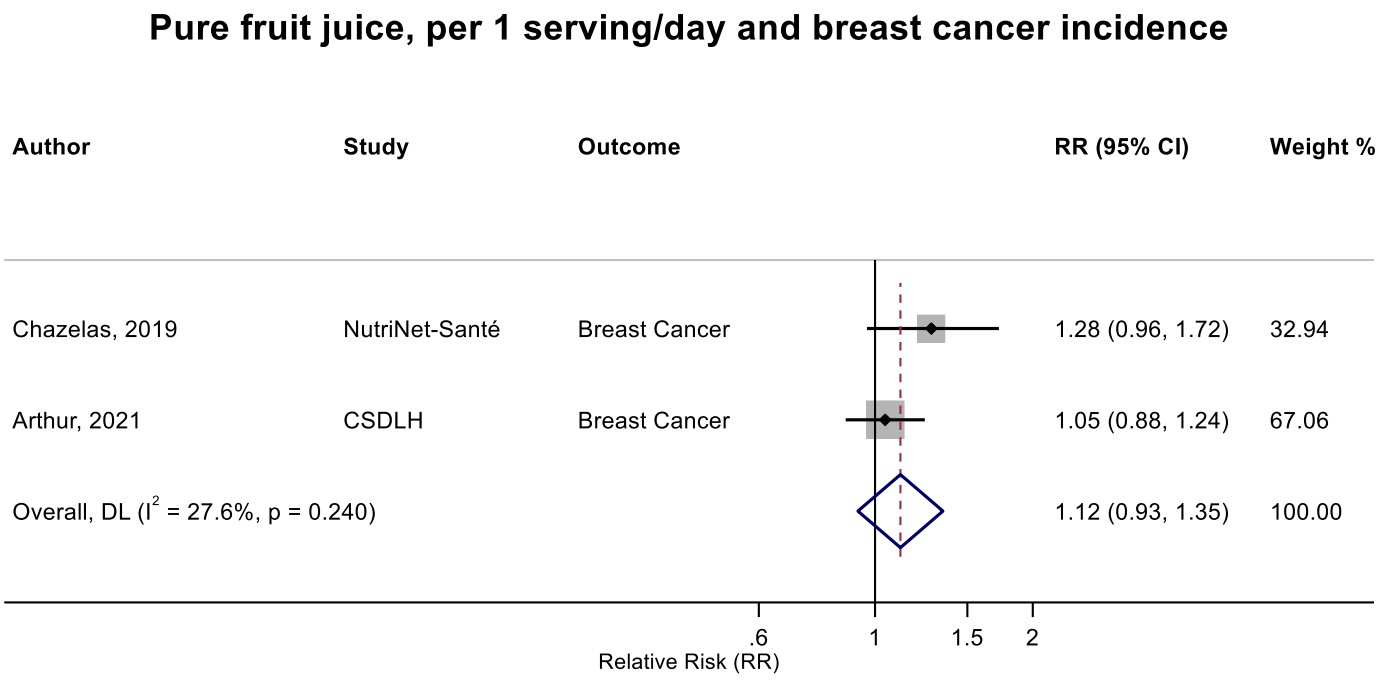


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CSDLH, Canadian Study of Diet, Lifestyle and Health

Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 259. Linear dose-response meta-analysis of pure fruit juice and breast cancer incidence by menopausal status.

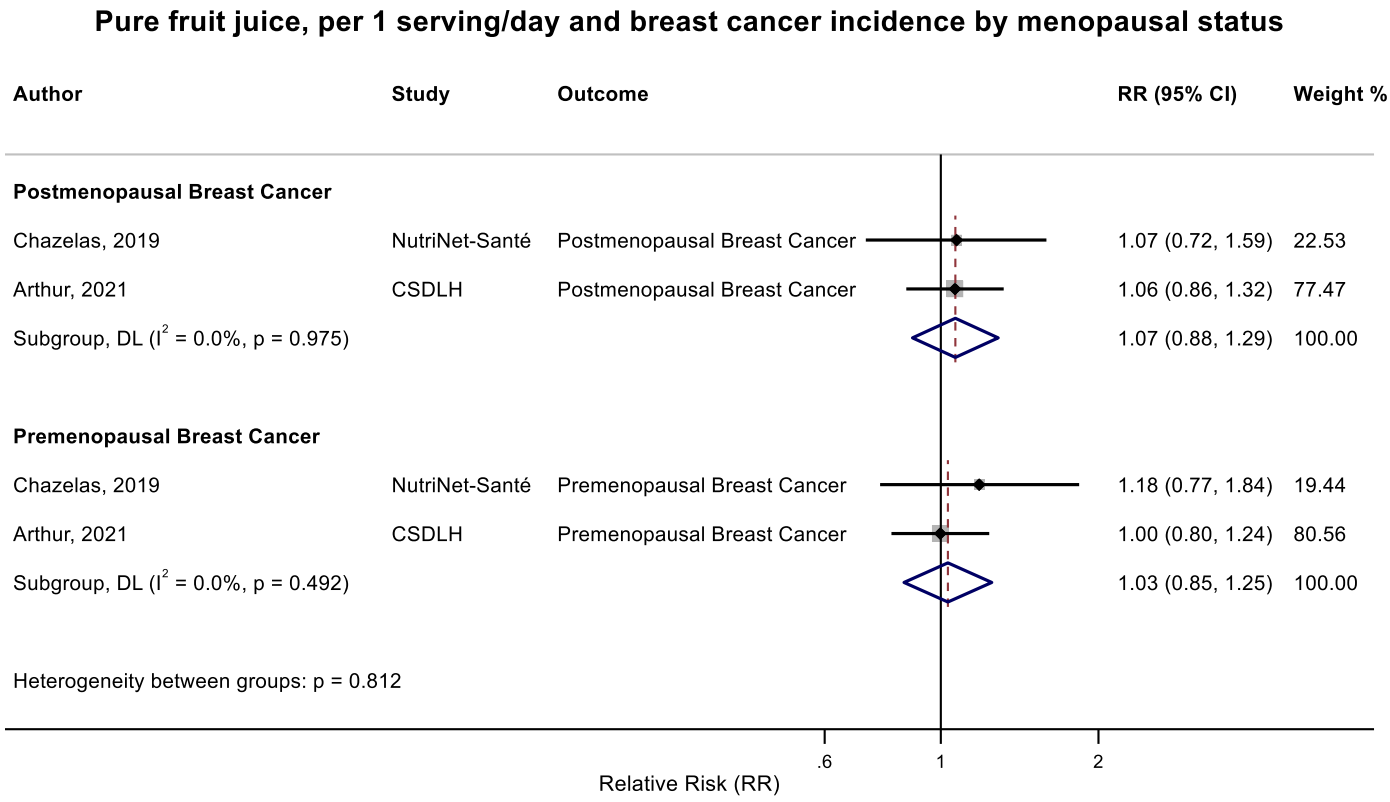


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: CSDLH, Canadian Study of Diet, Lifestyle and Health

Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 260. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and breast cancer incidence.

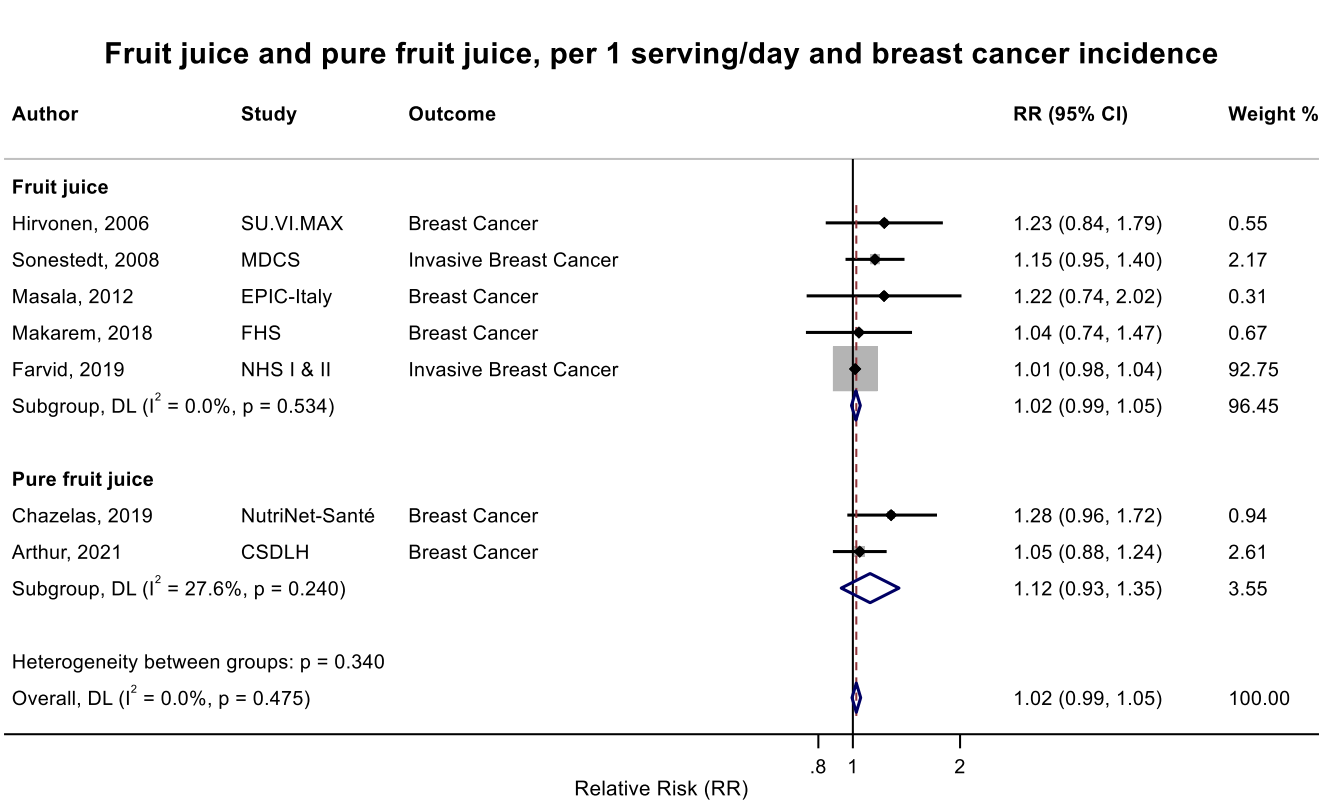


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; MDCS, Malmö Diet and Cancer Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition Italy cohort; FHS, Framingham Heart Study; NHS I & II, Nurses' Health Study I & II; CSDLH, Canadian Study of Diet, Lifestyle and Health

Hirvonen, 2006[69], Sonestedt, 2008[156], Masala, 2012[112], Makarem, 2018[108], Farvid, 2019[52], Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 261. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and premenopausal breast cancer incidence.

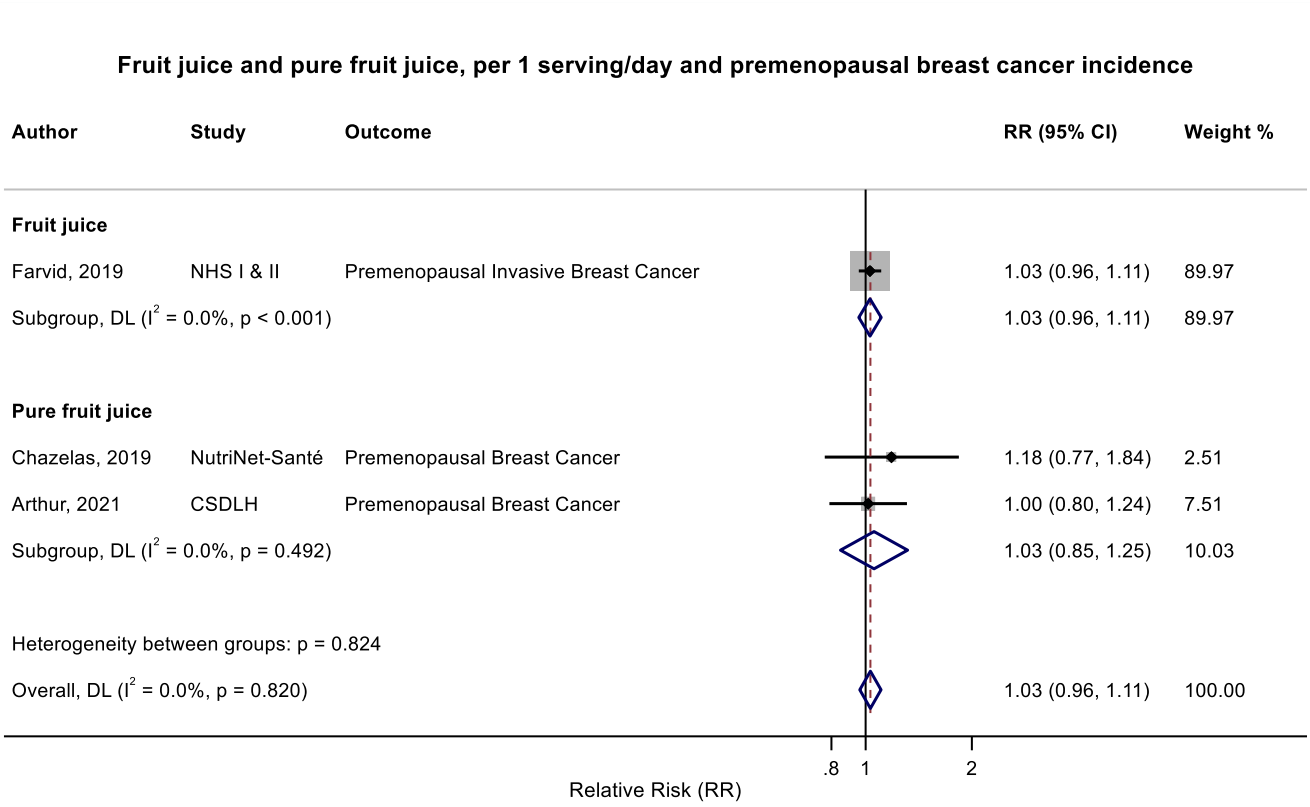


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II; CSDLH, Canadian Study of Diet, Lifestyle and Health

Farvid, 2019[52], Chazelas, 2019[44], Arthur, 2021[38]

Supplementary Figure 262. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and postmenopausal breast cancer incidence.

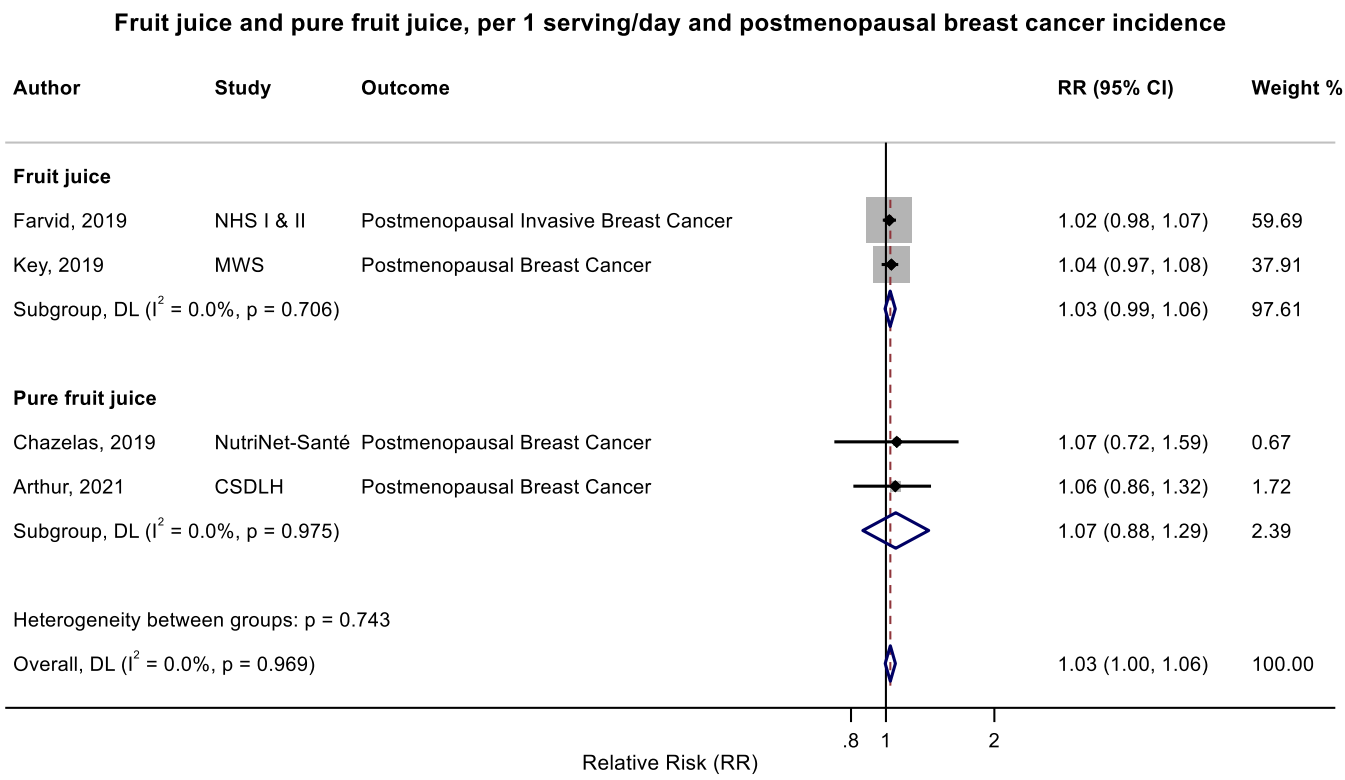


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II; MWS, Million Women Study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Farvid, 2019[52], Key 2019[83], Chazelas, 2019[44], Arthur, 2021[38]

Note: The summary RR and 95%CI with 3 decimal point are 1.028 (0.995-1.062), p=0.096.

Supplementary Figure 263. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and ovarian cancer incidence.

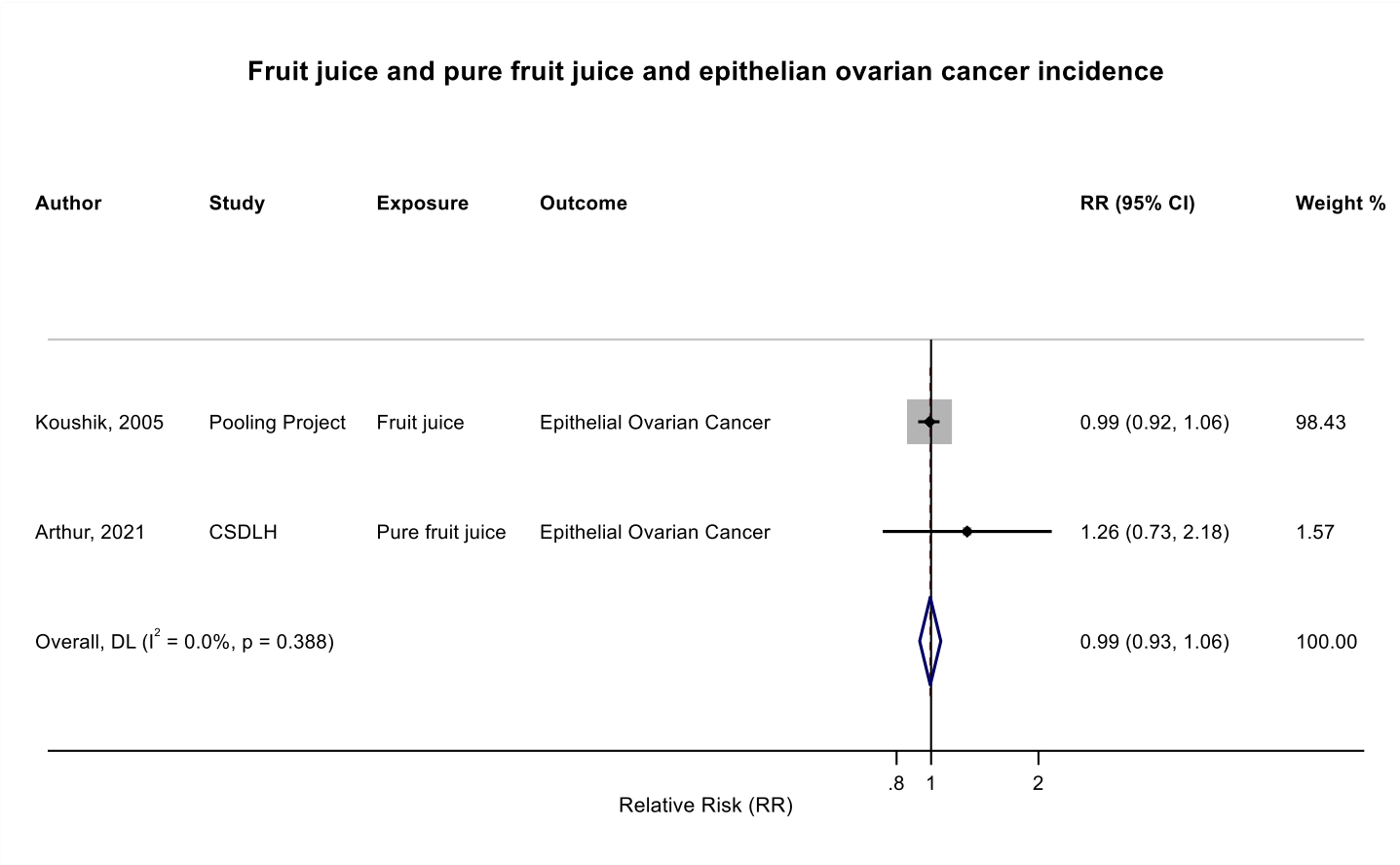


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, pooled analysis of cohort studies; CSDLH, Canadian Study of Diet, Lifestyle and Health

Koushik, 2005 [91], Arthur, 2021[38]

Supplementary Figure 264. Linear dose-response meta-analysis of fruit juice and pure fruit juice combined and endometrial cancer incidence.

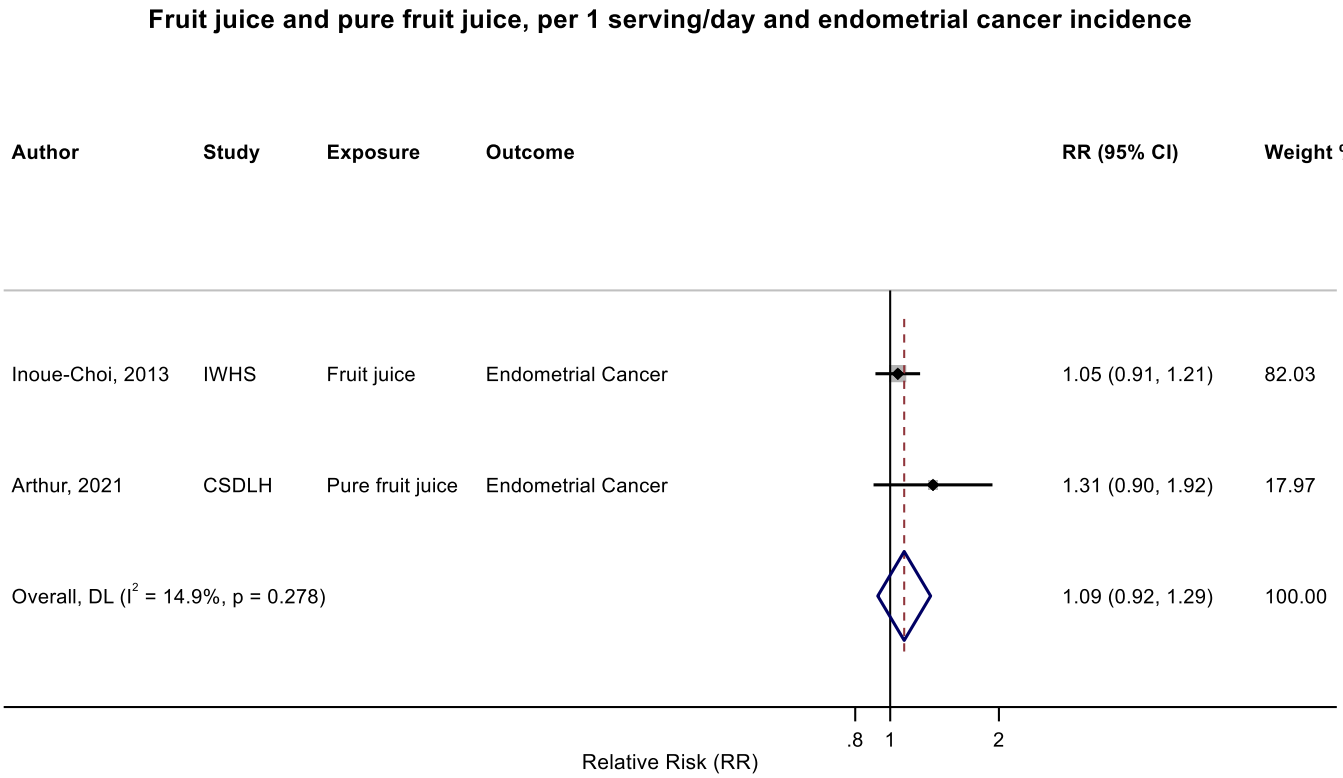


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: IWHS, Iowa Women's Health study; CSDLH, Canadian Study of Diet, Lifestyle and Health

Inoue-Choi, 2013[74], Arthur, 2021[38]

Supplementary Figure 265. Linear dose-response meta-analysis of fruit juice and kidney cancer incidence.

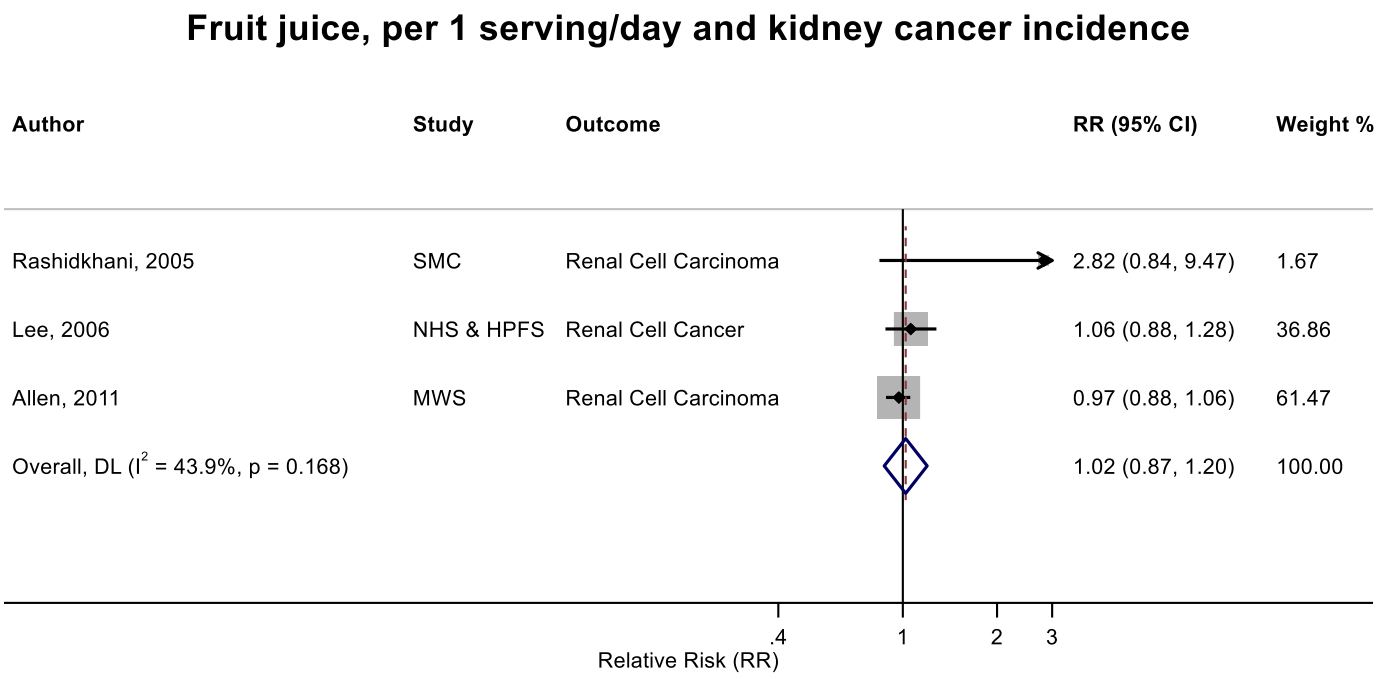


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MWS, Million Women Study

Rashidkhani, 2005[142], Lee, 2006[98], Allen, 2011[36]

Supplementary Figure 266. Linear dose-response meta-analysis of fruit juice and glioma incidence.

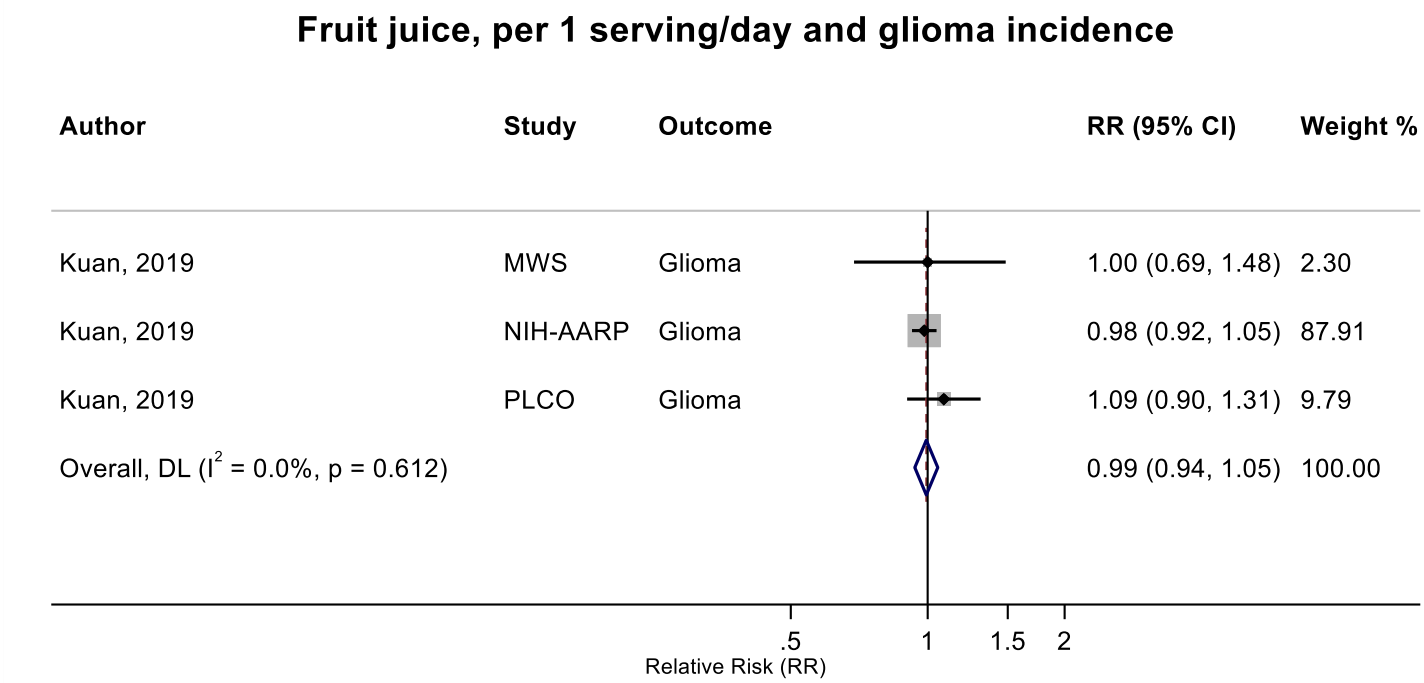


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MWS, Million Women Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Kuan, 2019[92]

Supplementary Figure 267. Linear dose-response meta-analysis of citrus juice and melanoma incidence.

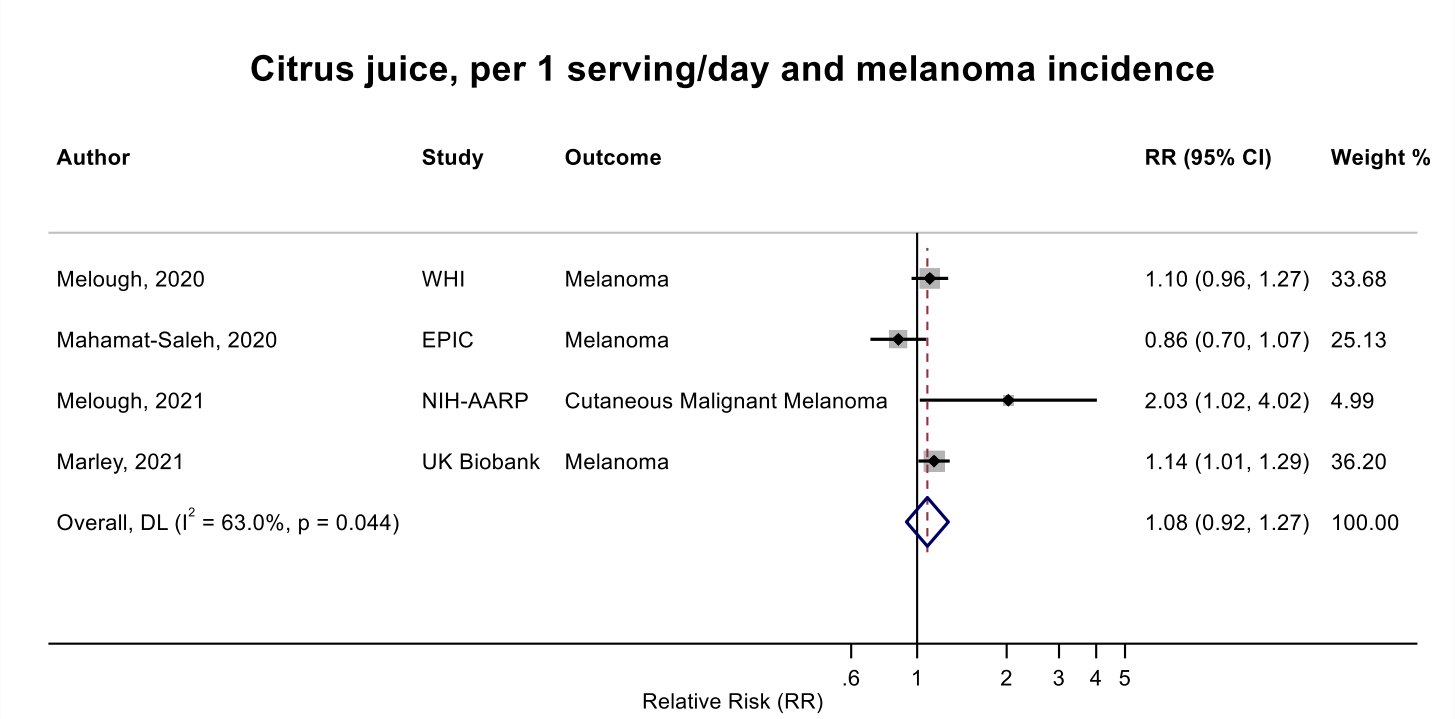


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; UK Biobank, United Kingdom Biobank Study

Melough, 2020[116], Mahamat-Saleh, 2020[107], Melough, 2021[115], Marley, 2021[110]

Supplementary Figure 268. Linear dose-response meta-analysis of citrus juice and non-melanoma skin cancer incidence.

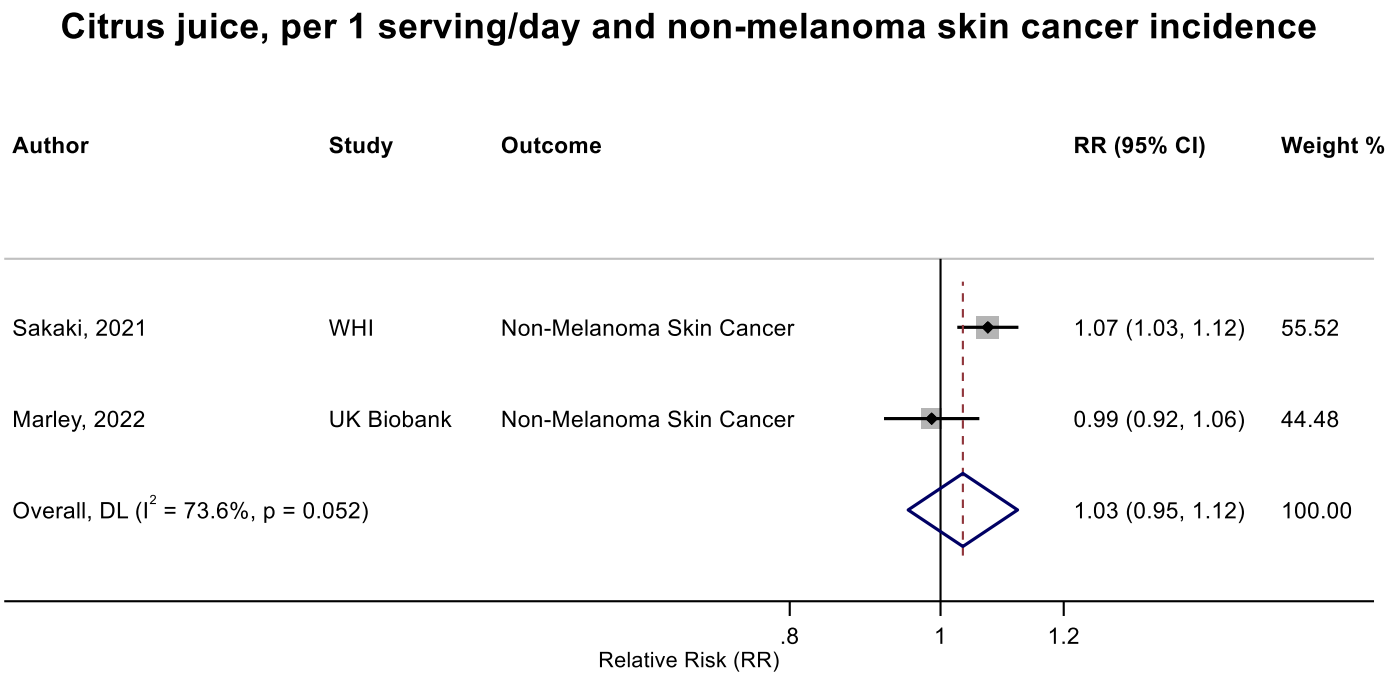


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; UK Biobank, United Kingdom Biobank Study

Sakaki, 2021[148], Marley, 2022[111]

Supplementary Figure 269. Linear dose-response meta-analysis of orange juices and melanoma incidence.

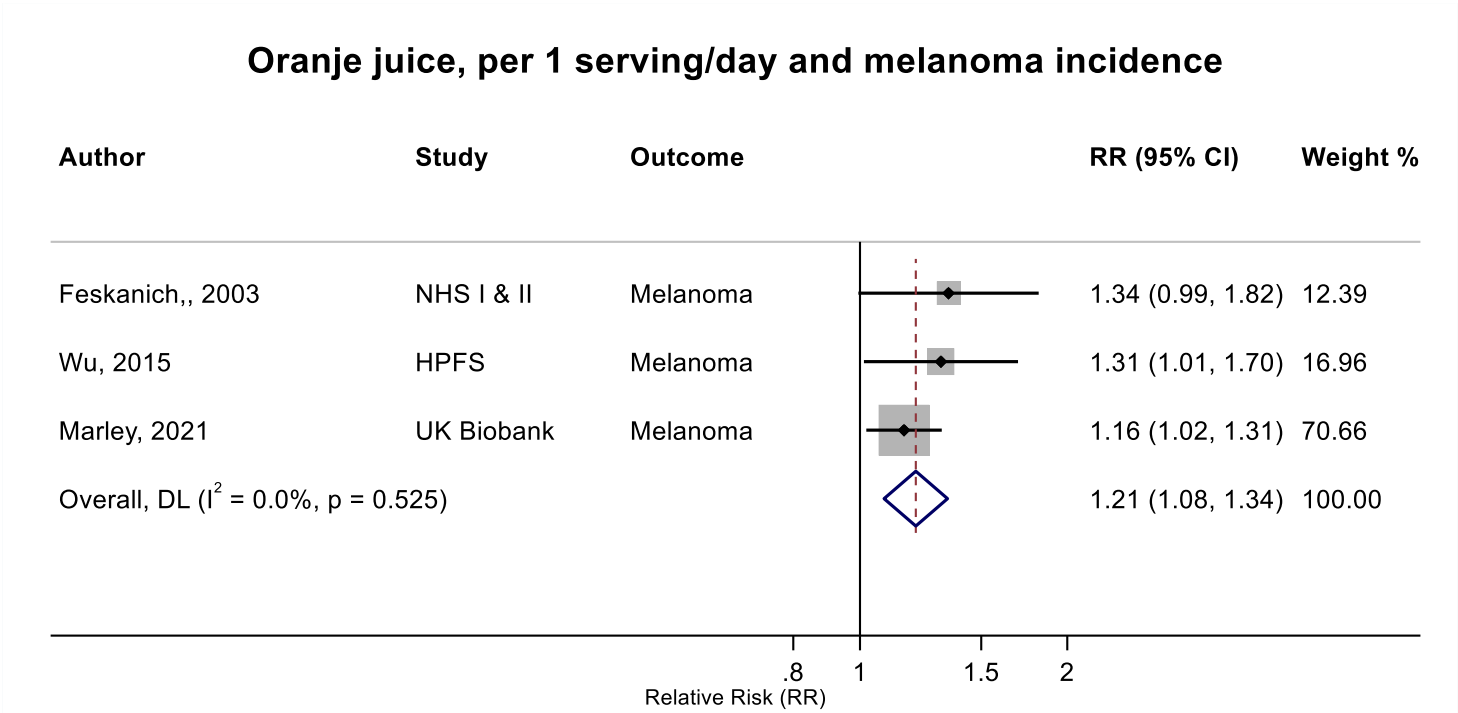


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II; HPFS, Health Professionals Follow-up Study; UK Biobank, United Kingdom Biobank Study

Note: All studies performed repeated measurements.

Feskanich, 2003[54], Wu, 2015[171], Marley, 2021[110]

Supplementary Figure 270. Linear dose-response meta-analysis of orange juices and basal cell carcinoma incidence.

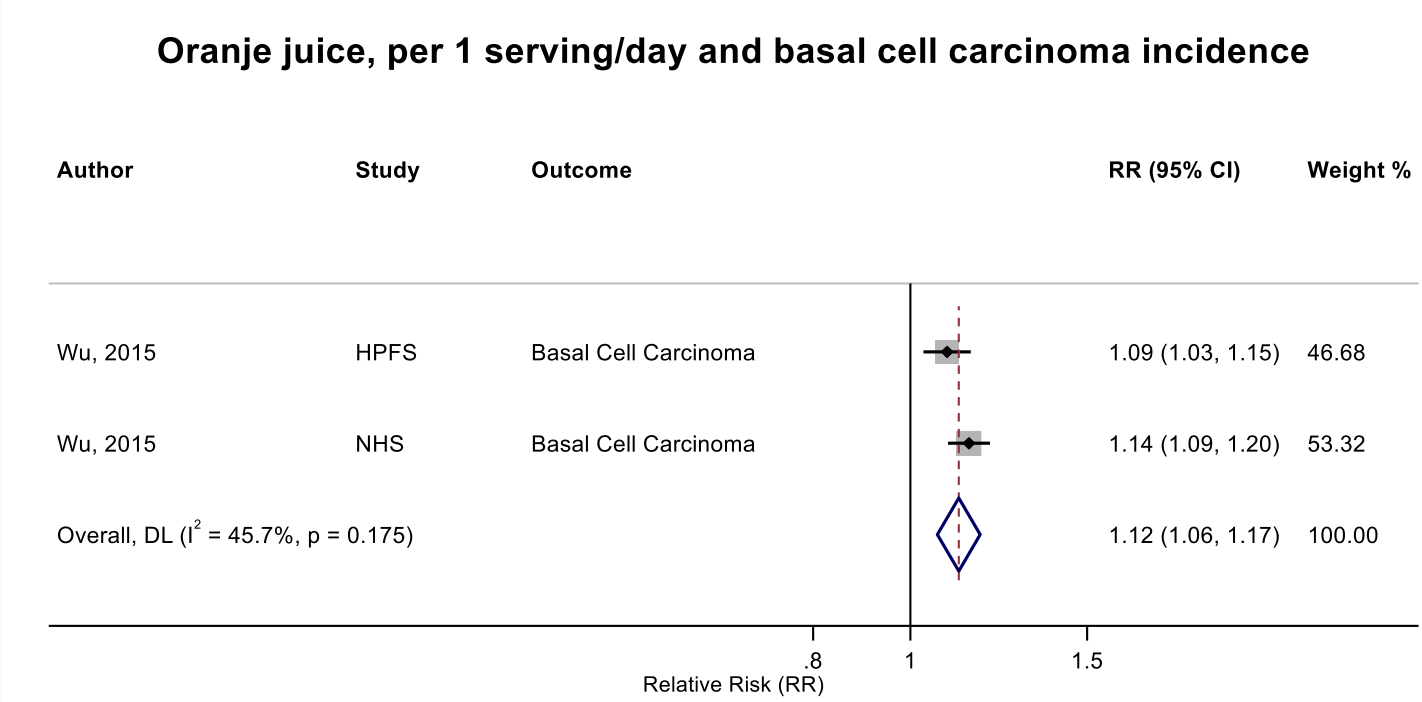


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Note: Both studies performed repeated measurements.

Wu, 2015[171]

Supplementary Figure 271. Linear dose-response meta-analysis of orange juices and incidence of squamous cell carcinoma of the skin.

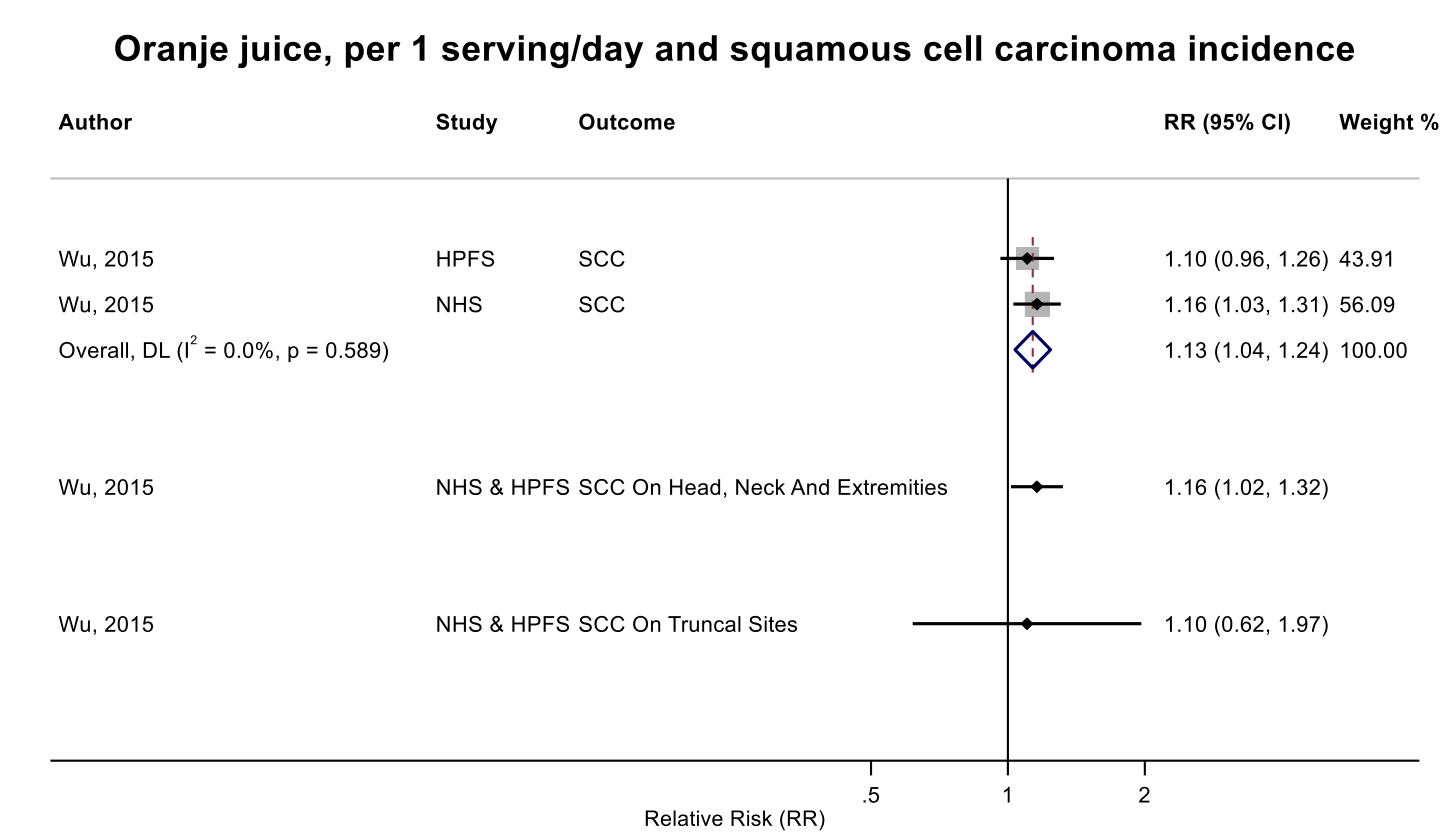


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk, SCC, squamous cell carcinoma.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Note: Both studies performed repeated measurements.

Wu, 2015[170]

Supplementary Figure 272. Linear dose-response meta-analysis of citrus juice and orange juices combined and incidence of melanoma.

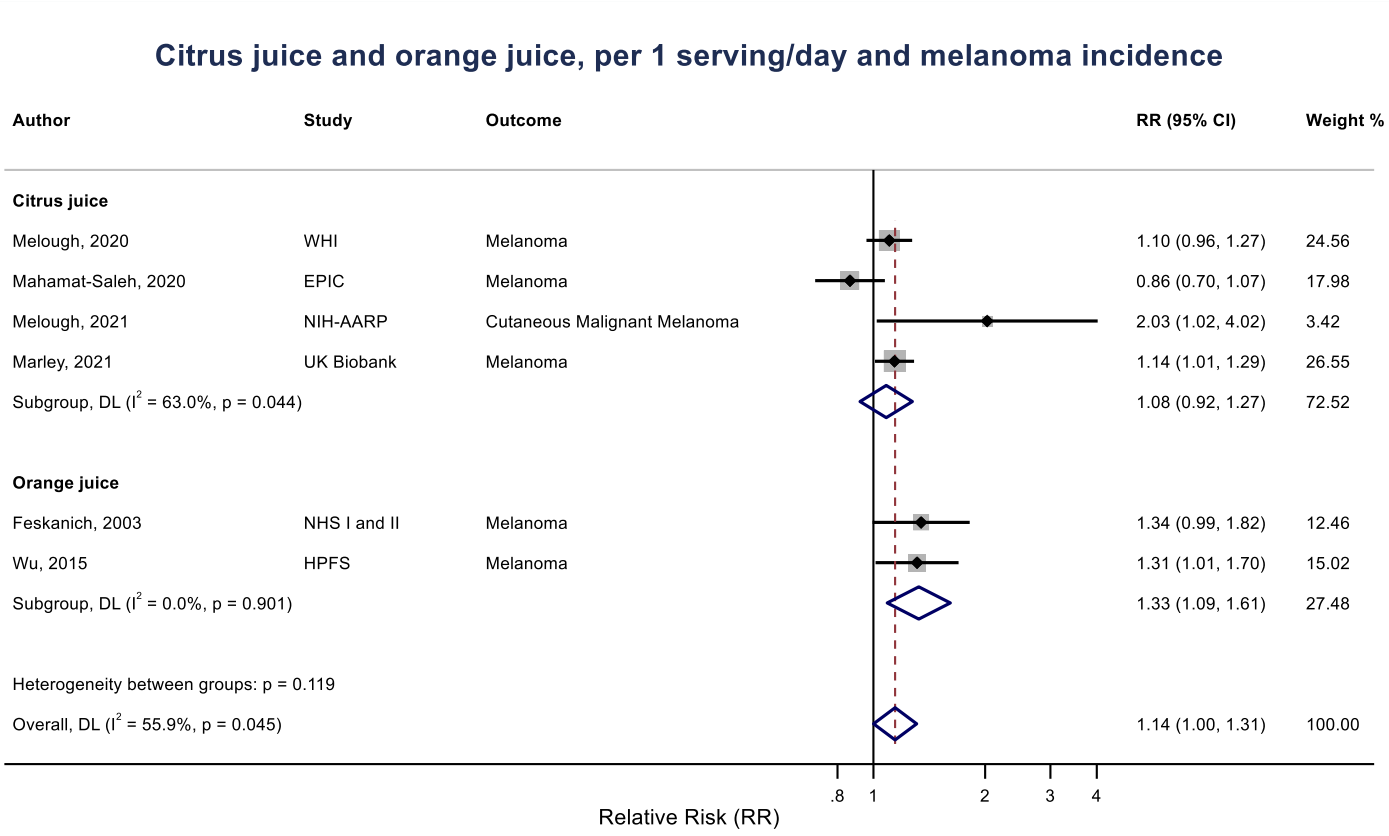


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study, UK Biobank, United Kingdom Biobank Study, NHS I & II, Nurses' Health Study I & II; HPFS, Health Professionals Follow-up Study

Melough, 2020[116], Mahamat-Saleh, 2020[107], Melough, 2021[115], Marley, 2021[110], Feskanich, 2003[54], Wu, 2015[171]

Supplementary Figure 273. Linear dose-response meta-analysis of citrus juice and orange juices combined and incidence of basal cell carcinoma of the skin.

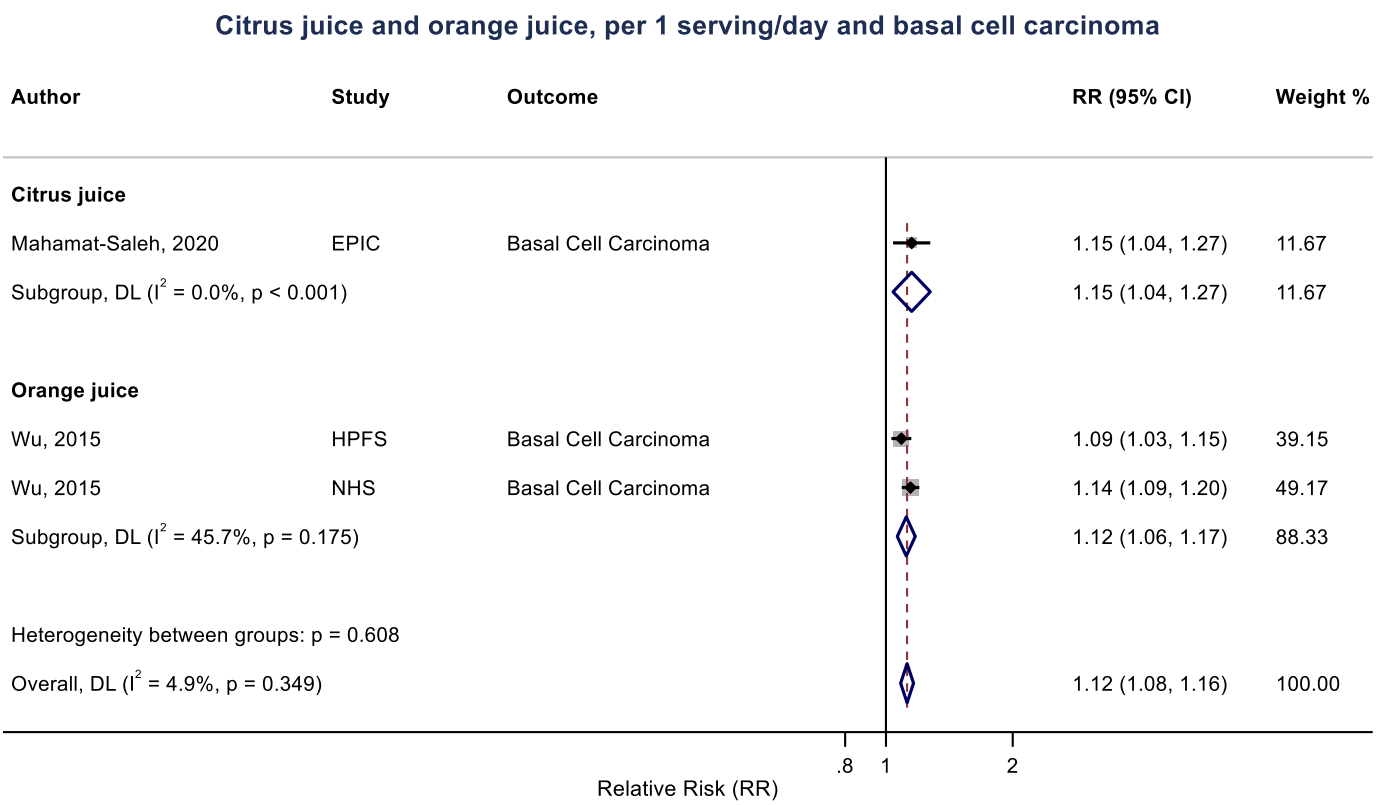


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study, EPIC, European prospective Investigation into Cancer and Nutrition.

Wu, 2015[171], Mahmat-Saleh, 2020[107]

Supplementary Figure 274. Linear dose-response meta-analysis of citrus juice and orange juices combined and incidence of squamous cell carcinoma of the skin.

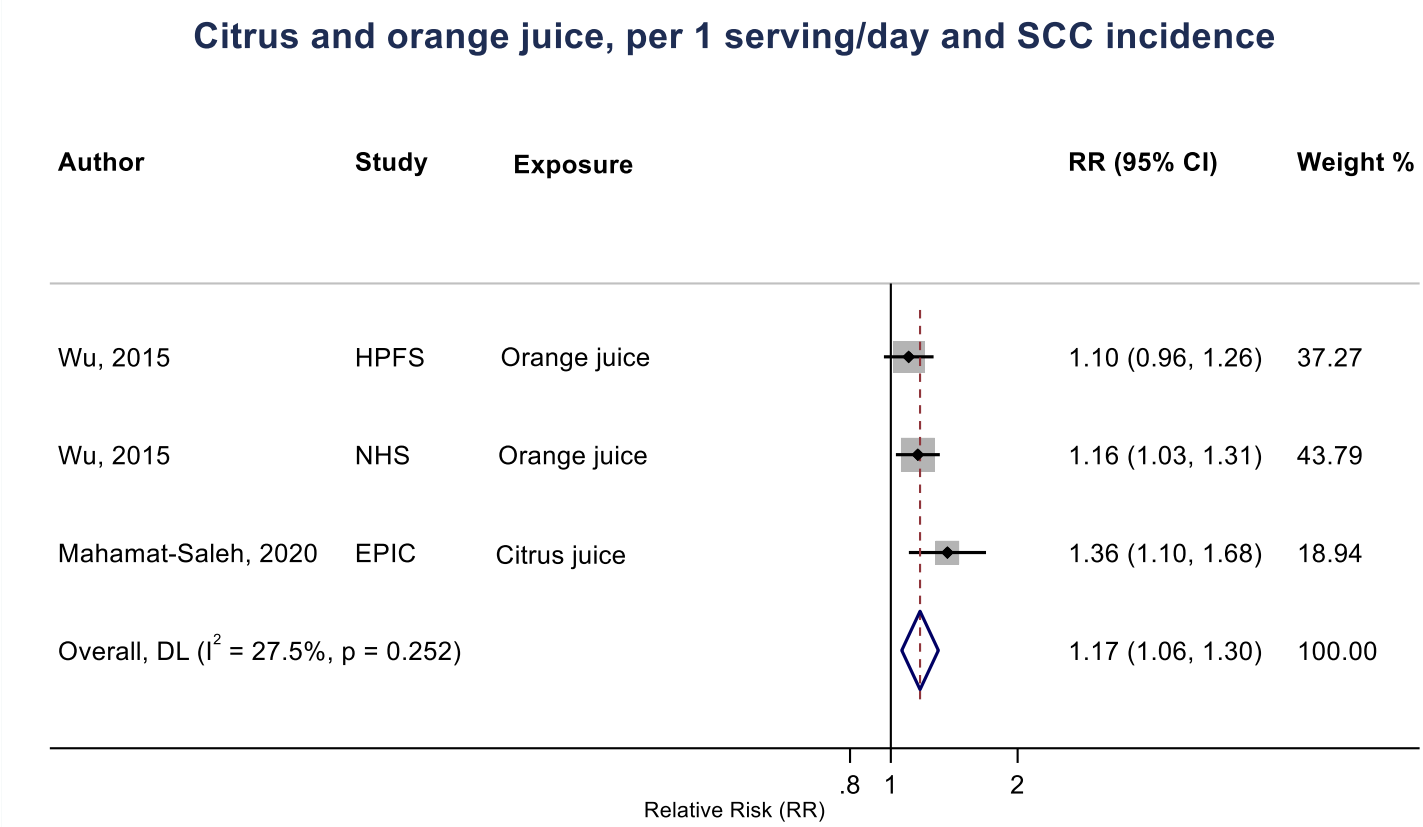


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study, EPIC, European prospective Investigation into Cancer and Nutrition.

Wu, 2015[171], Mahmat-Saleh, 2020[107]

Supplementary Figure 275. Linear dose-response meta-analysis of grapefruit juice and melanoma incidence.

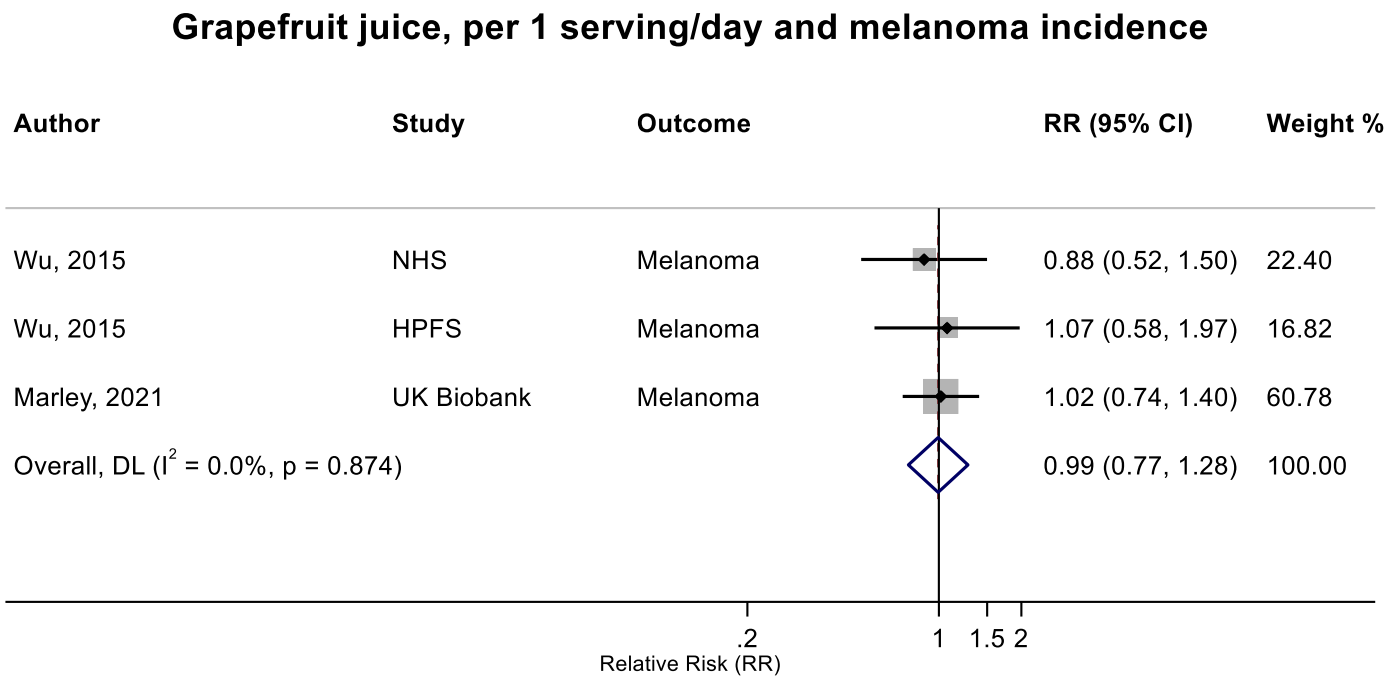


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; UK Biobank, United Kingdom Biobank Study

Wu, 2015[171], Marley, 2021[110]

Supplementary Figure 276. Linear dose-response meta-analysis of grapefruit juice and basal cell carcinoma incidence.

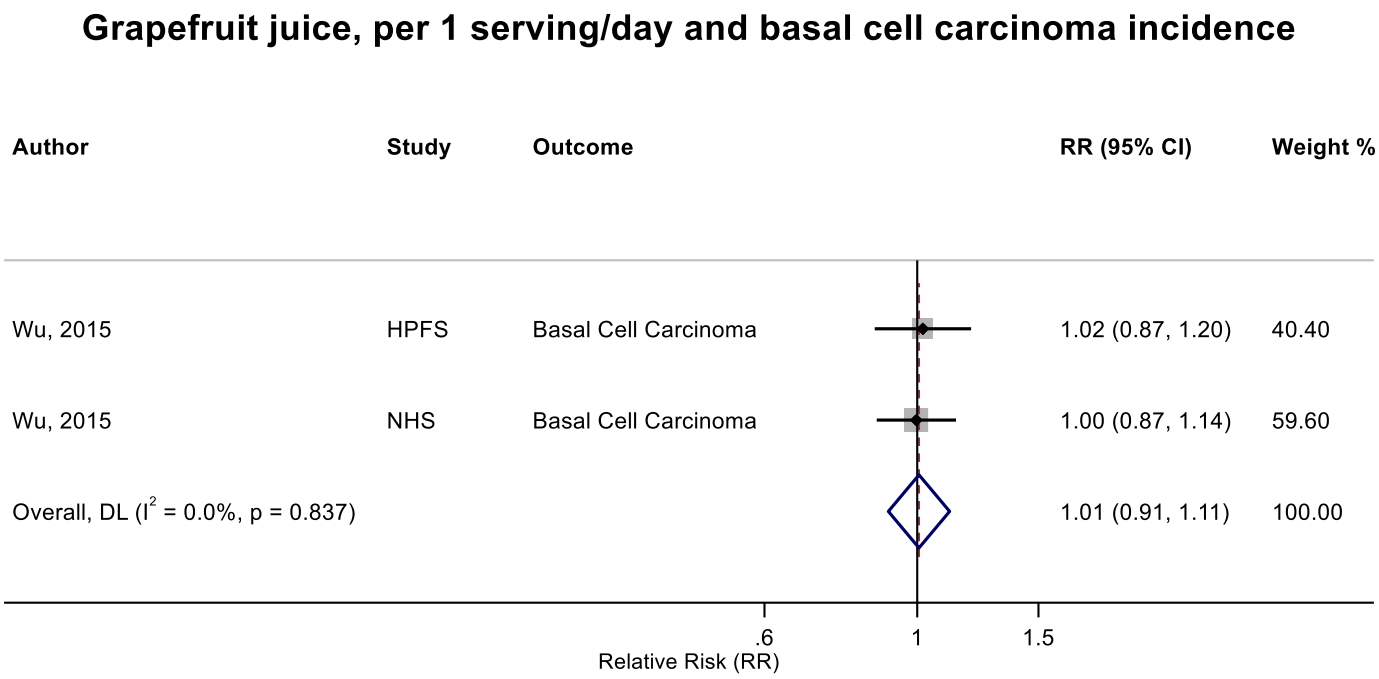


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study

Wu, 2015[170]

Supplementary Figure 277. Linear dose-response meta-analysis of grapefruit juice and incidence of squamous cell carcinoma of the skin.

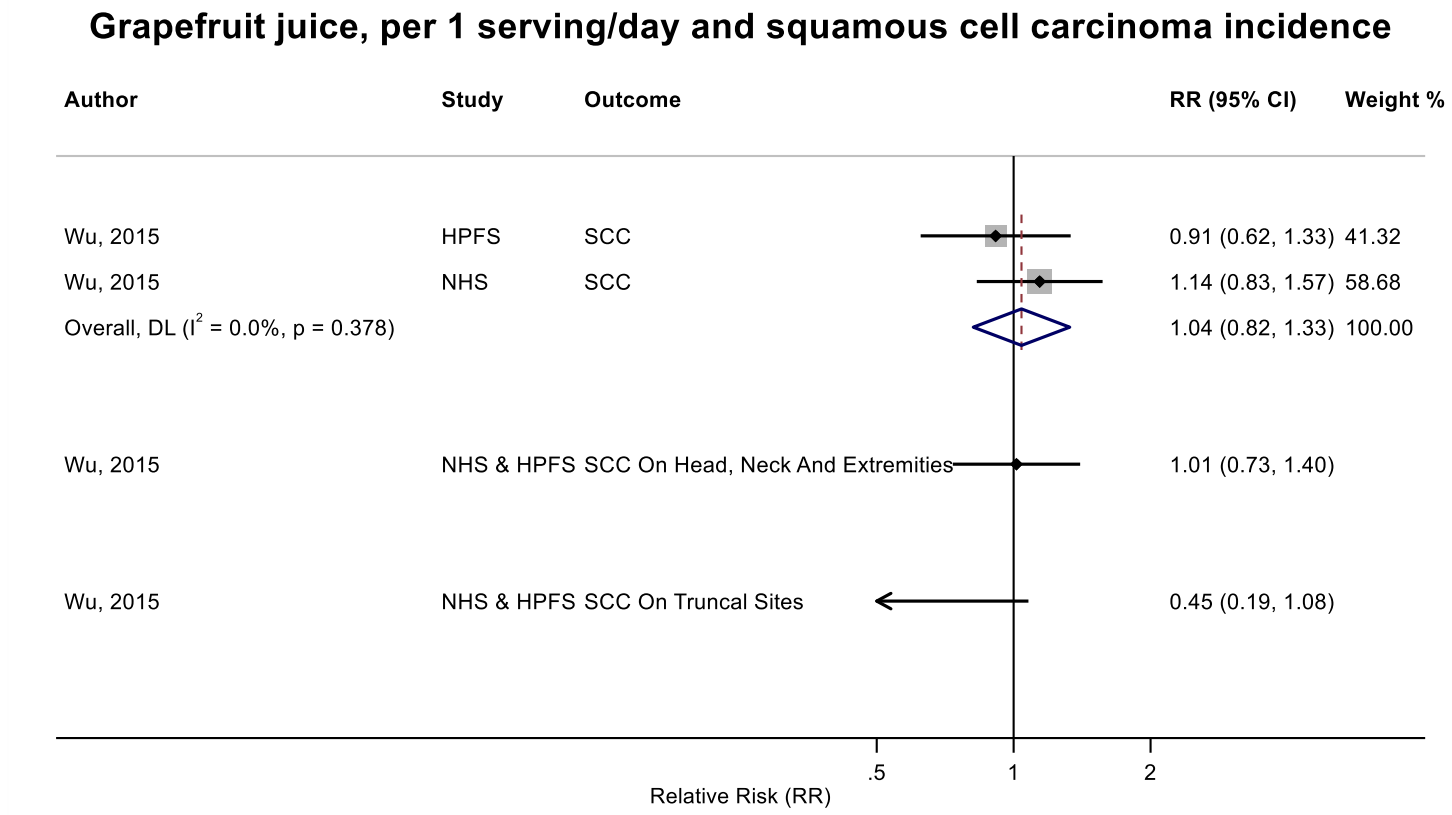


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; NHS, Nurses' Health Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Wu, 2015[170]

Supplementary Figure 278. Linear dose-response meta-analysis of citrus juice and prostate cancer incidence.

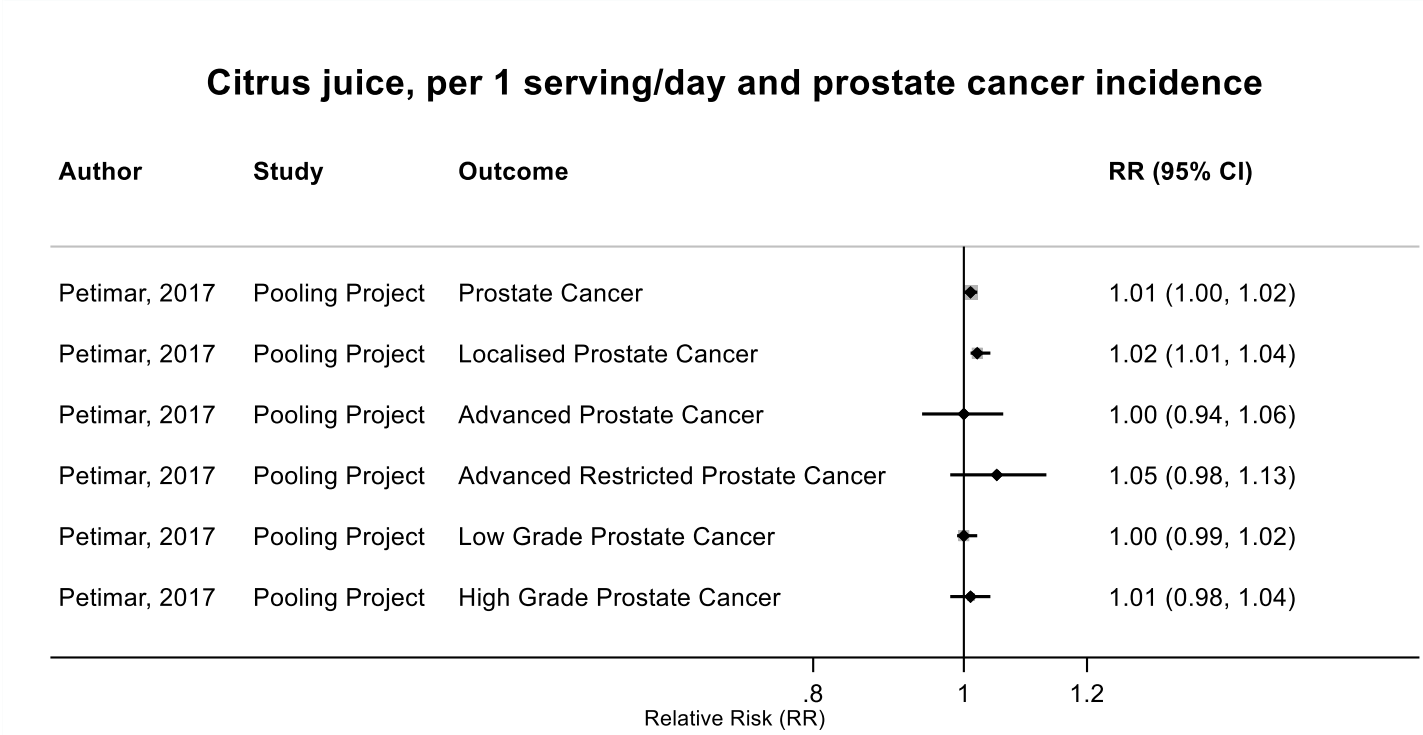


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. Each square represents the summary relative risk (RR) estimate and the square's horizontal line is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=15).

Petimar, 2017[139]

Supplementary Figure 279. Linear dose-response meta-analysis of juices and liver cancer incidence.

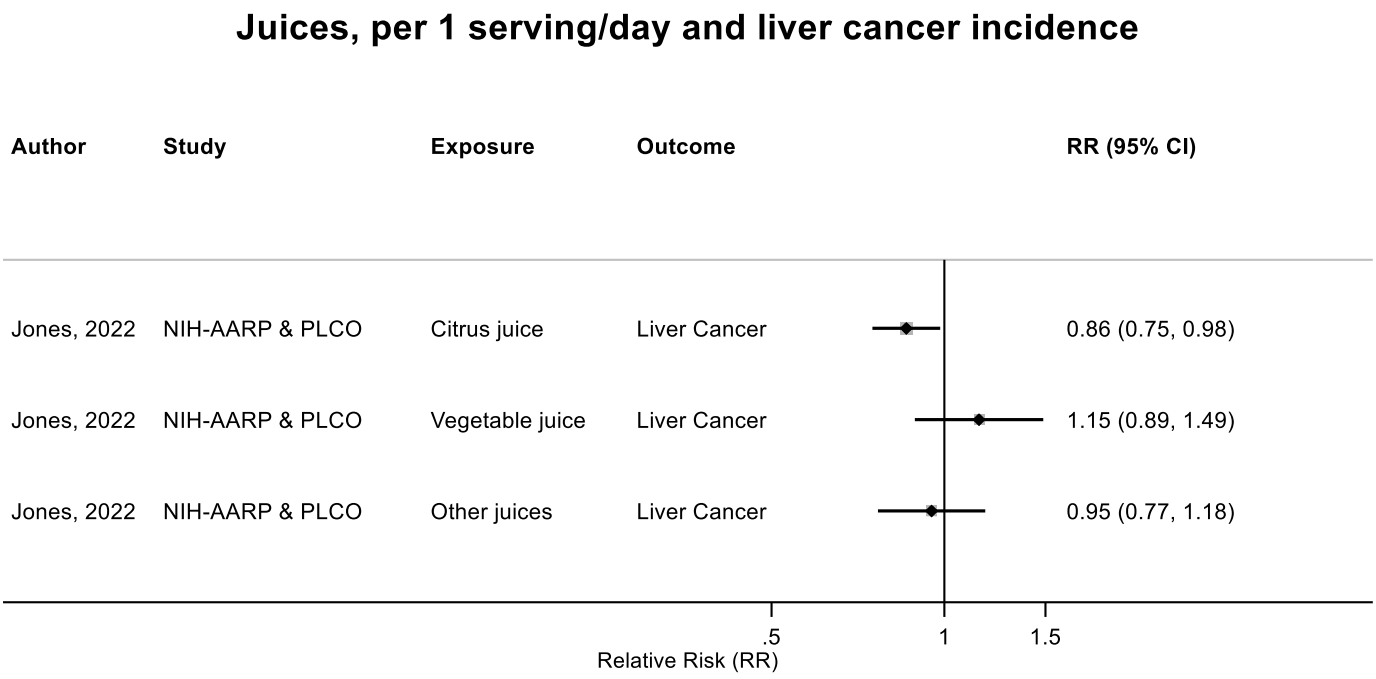


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. Each square represents the summary relative risk (RR) estimate and the square's horizontal line is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP & PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study & Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Jones, 2022[79]

Supplementary Figure 280. Linear dose-response meta-analysis of citrus juice and lung cancer incidence.

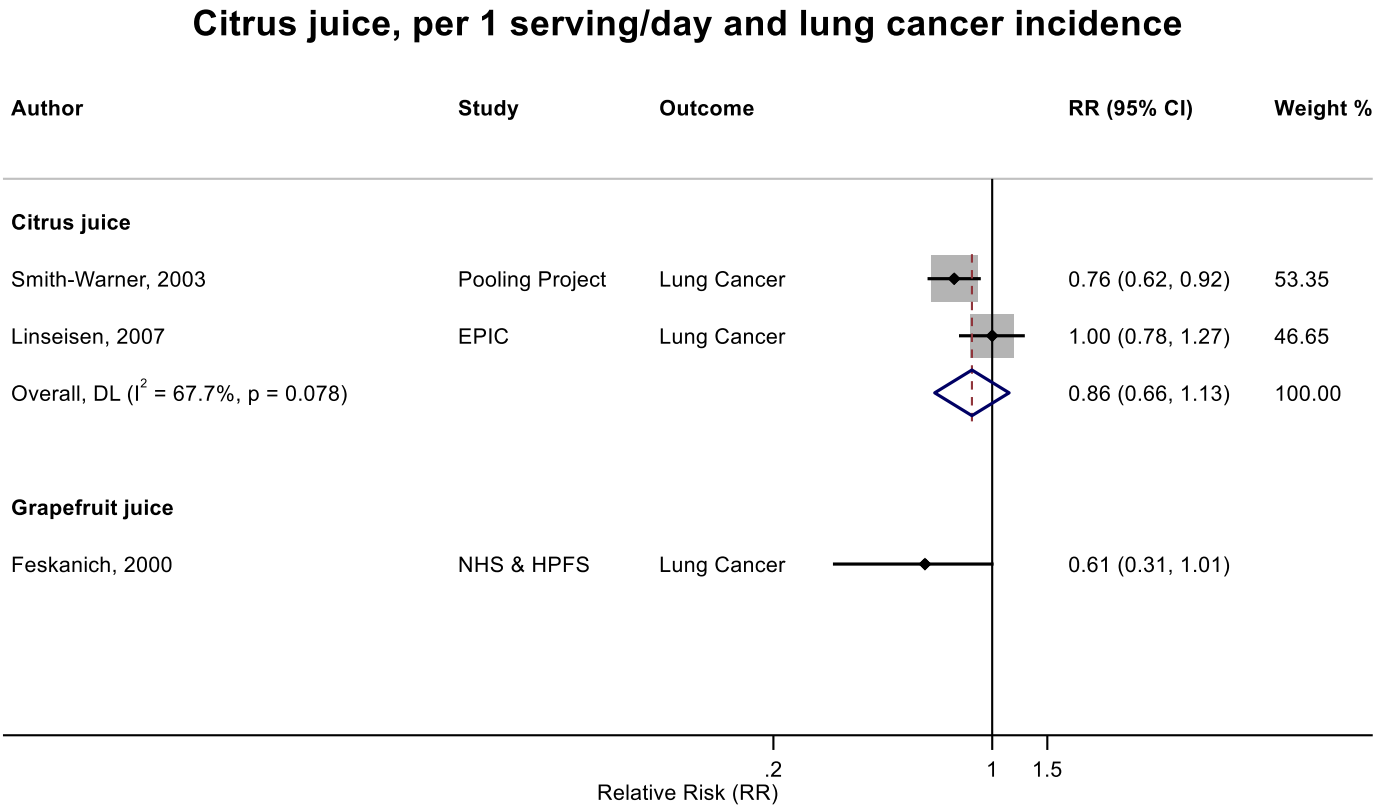


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=8); EPIC, European Prospective Investigation into Cancer and nutrition; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Smith-Warner, 2003[155], Linseisen, 2007[104], Feskanich, 2000[55]

Supplementary Figure 281. Linear dose-response meta-analysis of orange juices and breast cancer incidence.

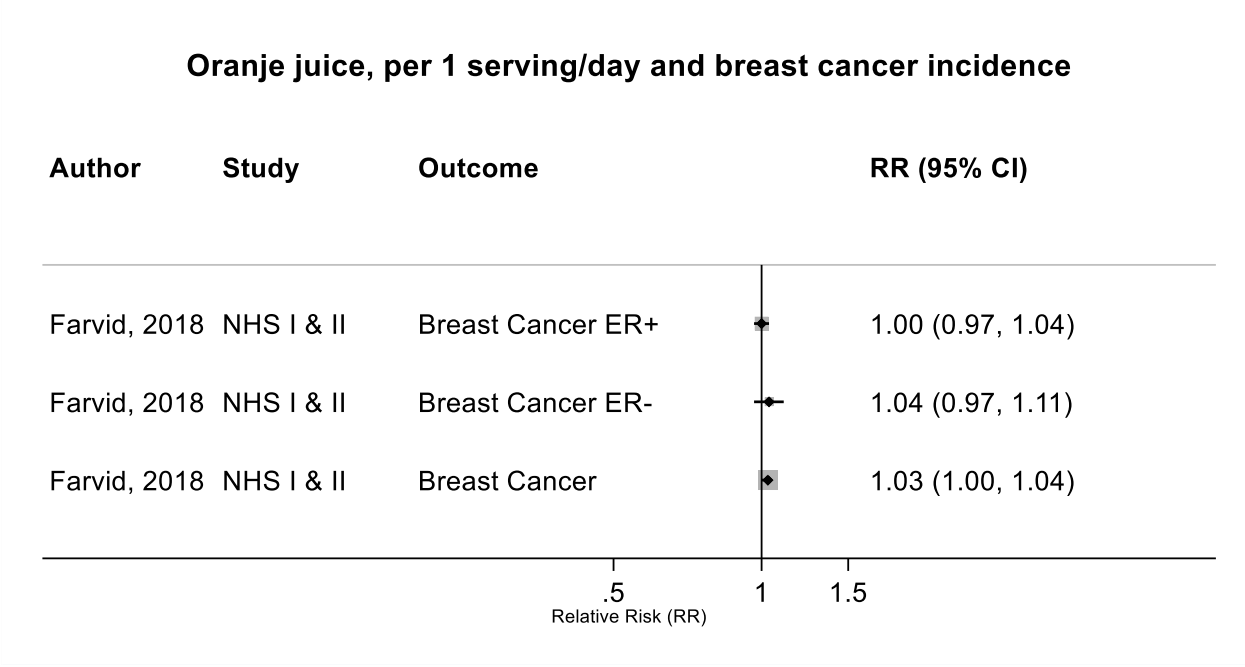


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the Cox proportional hazard regression model pooling two cohorts. Each square represents the summary relative risk (RR) estimate and the square's horizontal line is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; ER, Estrogen receptor, RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II

Note: Both studies performed repeated measurements.

Farvid, 2019[52]

Supplementary Figure 282. Linear dose-response meta-analysis of grapefruit juice and breast cancer incidence.

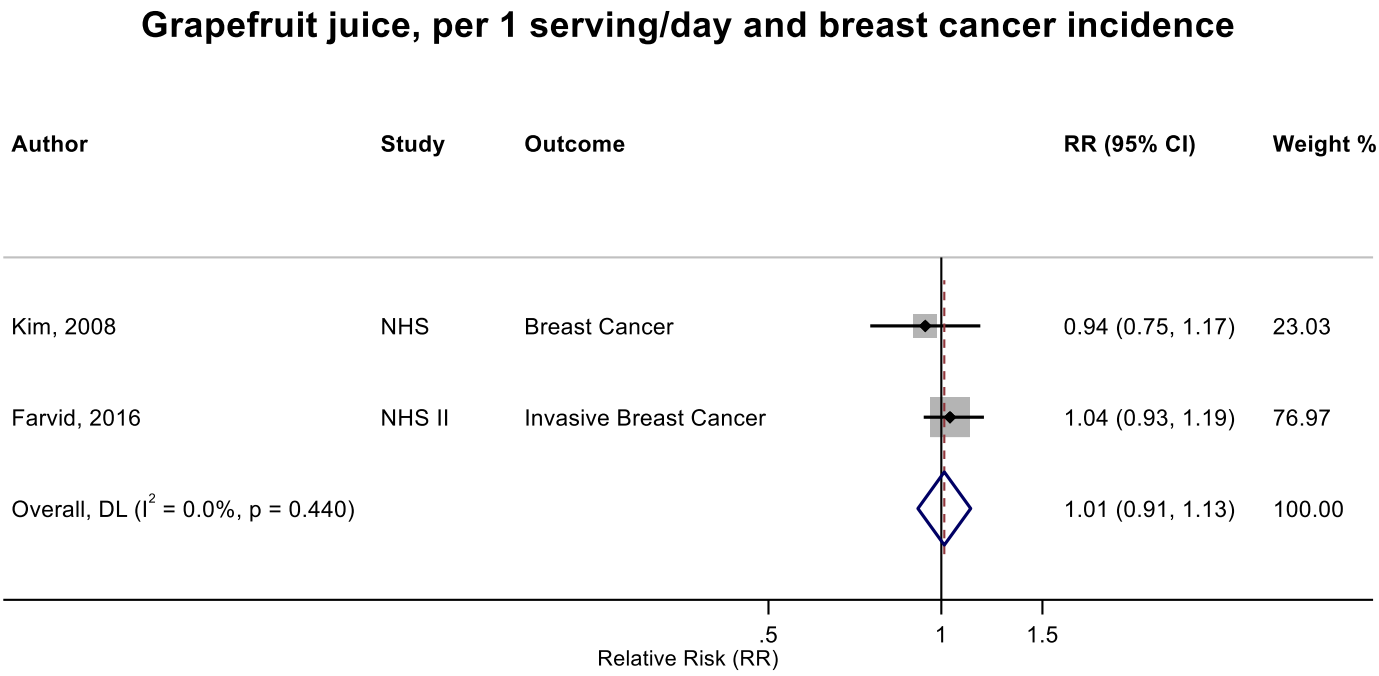


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurses' Health Study; NHS II, Nurses' Health Study II

Kim, 2008[86], Farvid, 2019[52]

Supplementary Figure 283. Linear dose-response meta-analysis of apple juice and breast cancer incidence.

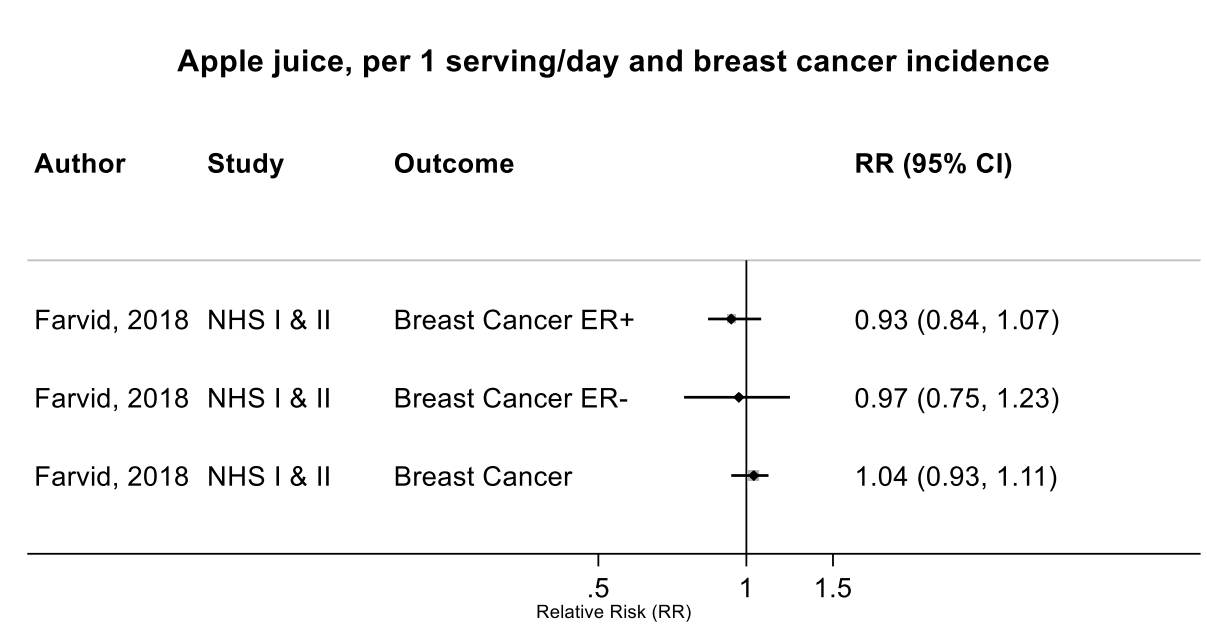


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the Cox proportional regression model pooling two cohort studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II

Farvid, 2018[52]

Supplementary Figure 284. Linear dose-response meta-analysis of other fruit juice (not orange and apple) and breast cancer incidence.

Other fruit juices (not orange and apple), per 1 serving/day and breast cancer incidence

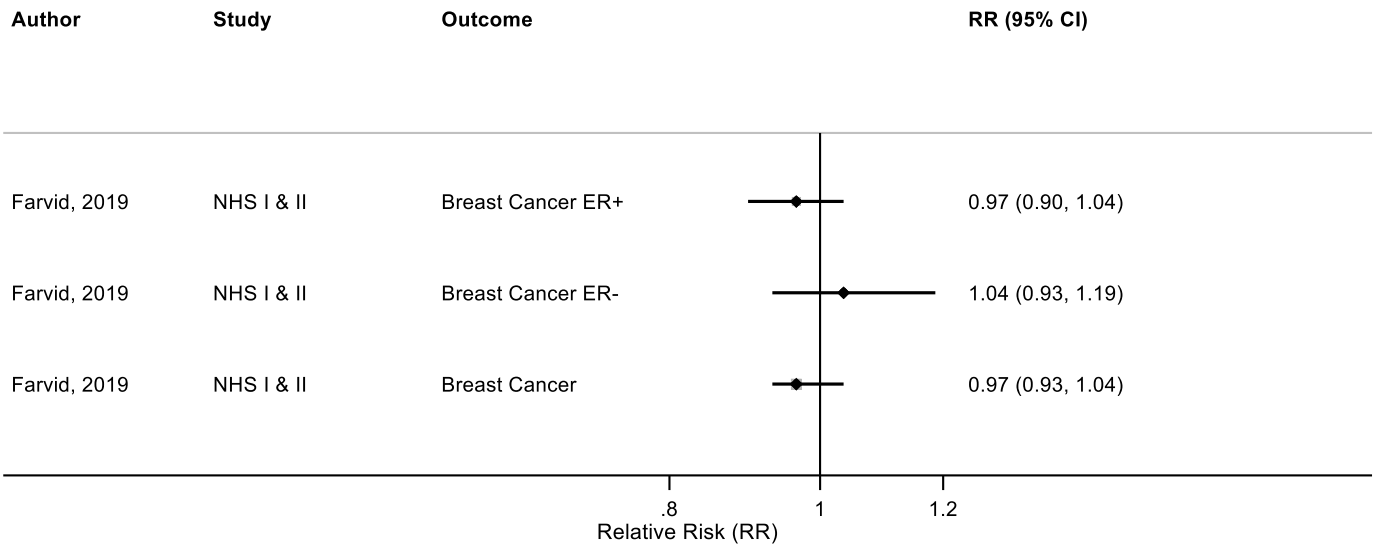


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the Cox proportional regression model pooling two cohort studies. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I and II

Farvid, 2019[52]

Supplementary Figure 285. Linear dose-response meta-analysis of fruit and vegetable juice and pancreatic cancer incidence.

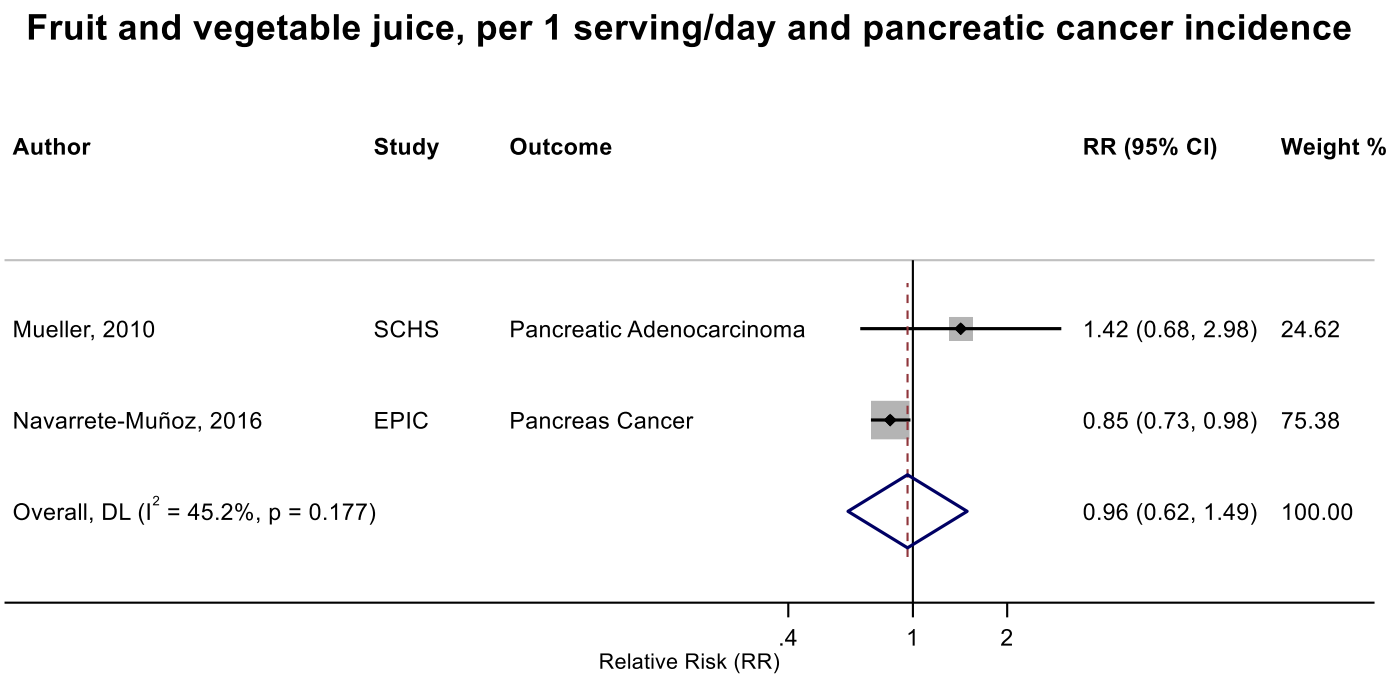


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SCHS, Singapore Chinese Health study; EPIC, European Prospective Investigation into Cancer and nutrition

Mueller, 2010[125], Navarrete-Muñoz, 2016[127]

Supplementary Figure 286. Linear dose-response meta-analysis of fruit and vegetable juice and incidence of colorectal cancer and its subsites.

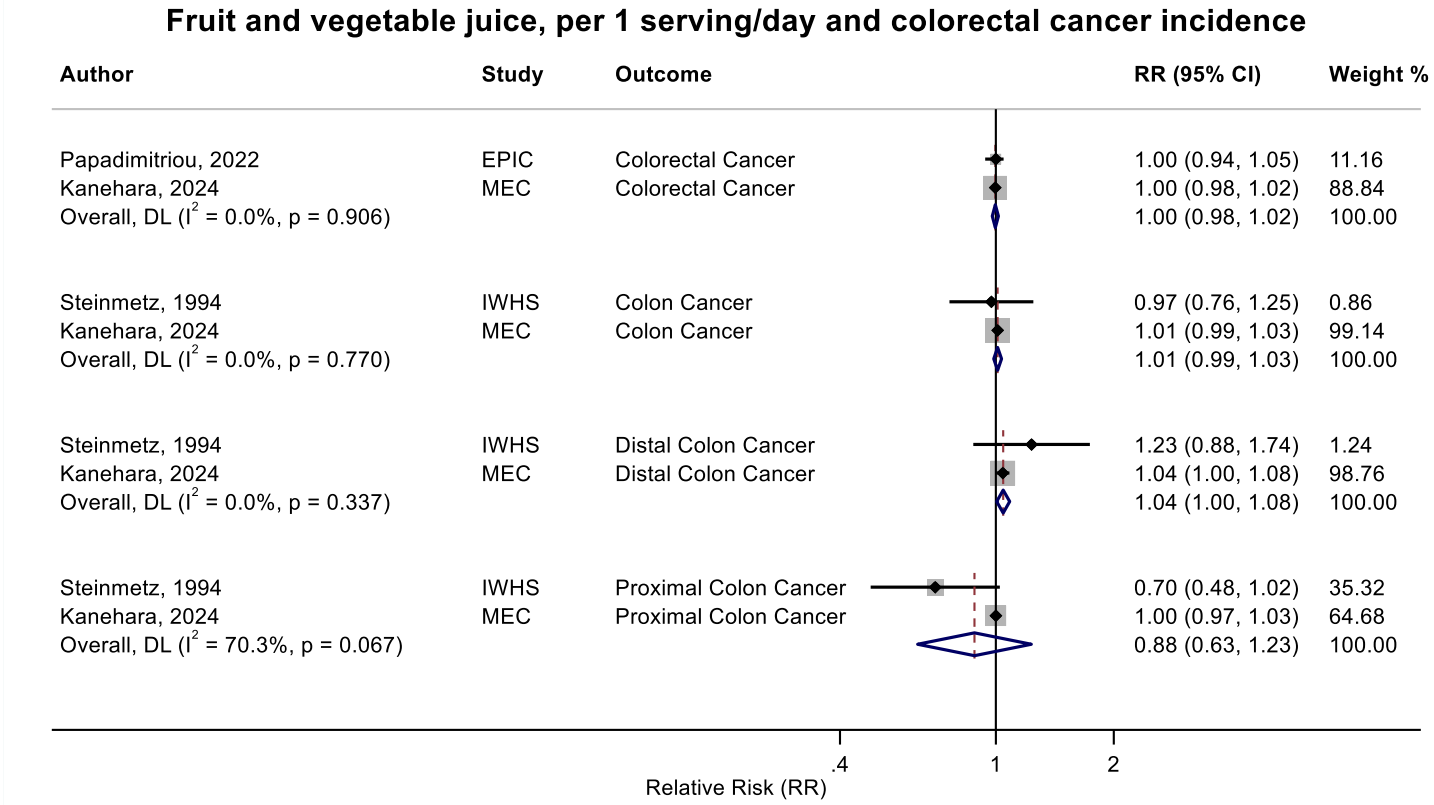


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; MEC, Multiethnic Cohort Study; IWHS, The Iowa Women's Health Study

Papadimitriou, 2022[136], Kanehara, 2024[81], Steinmetz, 1994[158]

Supplementary Figure 287. Linear dose-response meta-analysis of fruit and vegetable juice and lung cancer incidence.

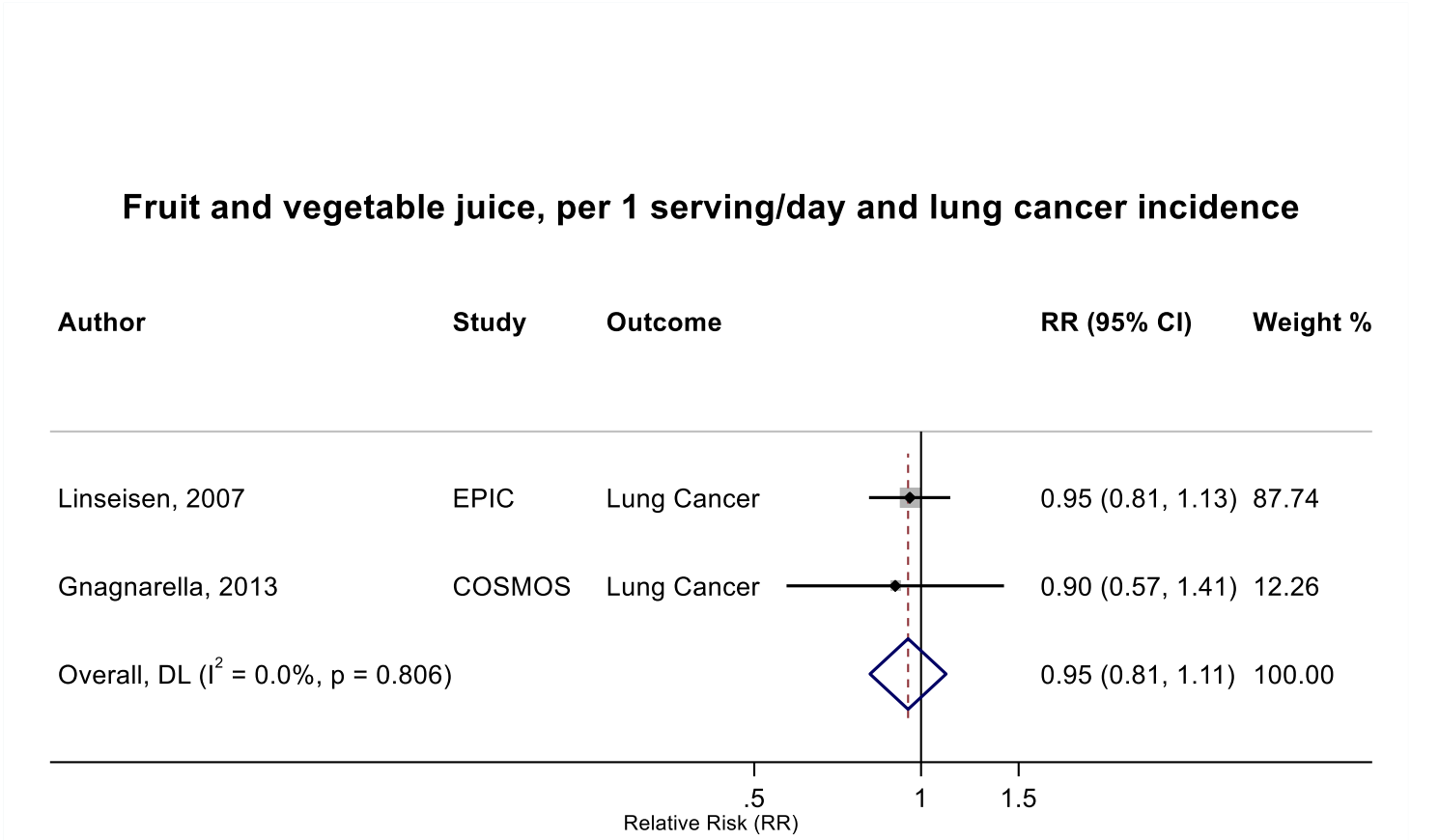


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and nutrition; COSMOS, Continuous Observation of Smoking Subjects Study

Linseisen, 2007[104], Gnagnarella, 2013[65]

Supplementary Figure 288. Linear dose-response meta-analysis of fruit and vegetable juice and breast cancer incidence.

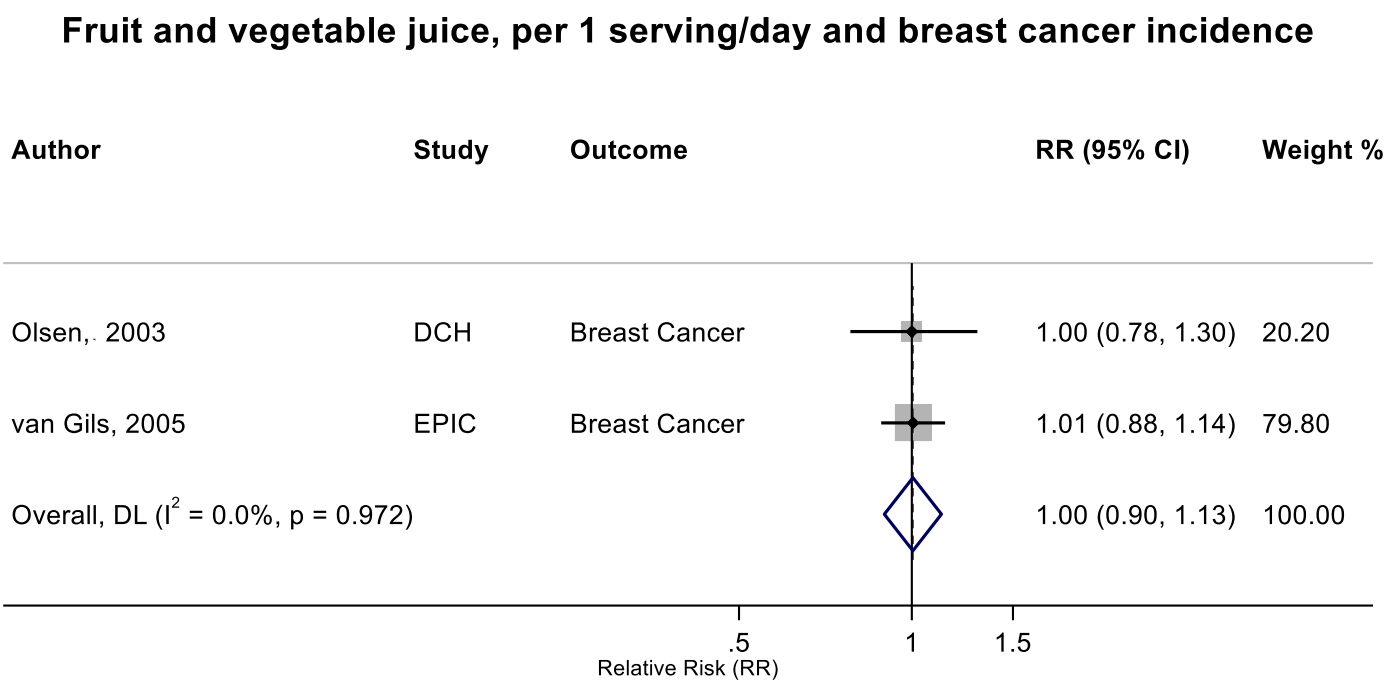


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence

Study abbreviations: DCH, The Diet, Cancer, and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition

Olsen, 2003[133], van Gils, 2005[164]

Supplementary Figure 289. Linear dose-response meta-analysis of vegetable juice and prostate cancer incidence.

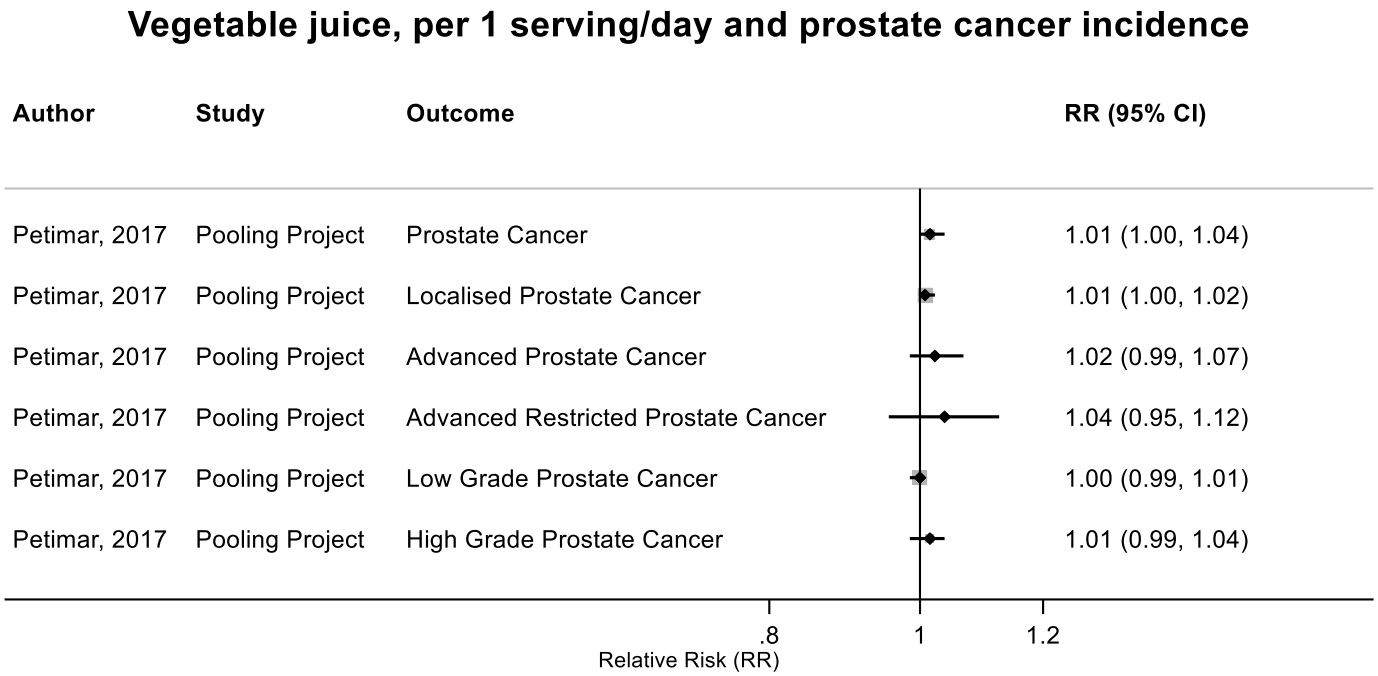


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. Each square represents the summary relative risk (RR) estimate and the square's horizontal line is the 95% confidence interval (CI).

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=15)

Petimar, 2017[139]

Supplementary Figure 290. Linear dose-response meta-analysis of tomato juice and prostate cancer incidence.

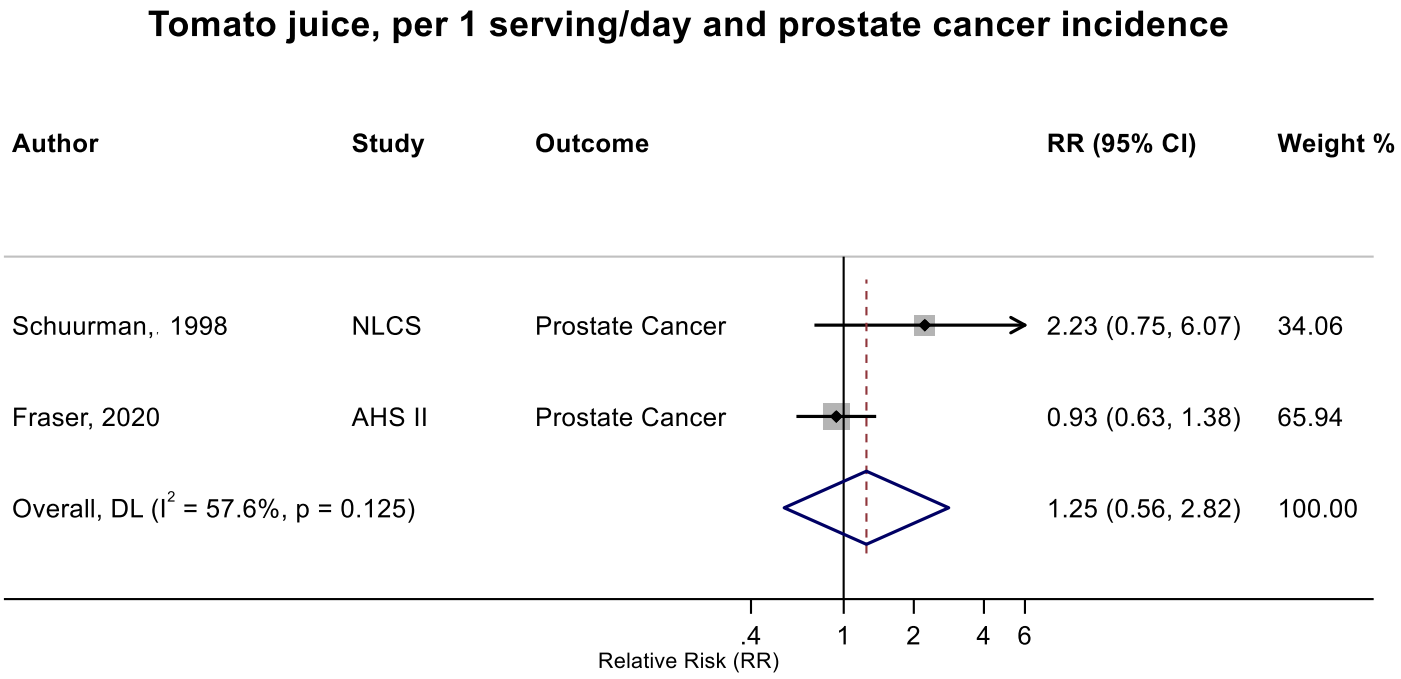


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NLCS, Netherlands Cohort Study on Diet and Cancer; AHS II, Adventist Health Study

Schuurman, 1998[152], Fraser, 2020[56]

Supplementary Figure 291. Linear dose-response meta-analysis of fruit and vegetable juice and kidney cancer incidence.

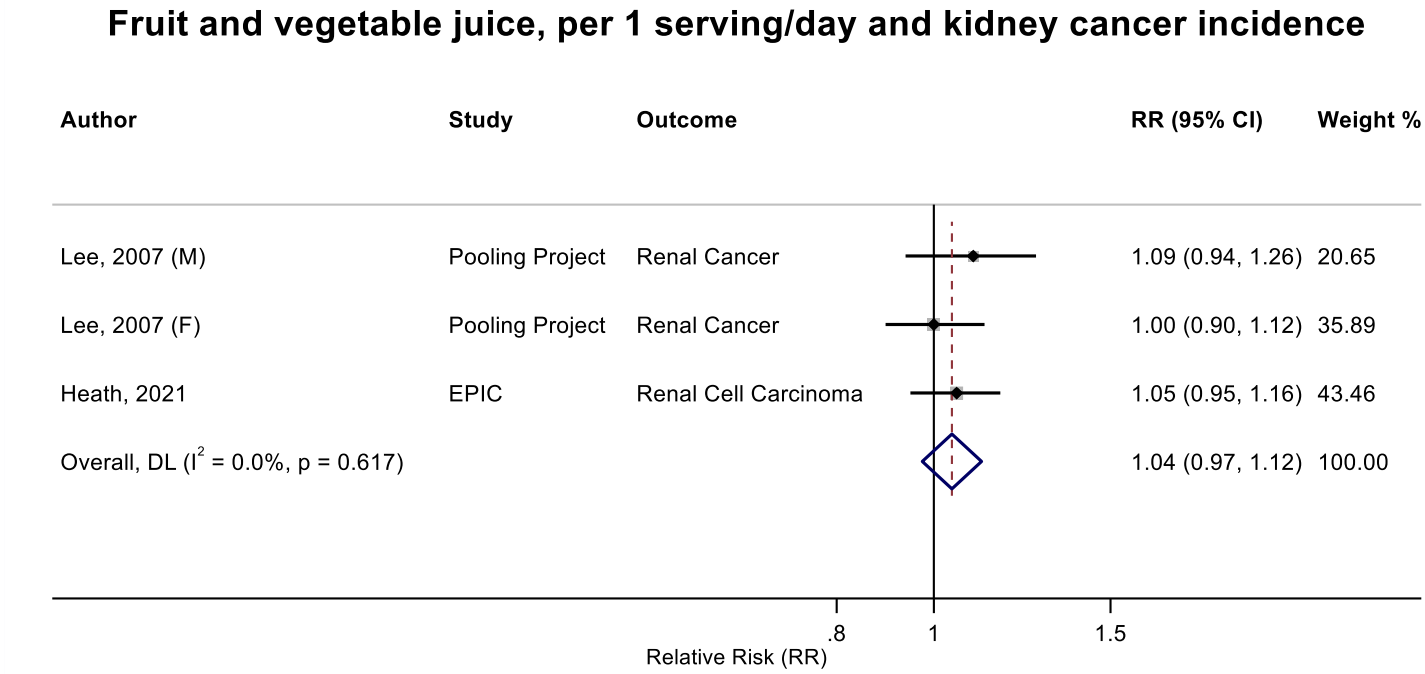


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=13); EPIC, European Prospective Investigation into Cancer and nutrition

Lee, 2007[26], Heath, 2021[66]

Supplementary Figure 292.Linear dose-response meta-analysis of fruit juice and breast cancer incidence by geographical region.

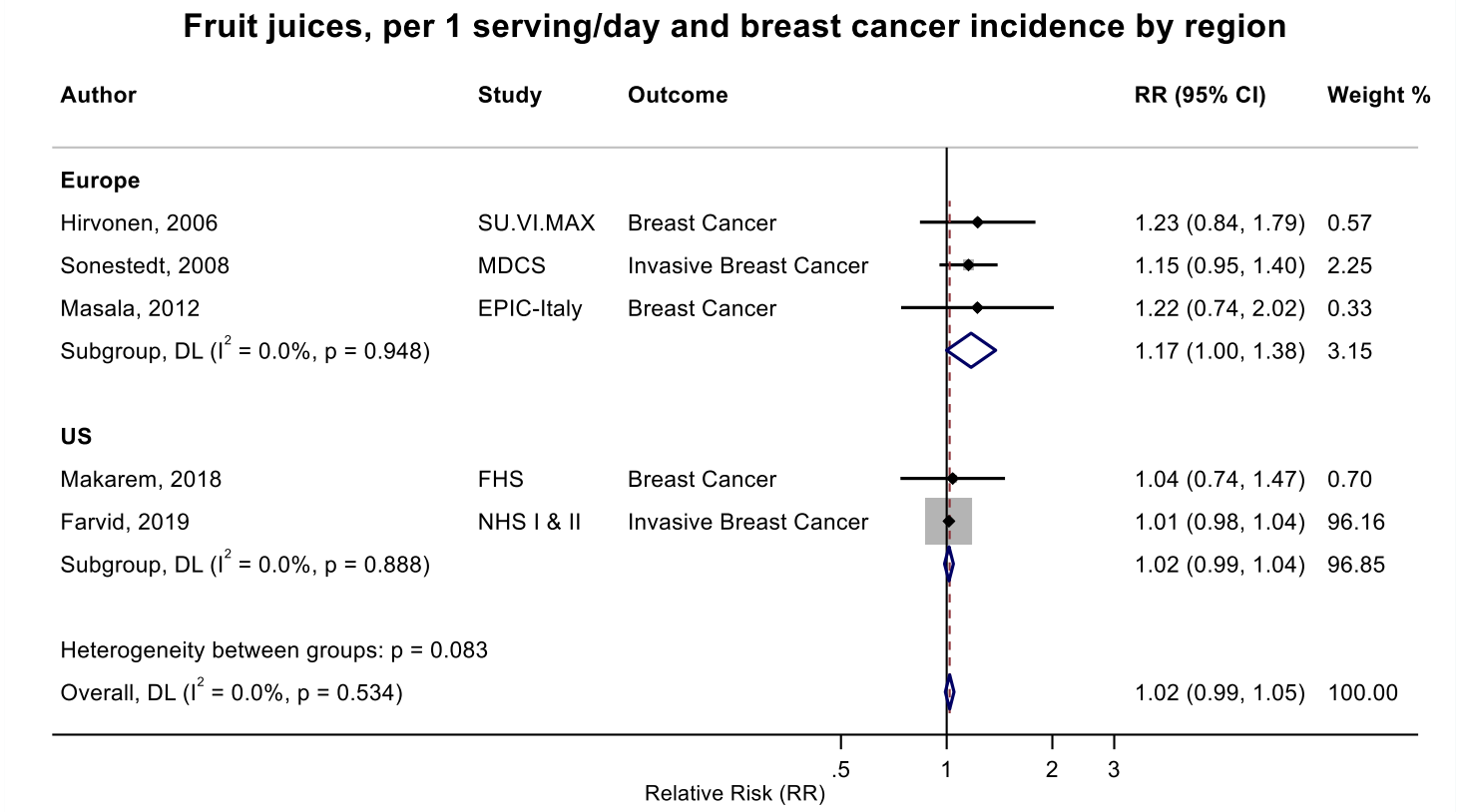


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; MDCS, Malmö Diet and Cancer Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition Italy cohort; FHS, Framingham Heart Study; NHS I & II, Nurses' Health Study I & II

Hirvonen, 2006[69], Sonestedt, 2008[156], Masala, 2012[112], Makarem, 2018[108], Farvid, 2019[52]

Supplementary Figure 293. Linear dose-response meta-analysis of fruit juice and breast cancer incidence by frequency of dietary assessment.

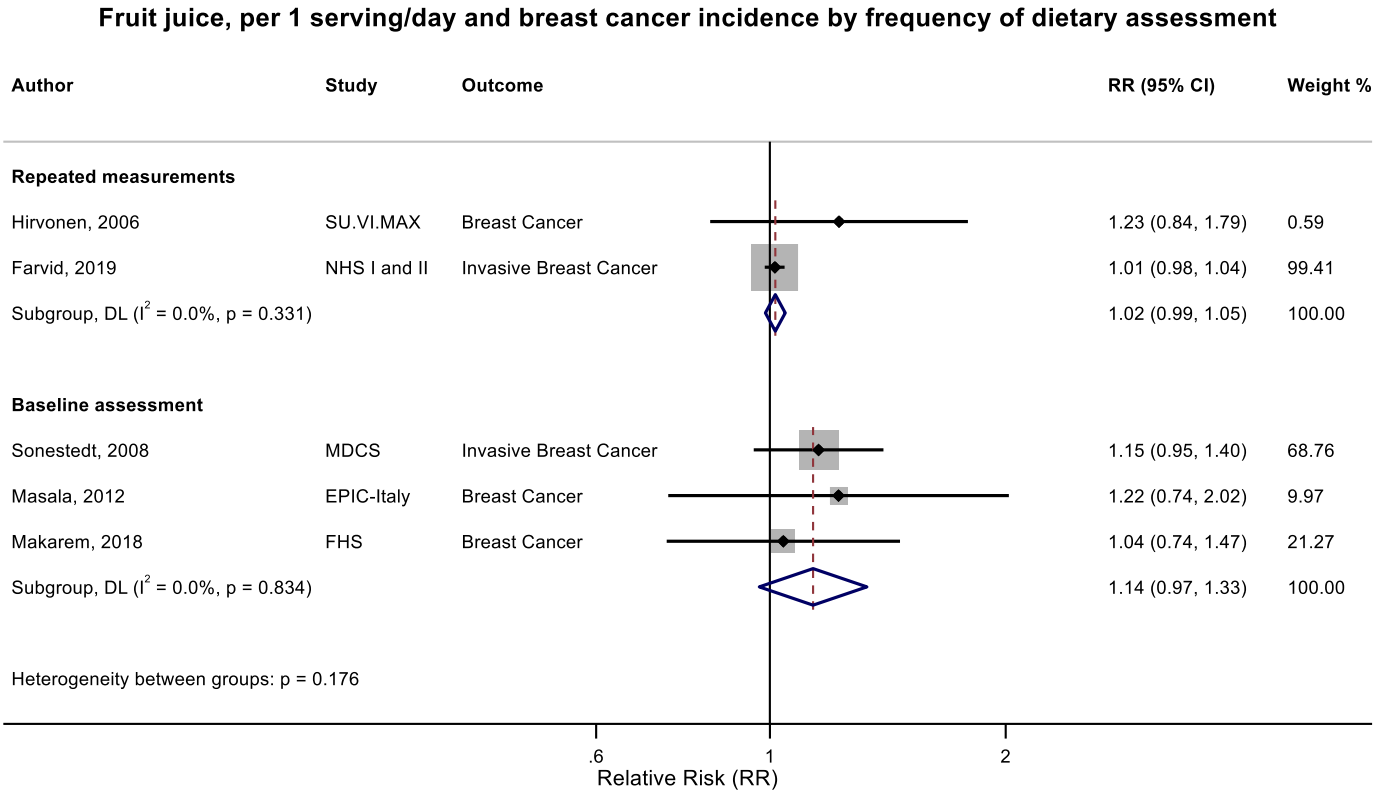


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; NHS I & II, Nurses' Health Study I & II; MDCS, Malmö Diet and Cancer Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition Italy cohort; FHS, Framingham Heart Study

Hirvonen, 2006[69], Farvid, 2019[52], Sonestedt, 2008[156], Masala, 2012[112], Makarem, 2018[108]

Supplementary Figure 294. Linear dose-response meta-analysis of citrus juice and melanoma incidence by geographical region.

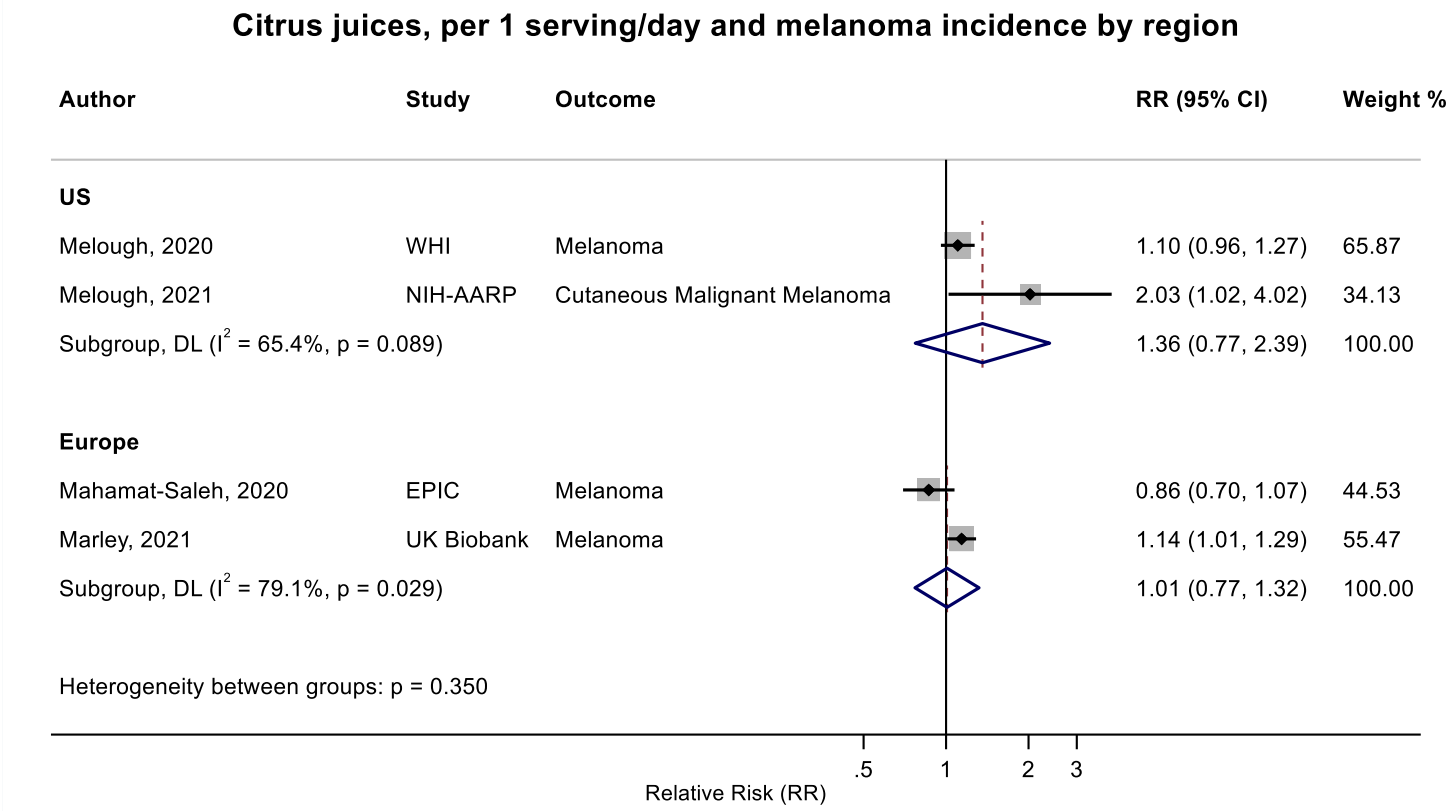


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; UK Biobank, United Kingdom Biobank Study

Melough, 2020[116], Melough, 2021[115], Mahamat-Saleh, 2020[107], Marley, 2021[110]

Supplementary Figure 295. Linear dose-response meta-analysis of fruit juice and glioma incidence by sex.

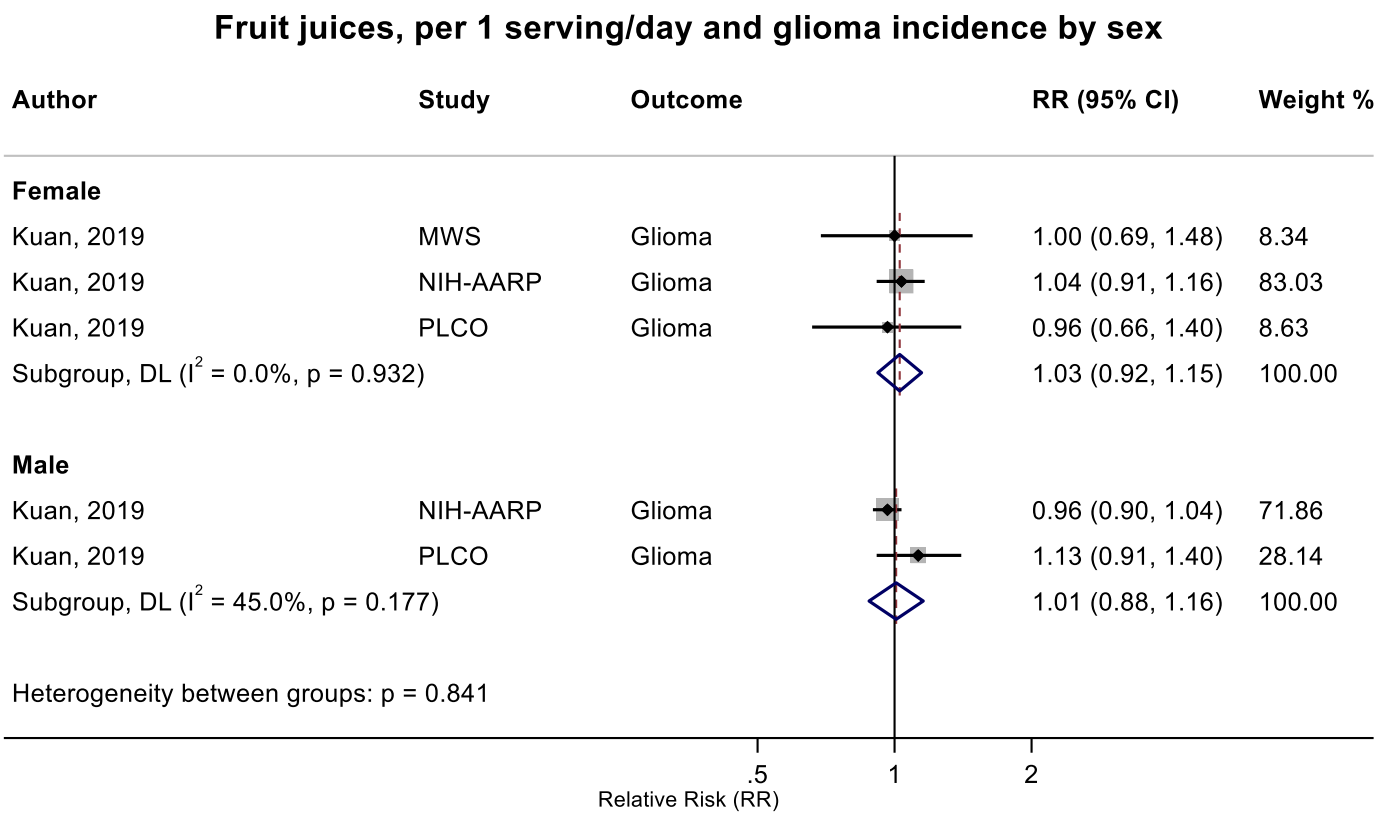


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MWS, Million Women Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Kuan, 2019[92]

Supplementary Figure 296. Linear dose-response meta-analysis of fruit juice and glioma incidence by follow-up duration.

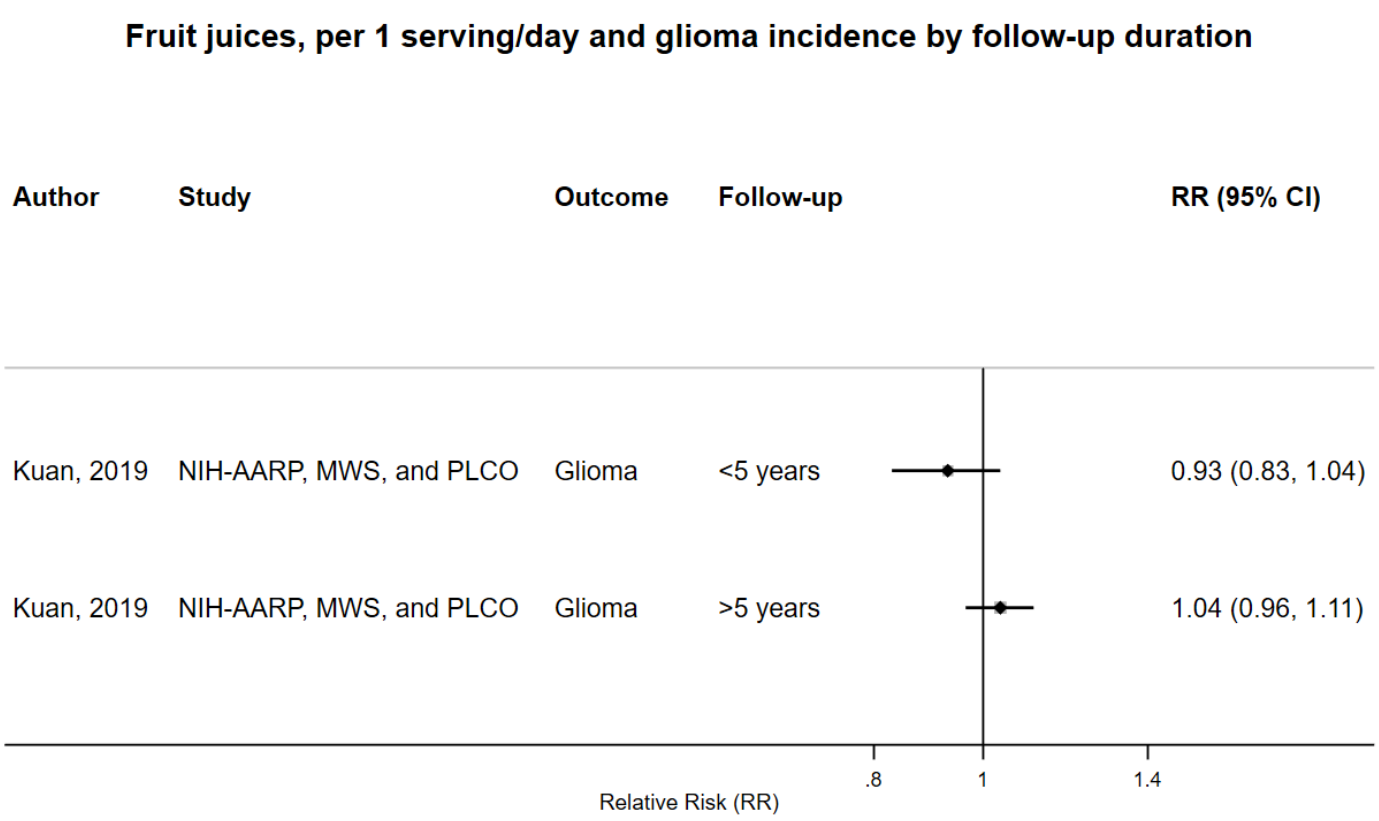


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, MWS and PLCO, National Institute of Health + American Association of Retired Persons Diet and Health Study, Million Women Study and Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Note: This subgroup analysis is based on the information presented in the published pooled analysis.

Kuan, 2019[92]

Supplementary Figure 297. Linear dose-response meta-analysis of fruit juice and kidney cancer incidence frequency of dietary assessment.

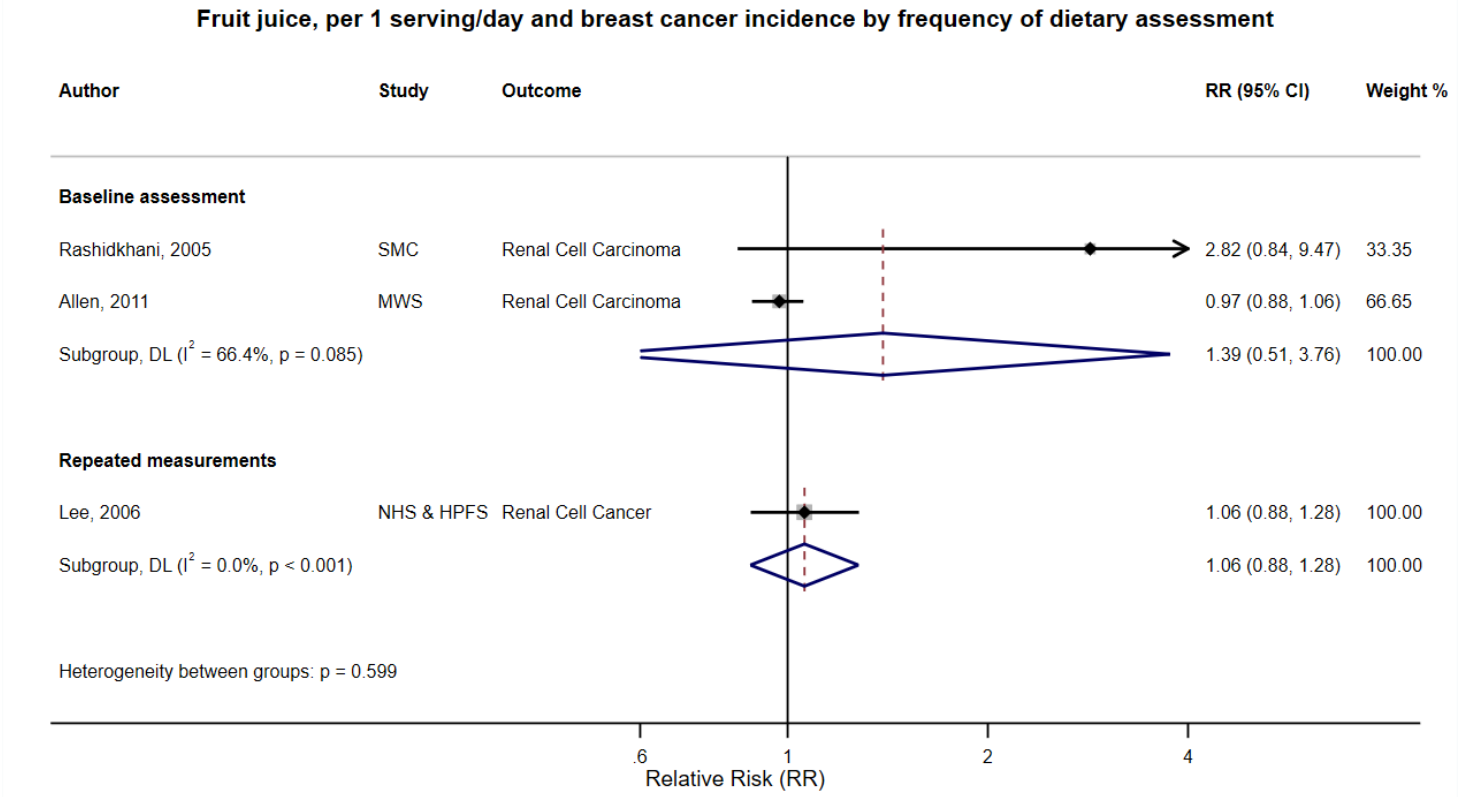


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; MWS, Million Women Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Rashidkhani, 2005[142], Allen, 2011[36], Lee, 2006[98]

Supplementary Figure 298. Linear dose-response meta-analysis of fruit juice and kidney cancer incidence by geographical region

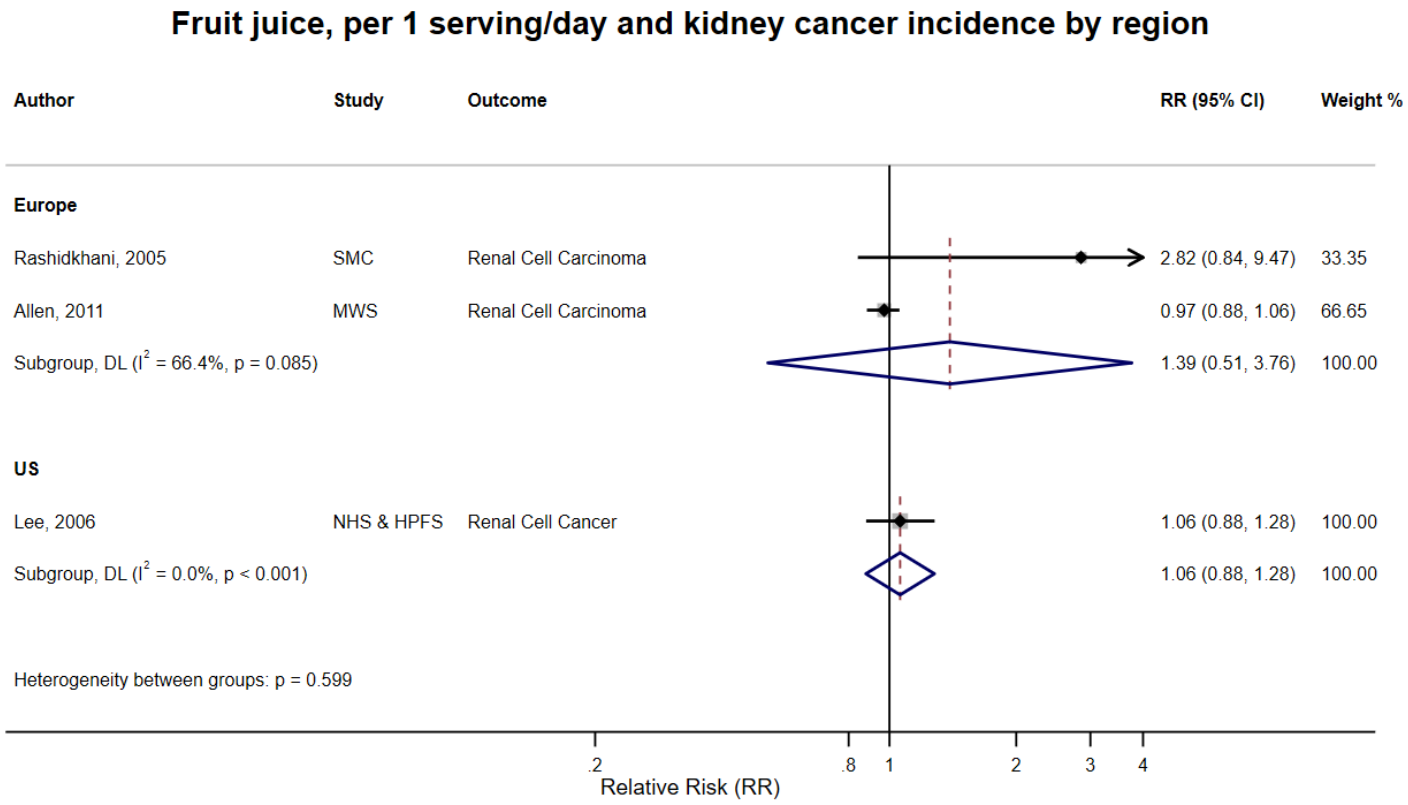


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; MWS, Million Women Study; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study

Rashidkhani, 2005[142], Allen, 2011[36], Lee, 2006[98]

Supplementary Figure 299. Linear dose-response meta-analysis of fruit and vegetable juice and kidney cancer incidence by sex.

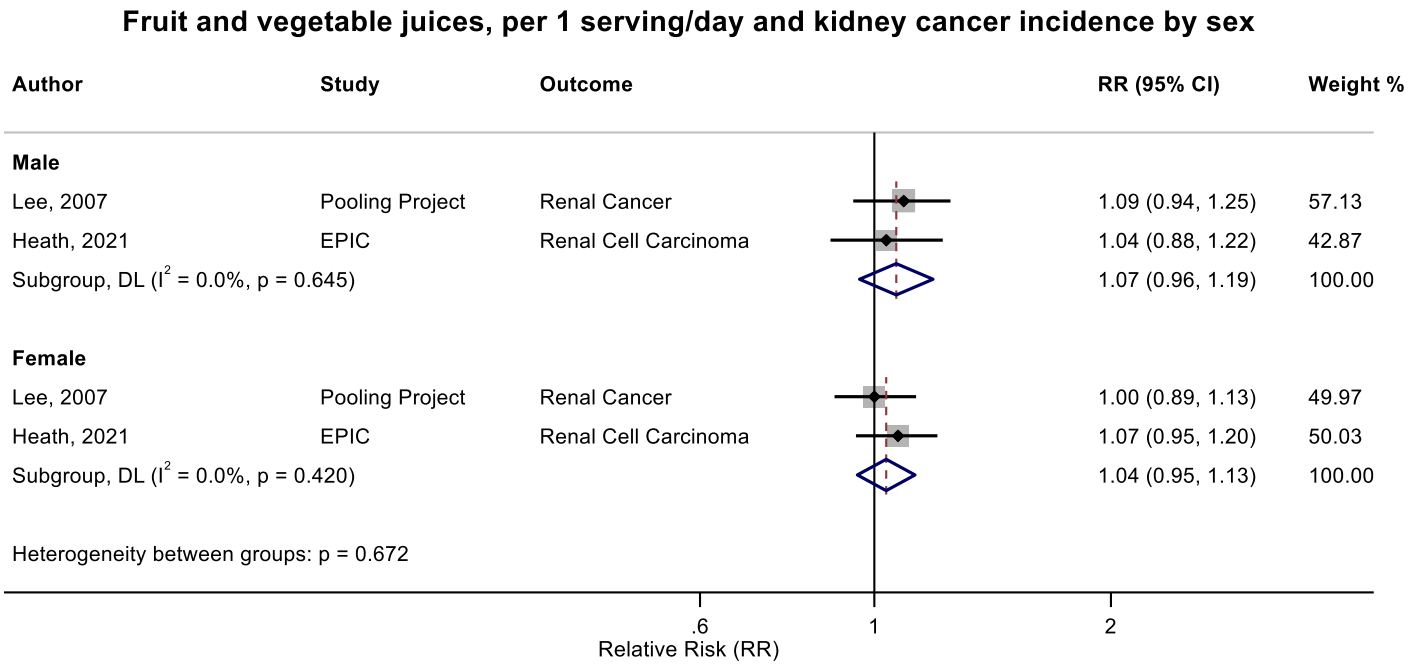


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=13); EPIC, European Prospective Investigation into Cancer and nutrition

Lee, 2007[26], Heath, 2021[66]

Supplementary Figure 300. Linear dose-response meta-analysis of fruit juice and pancreatic cancer incidence, leave-one-out analysis.

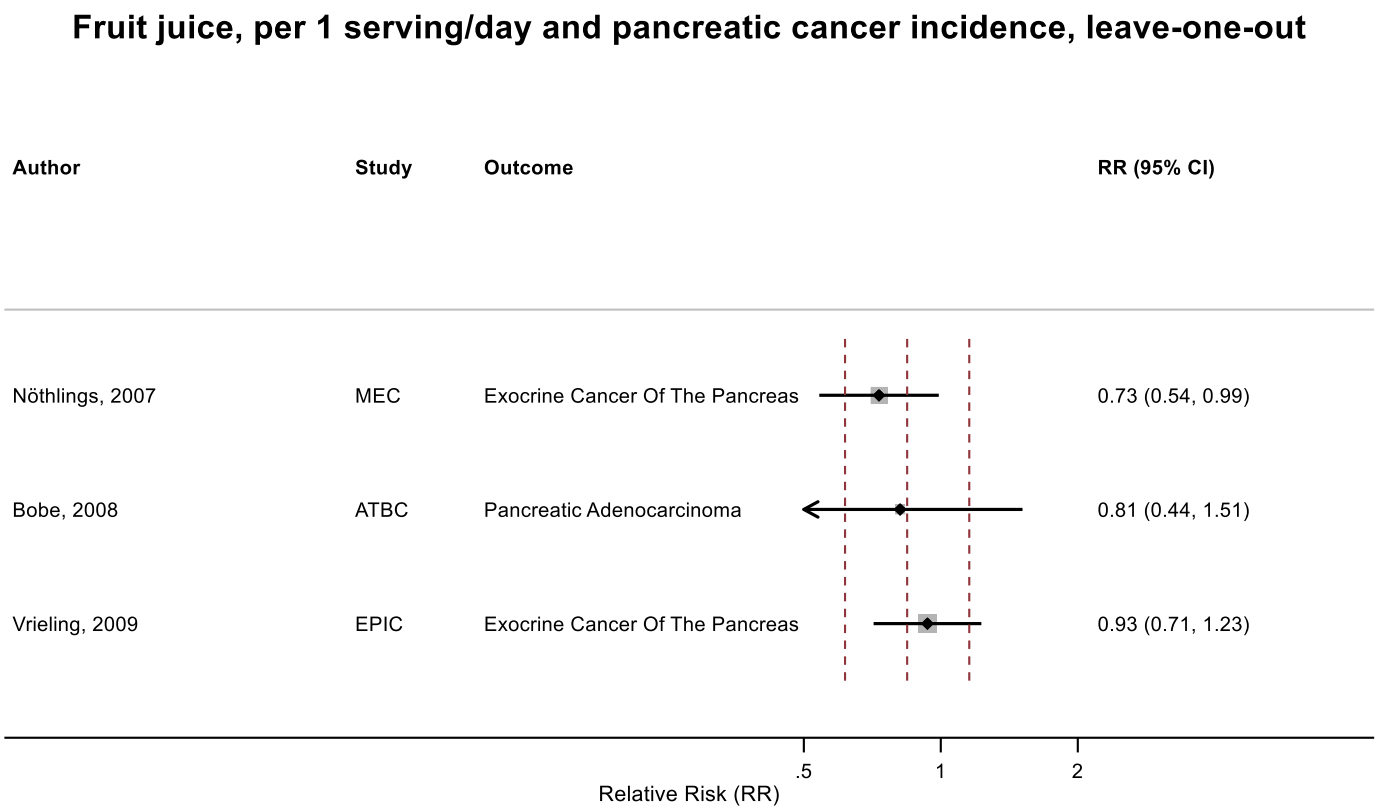


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial; CPS II, Cancer Prevention Study II; Taiwan MJ clinics, The Taiwan MJ Cohort Study

Nöthlings, 2007[131], Bobe, 2008[41], Vrieling, 2009[167]

Supplementary Figure 301. Linear dose-response meta-analysis of fruit juice and breast cancer incidence, leave-one-out analysis.

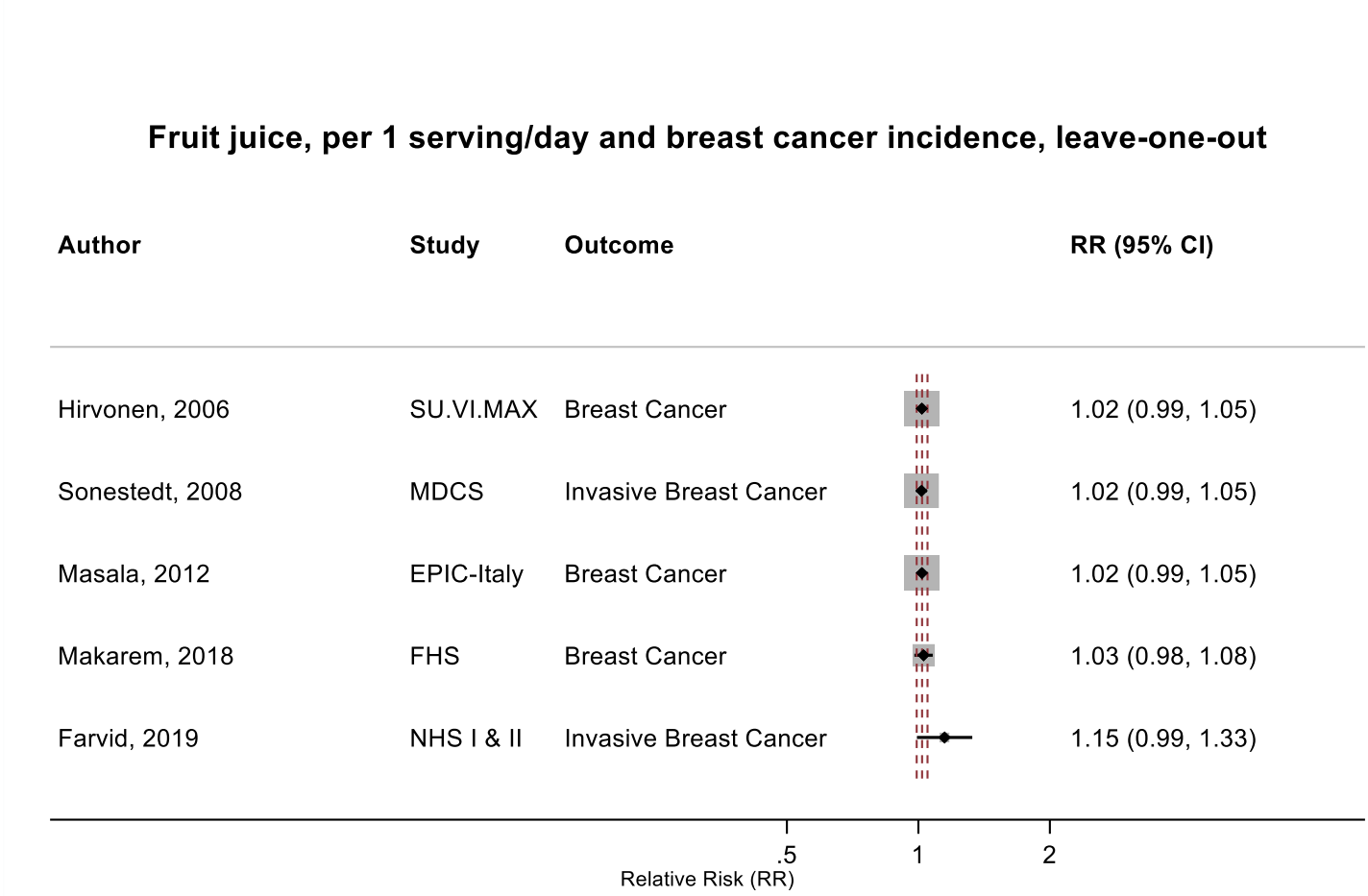


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SU.VI.MAX, Supplémentation en Vitamines et Minéraux Antioxydants Study; MDCS, Malmö Diet and Cancer Study; EPIC-Italy, European Prospective Investigation into Cancer and nutrition-Italy cohort; FHS, Framingham Heart Study; NHS I & II, Nurses' Health Study I & II

Hirvonen, 2006[69], Sonestedt, 2008[156], Masala, 2012[112], Makarem, 2018[108], Farvid, 2019[52]

Supplementary Figure 302. Linear dose-response meta-analysis of fruit juice and kidney cancer incidence, leave-one-out analysis.

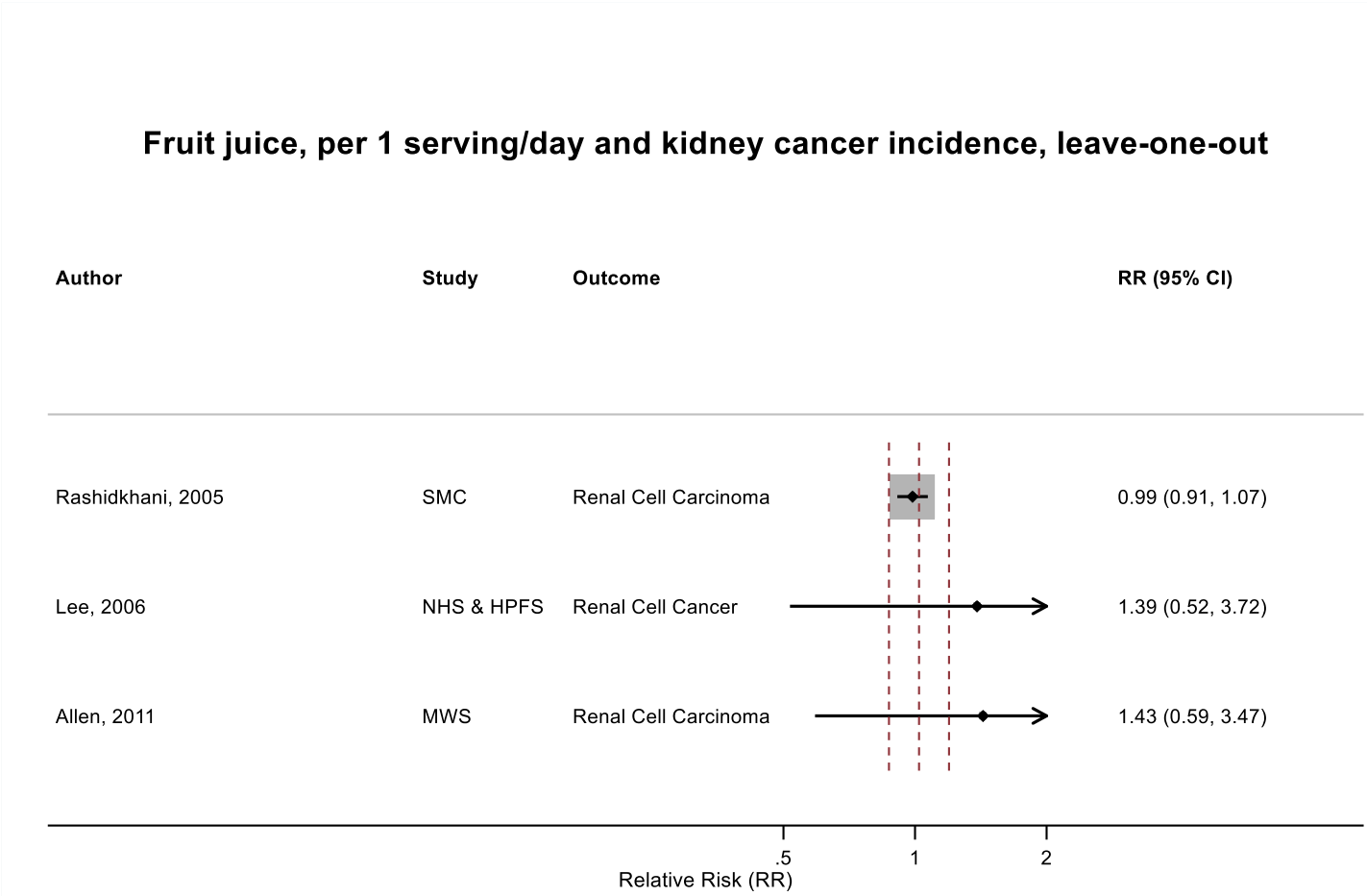


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC, Swedish Mammography Cohort; NHS & HPFS, Nurses' Health Study & Health Professionals Follow-up Study; MWS, Million Women Study

Rashidkhani, 2005[142], Lee, 2006[98], Allen, 2011[36]

Supplementary Figure 303. Linear dose-response meta-analysis of fruit and vegetable juice and kidney cancer incidence, leave-one-out analysis.

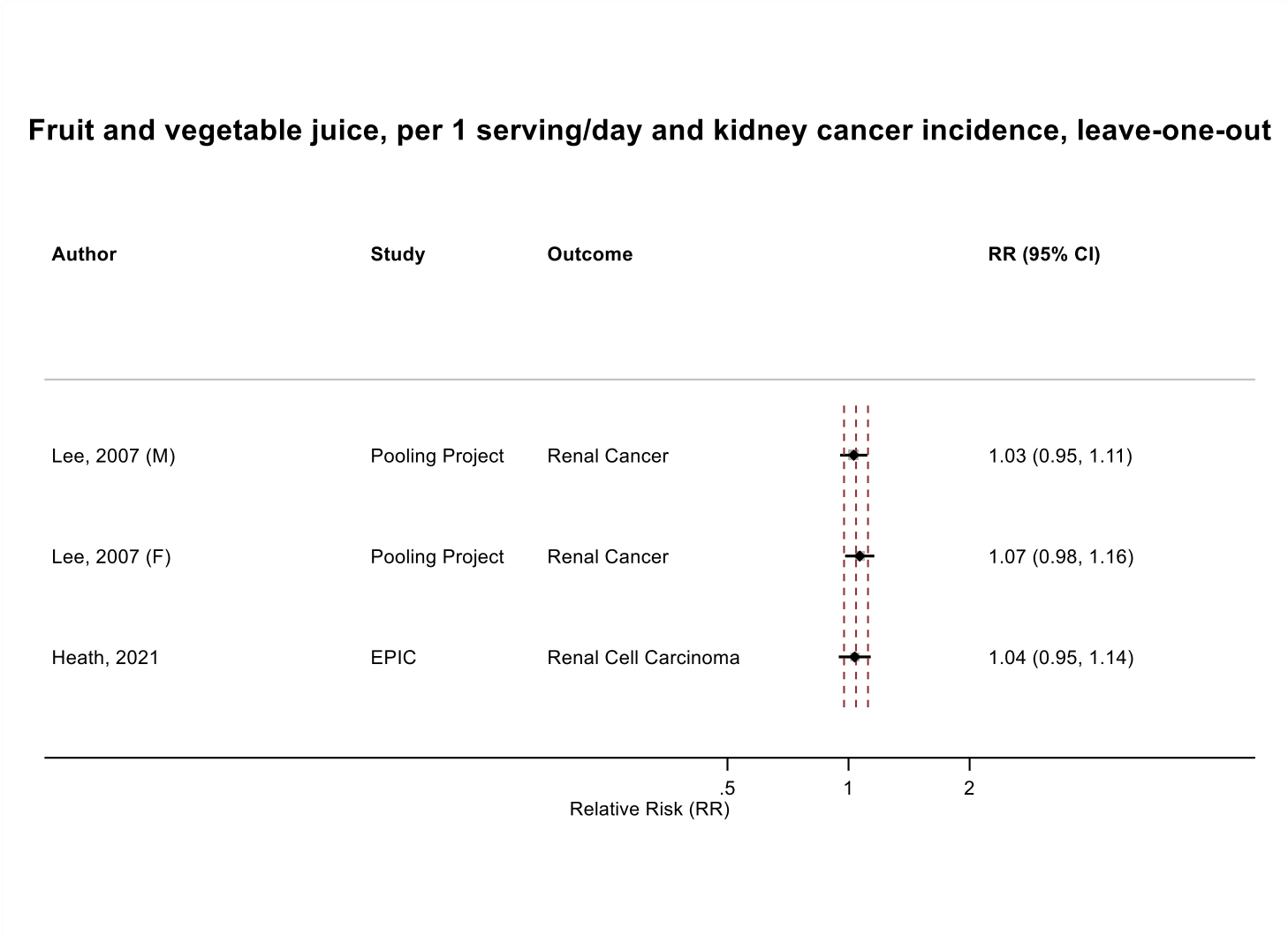


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=13); EPIC, European Prospective Investigation into Cancer and nutrition

Lee, 2007[26], Heath, 2021[66]

Supplementary Figure 304. Linear dose-response meta-analysis of citrus juice and melanoma incidence, leave-one-out analysis.

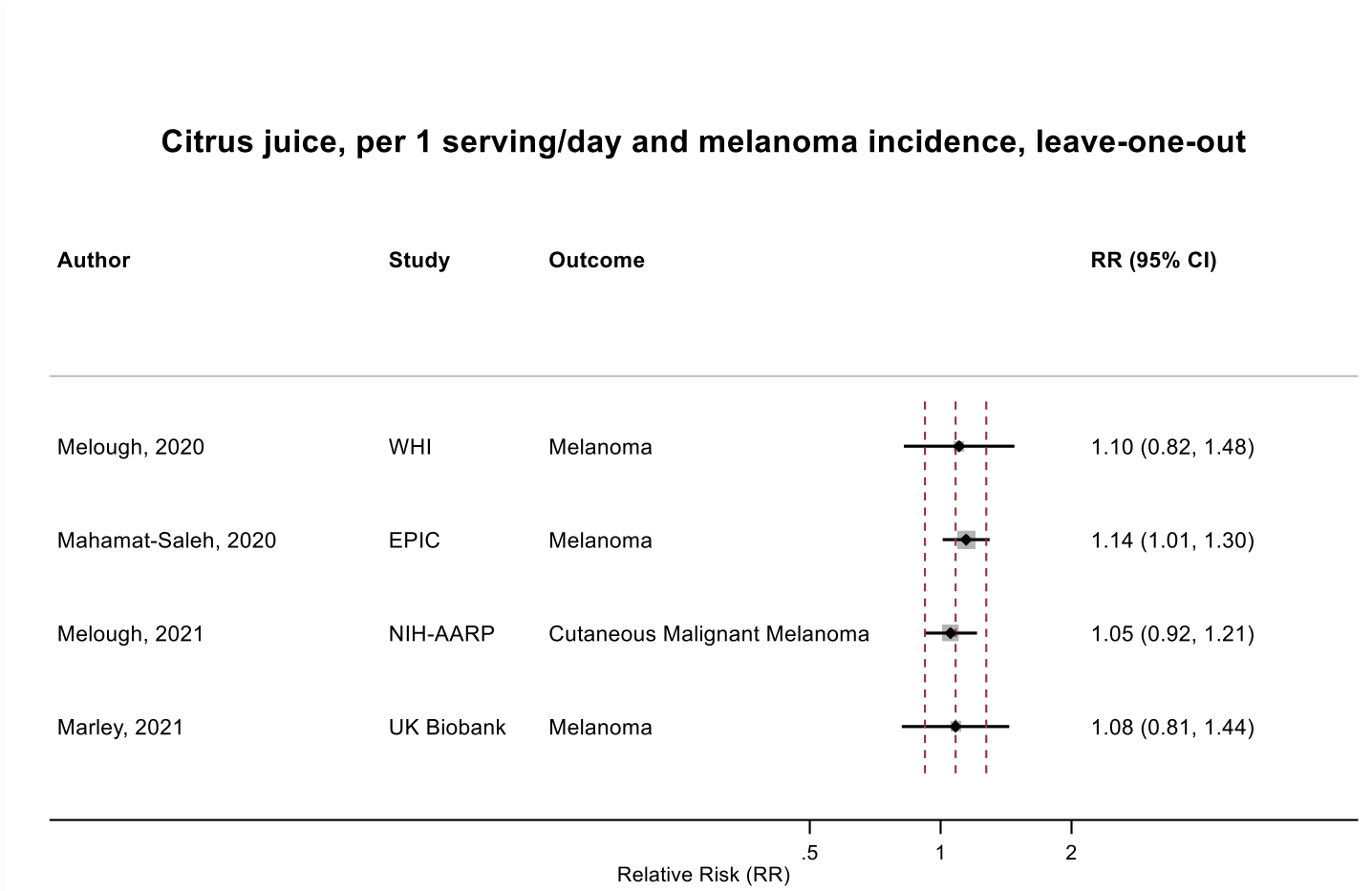


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: WHI, Women's Health Initiative Study; EPIC, European Prospective Investigation into Cancer and nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; UK Biobank, United Kingdom Biobank Study

Melough, 2020[116], Mahamat-Saleh, 2020[107], Melough, 2021[115], Marley, 2021[110]

Supplementary Figure 305. Linear dose-response meta-analysis of orange juice and melanoma incidence, leave-one-out analysis.

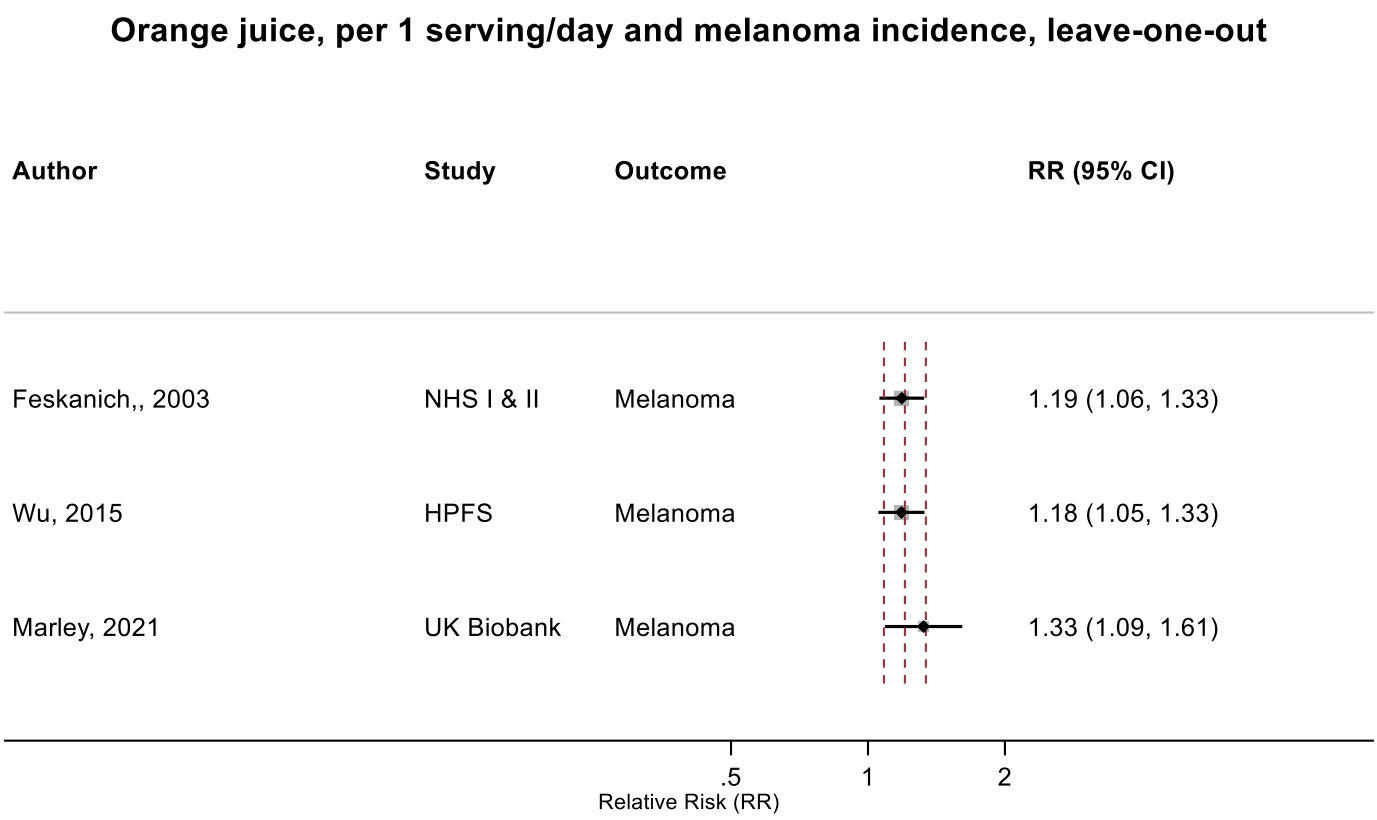


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS I & II, Nurses' Health Study I & II; HPFS, Health Professionals Follow-up Study; UK Biobank, United Kingdom Biobank Study

Feskanich, 2003[54], Wu, 2015[171], Marley, 2021[110]

Supplementary Figure 306. Linear dose-response meta-analysis of grapefruit juice and melanoma incidence, leave-one-out analysis.

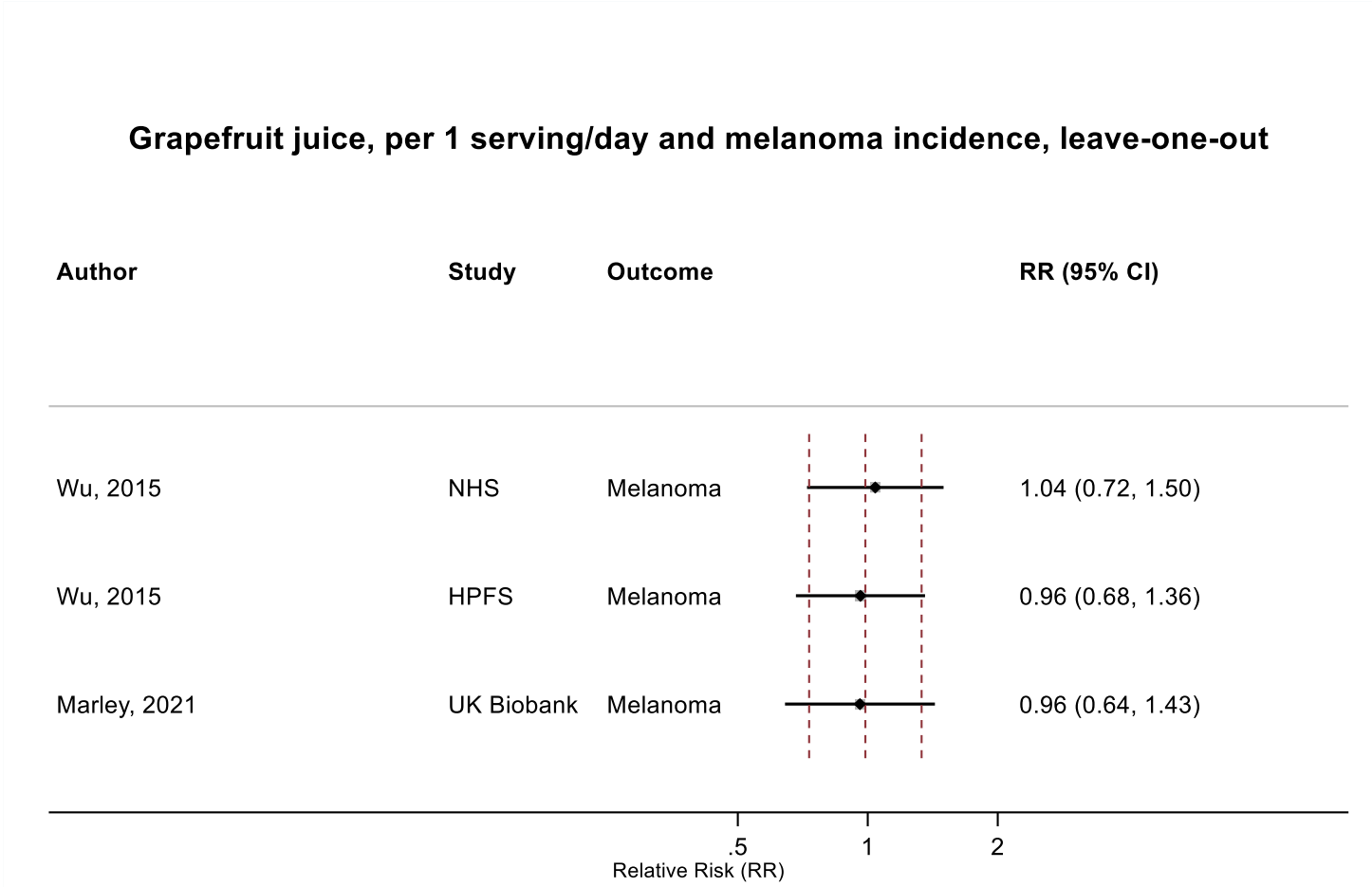


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurses' Health Study; HPFS, Health Professionals Follow-up Study; UK Biobank, United Kingdom Biobank Study

Wu, 2015[171], Marley, 2021[110]

Supplementary Figure 307. Linear dose-response meta-analysis of fruit juice and glioma incidence, leave-one-out analysis.

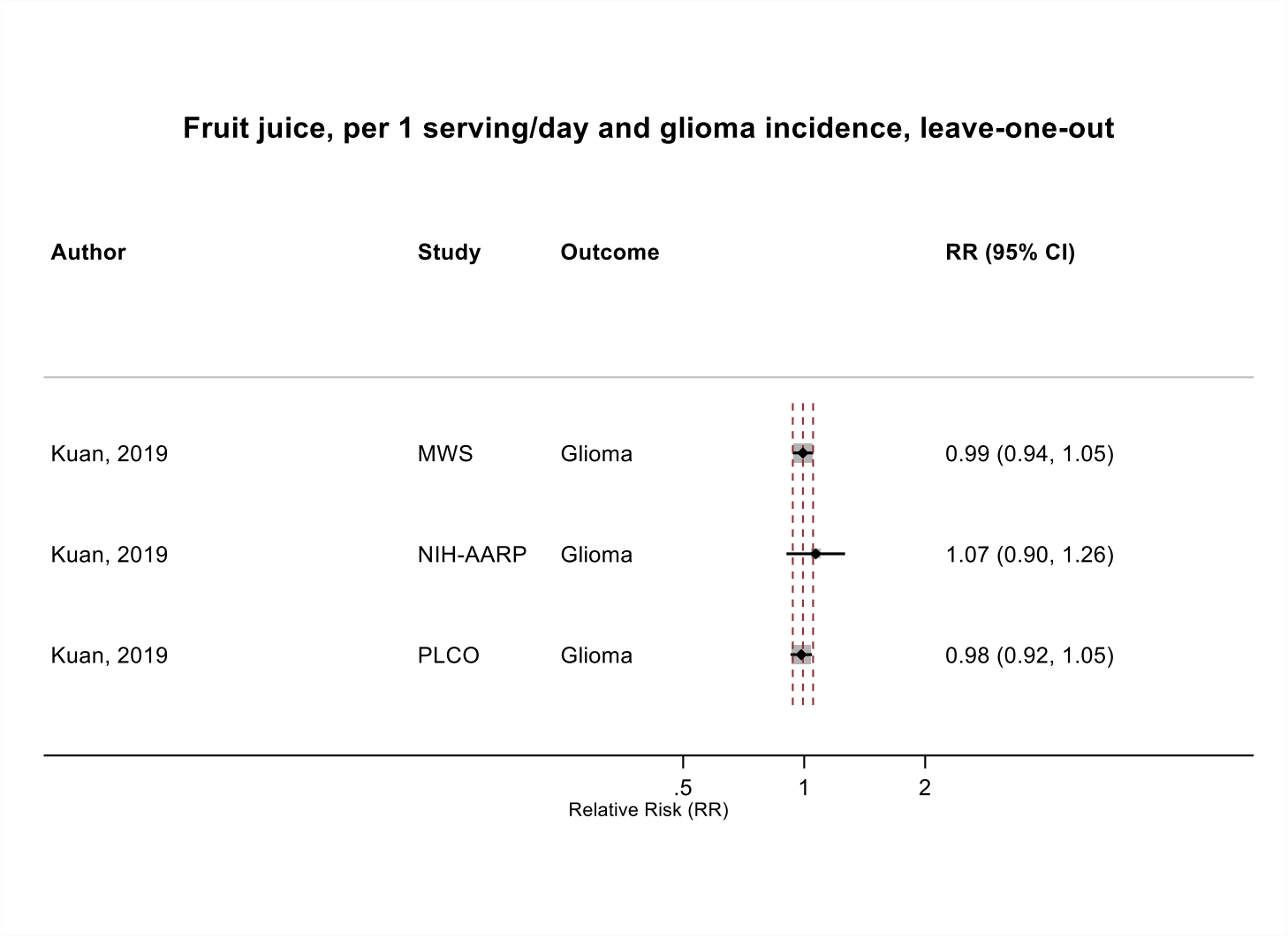


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of fruit juice/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of every single study at a time.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: MWS, Million Women Study; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening trial

Kuan, 2019[92]

Supplementary Figure 308. Linear dose-response meta-analysis of juices and prostate cancer mortality.

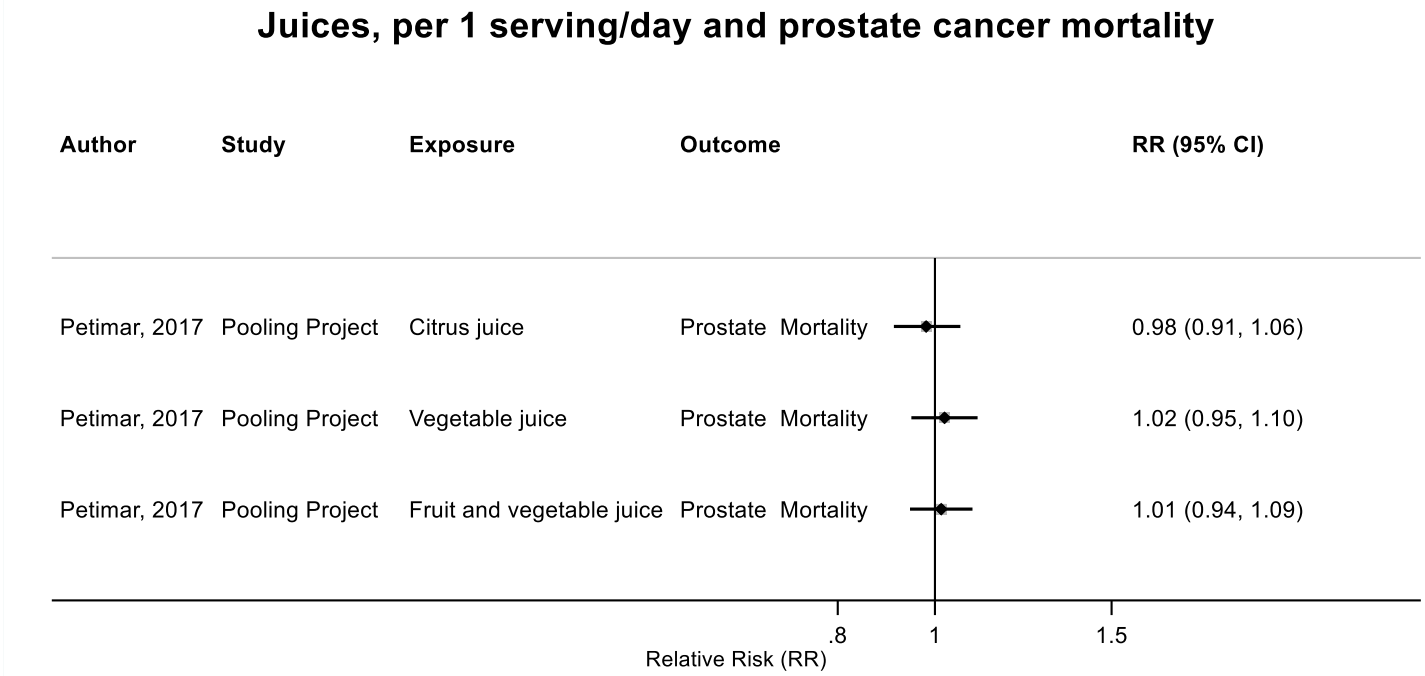


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [177 mL] of juice/day) from the inverse variance DerSimonian-Laird random-effects model. Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=15)

Petimar, 2017[139]

Supplementary Figure 309. Linear dose-response meta-analysis of soft drinks and liver cancer incidence.

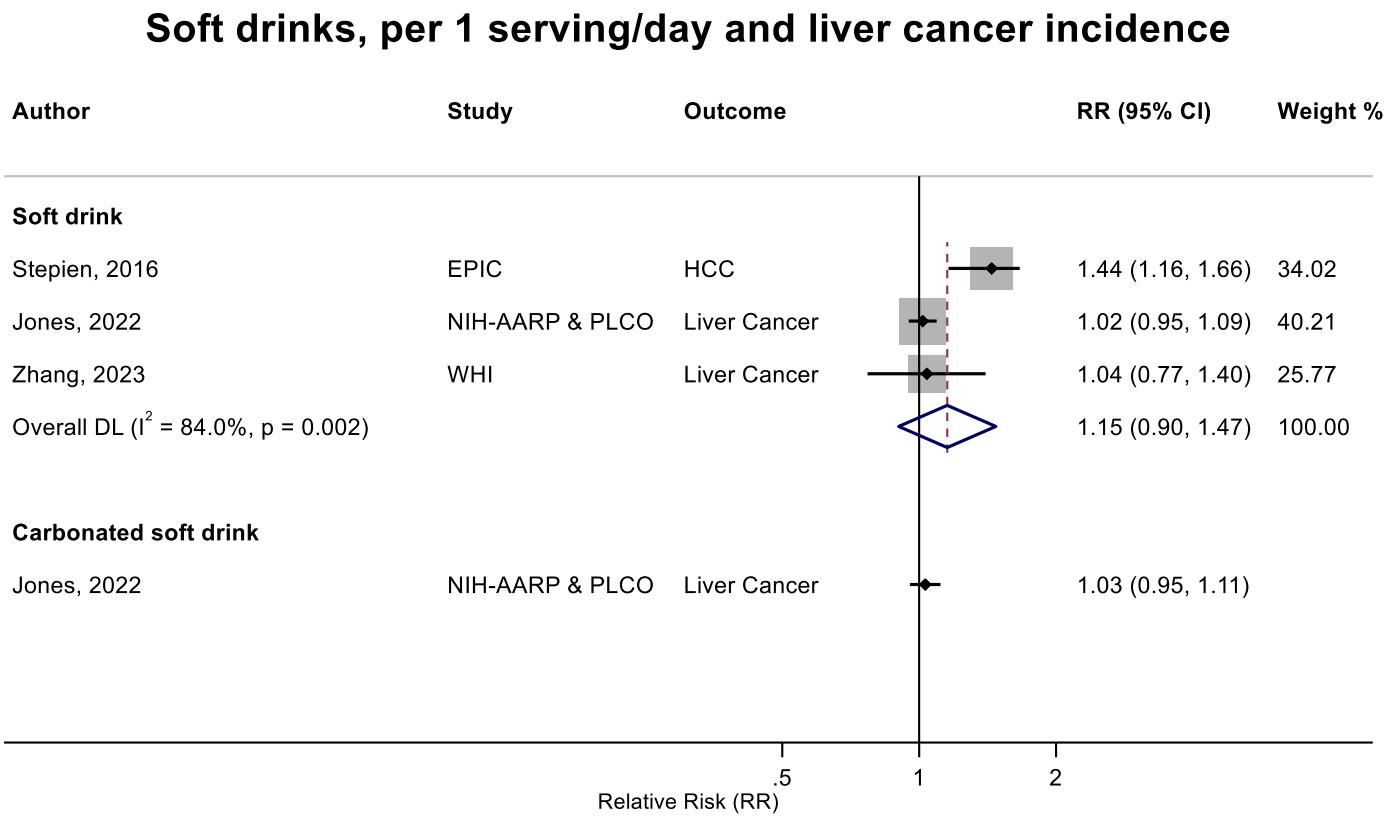


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; HCC, hepatocellular carcinoma; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial; WHI, Women's Health Initiative

Stepien, 2016[159], Zhang, 2023[183], Jones, 2022[79]

Supplementary Figure 310. Linear dose-response meta-analysis of soft drinks and pancreatic cancer incidence.

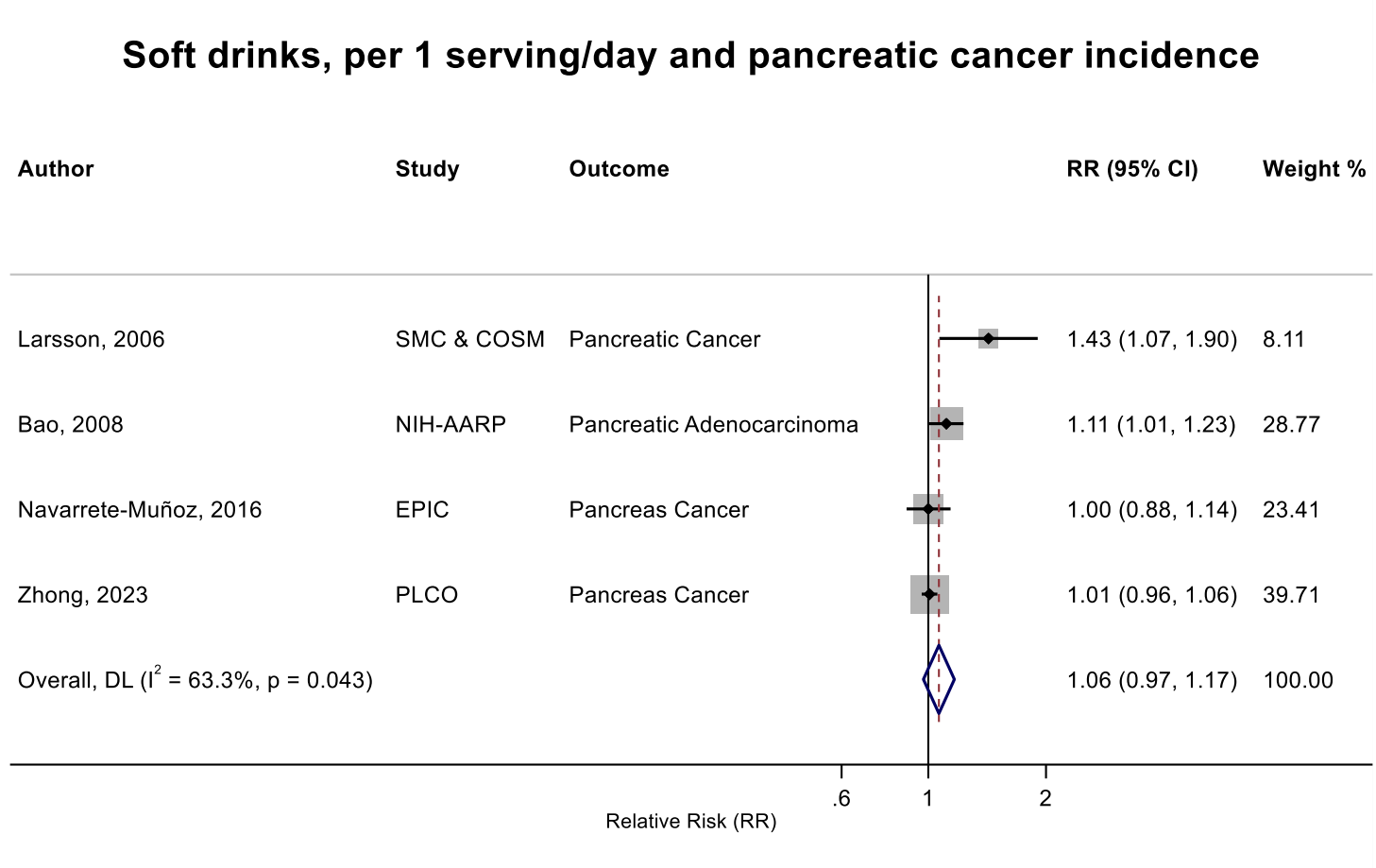


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC & COSM, Swedish Mammography Cohort and Cohort of Swedish Men; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and Nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial

Note: There was an additional study (Hokkaido cohort study in Japan)[85] that could not be included in the dose-response meta-analysis because of insufficient data format and reported little evidence of an association (RR: 0.20, 95%CI: 0.01, 1.80) for 7 times/week vs never-several times/months of soft drinks consumption and pancreatic cancer mortality in men and women. There was another publication from PLCO[184] that assessed the association between soft drinks, as part the of WCRF/AICR cancer prevention recommendation score, and pancreatic cancer incidence and mortality and reported the relative risks of 0.69 (0.45-1.05) and 0.70 (0.45-1.08) for 0 vs >250 g/day of SSB intake and pancreatic cancer incidence and mortality, respectively. Due to higher number of cases, we included another publication on incidence in the linear dose-response and described this publication on incidence and mortality descriptively.

Navarrete-Muñoz, 2016[127], Bao, 2008[39], Zhong, 2023[189], Larsson, 2006[95]

Supplementary Figure 311. Linear dose-response meta-analysis of soft drinks and biliary tract and gallbladder cancers incidence.

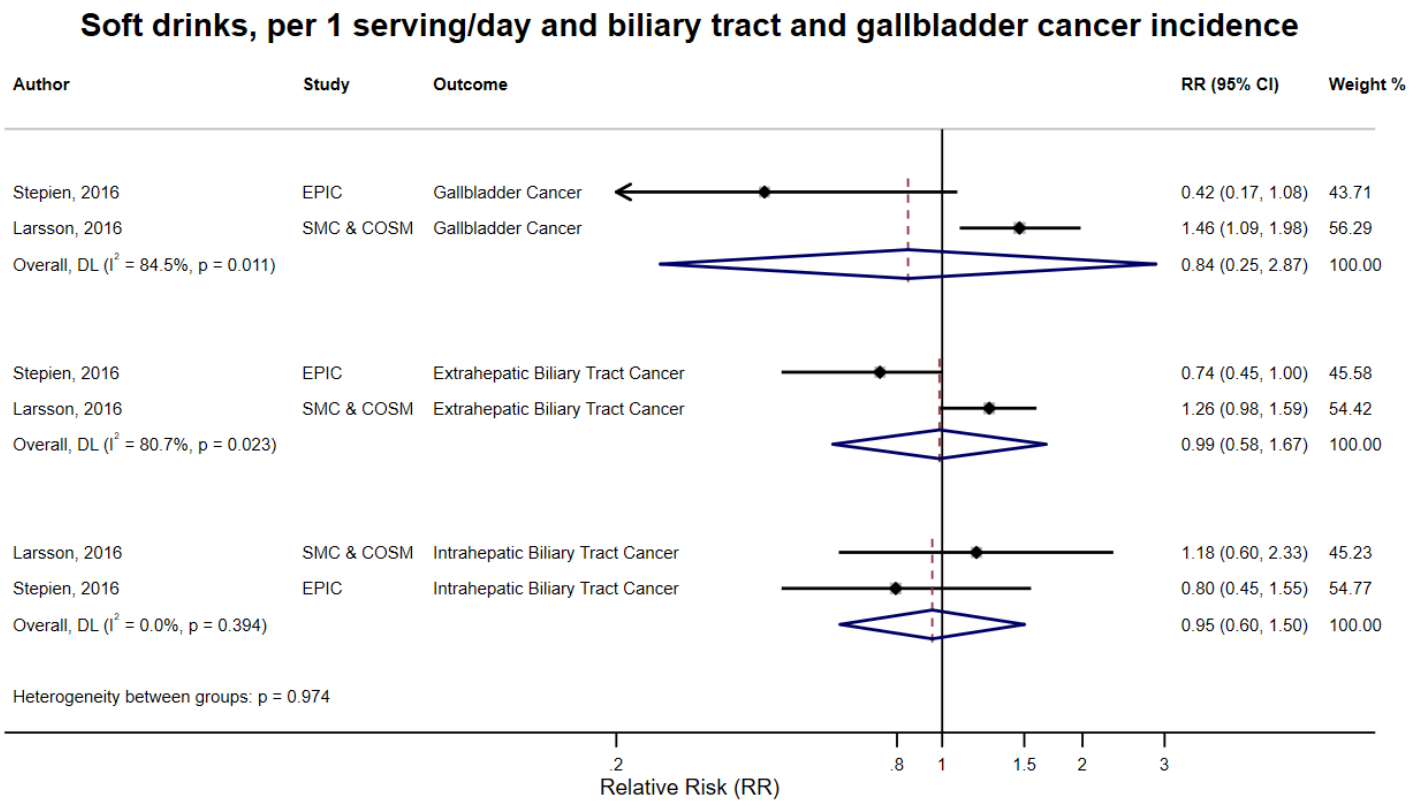


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; SMC & COSM, Swedish Mammography Cohort and Cohort of Swedish Men.

Stepien, 2016[159], Larsson, 2016[96]

Supplementary Figure 312. Linear dose-response meta-analysis of soft drinks and lung cancer incidence.

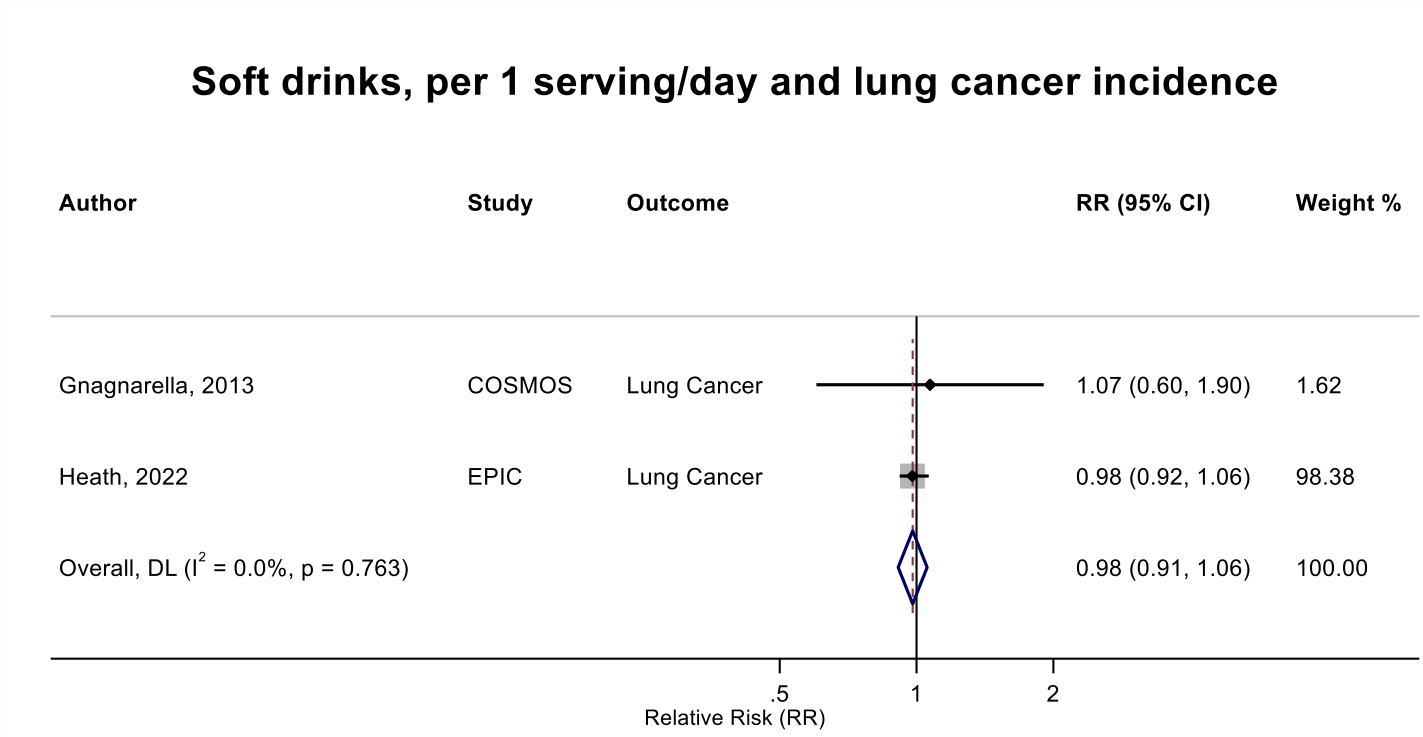


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: COSMOS, Continuous Observation of Smoking Subjects; EPIC, European Prospective Investigation into Cancer and Nutrition.

Note: There was an additional study (PLCO)[177] that could not be included in the dose-response meta-analysis because of insufficient data format and reported an inverse association between soft drinks and lung cancer incidence ($RR_{\text{intake vs no intake}}$: 0.79 (95%CI: 0.64-0.97). Sex-specific analysis indicated an inverse association in females ($RR_{\text{intake vs no intake}}$: 0.62 (95%CI: 0.45-0.87), but not in males ($RR_{\text{intake vs no intake}}$: 0.96 (95%CI: 0.72-1.28)

Gnagnarella, 2013[65], Heath, 2022[67]

Supplementary Figure 313. Linear dose-response meta-analysis of soft drinks and breast cancer incidence.

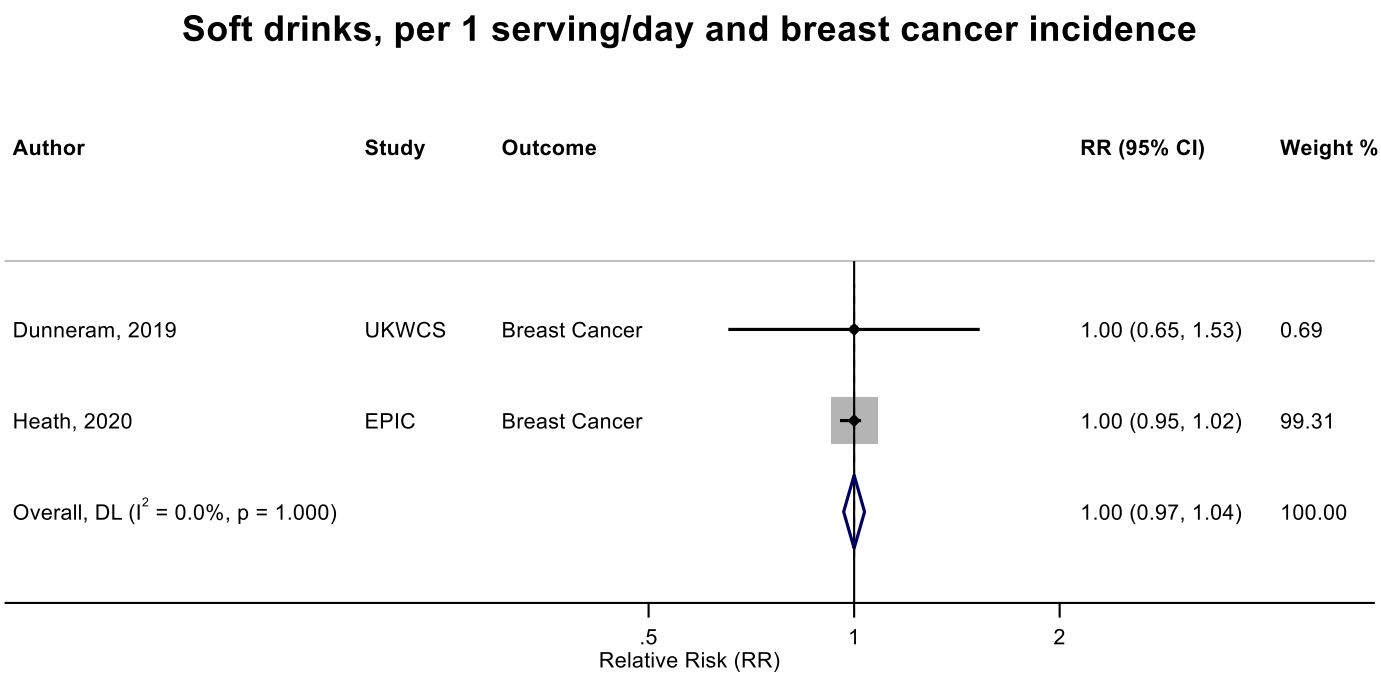


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: UKWCS, UK Women Health Cohort Study; EPIC, European Prospective Investigation into Cancer and Nutrition

Dunneram, 2019[49], Heath, 2020[68]

Supplementary Figure 314. Linear dose-response meta-analysis of soft drinks and endometrial cancer incidence.

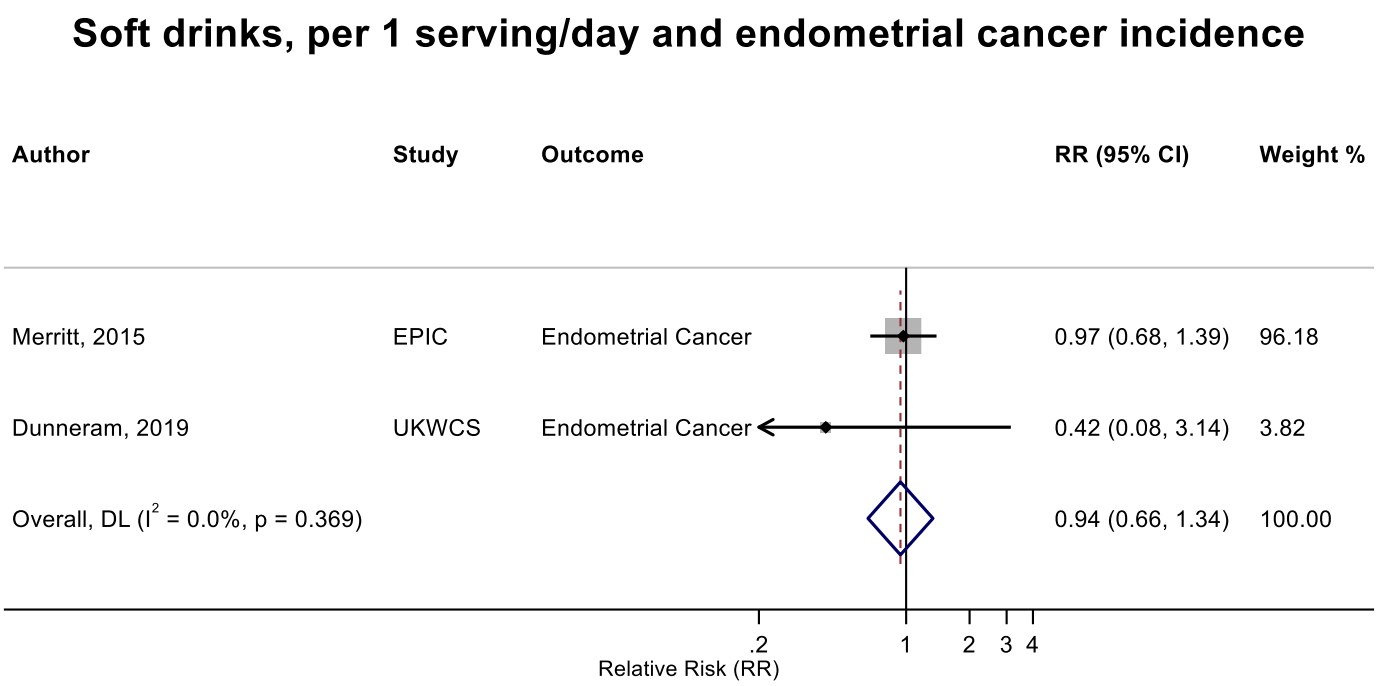


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; UKWCS, UK Women's Cohort Study

Note: There was an additional study (Swedish Mammography Cohort)[61] that could not be included in the dose-response meta-analysis because of insufficient data format and reported little evidence of an association (RR: 1.02, 95%CI: 0.87-1.18) for 0.07 serving/week vs 0 of intake of soft drinks and endometrial cancer incidence.

Dunneram, 2019[49], Merritt, 2015[117]

Supplementary Figure 315. Linear dose-response meta-analysis of carbonated soft drinks and kidney cancer incidence.

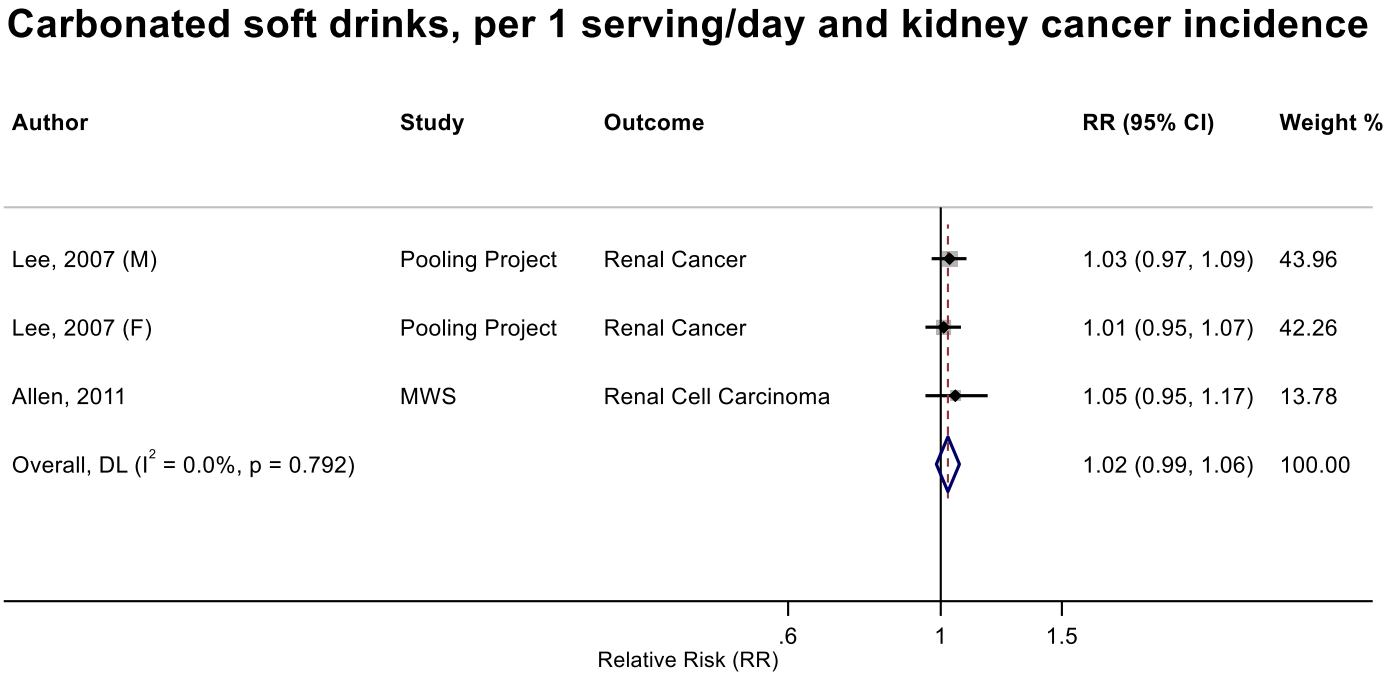


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=13); MWS, Million Women Study

Allen, 2011[36], Lee, 2007[26]

Supplementary Figure 316. Linear dose-response meta-analysis of soft drinks and bladder cancer incidence.

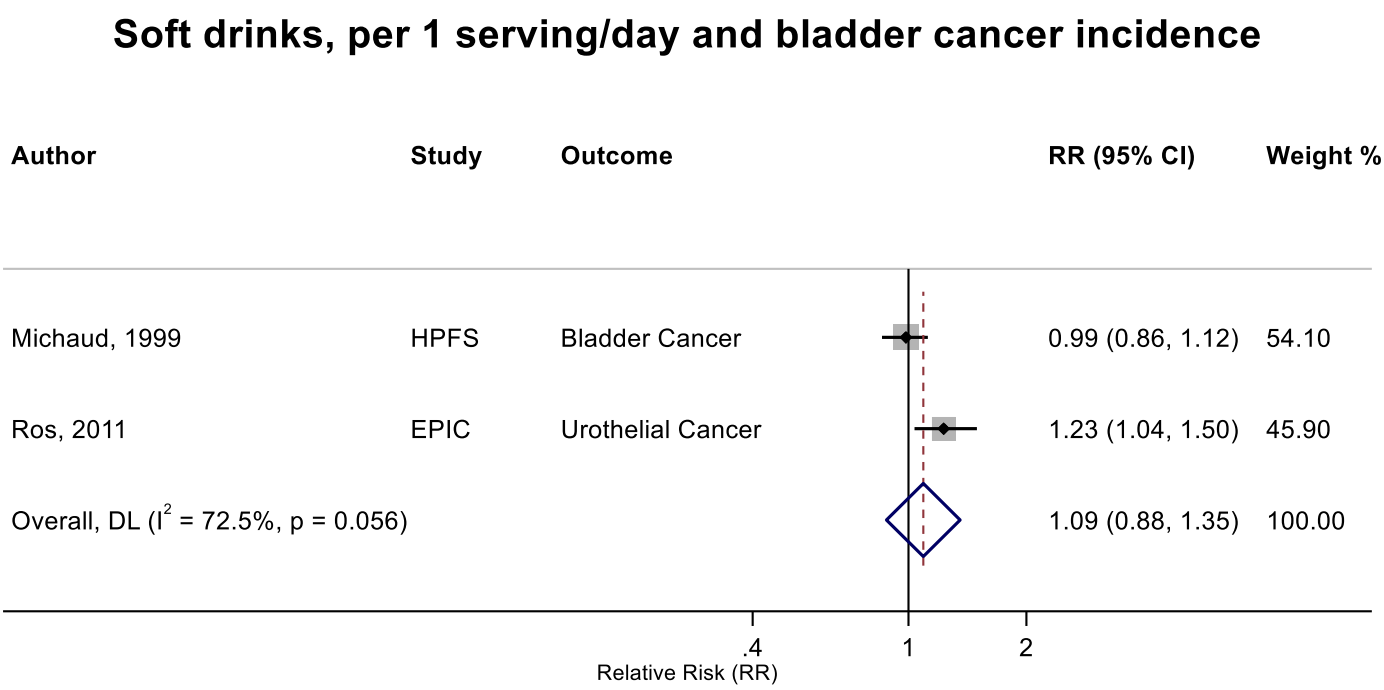


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: HPFS, Health Professionals Follow-up Study; EPIC, European Prospective Investigation into Cancer and Nutrition

Michaud, 1999[119], Ros, 2011[147]

Supplementary Figure 317. Linear dose-response meta-analysis of carbonated and caffeinated soft drinks and glioma incidence.

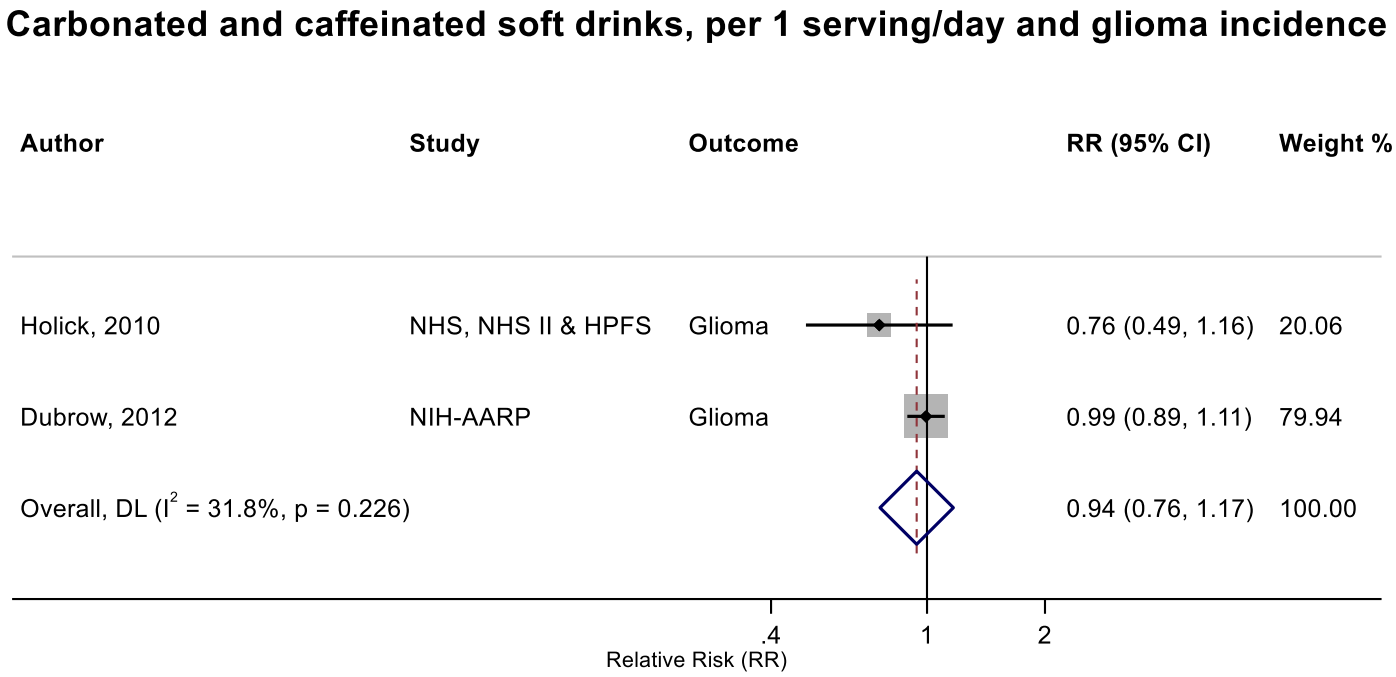


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated and caffeinated soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurse's Health Study; NHS II, Nurse's Health Study II; HPFS, Health Professionals Follow-up Study; NIH-AARP, National Institutes Of Health-AARP Diet And Health Study

Holick, 2010[71], Dubrow, 2012[48]

Supplementary Figure 318. Linear dose-response meta-analysis of carbonated and decaffeinated soft drinks and glioma incidence.

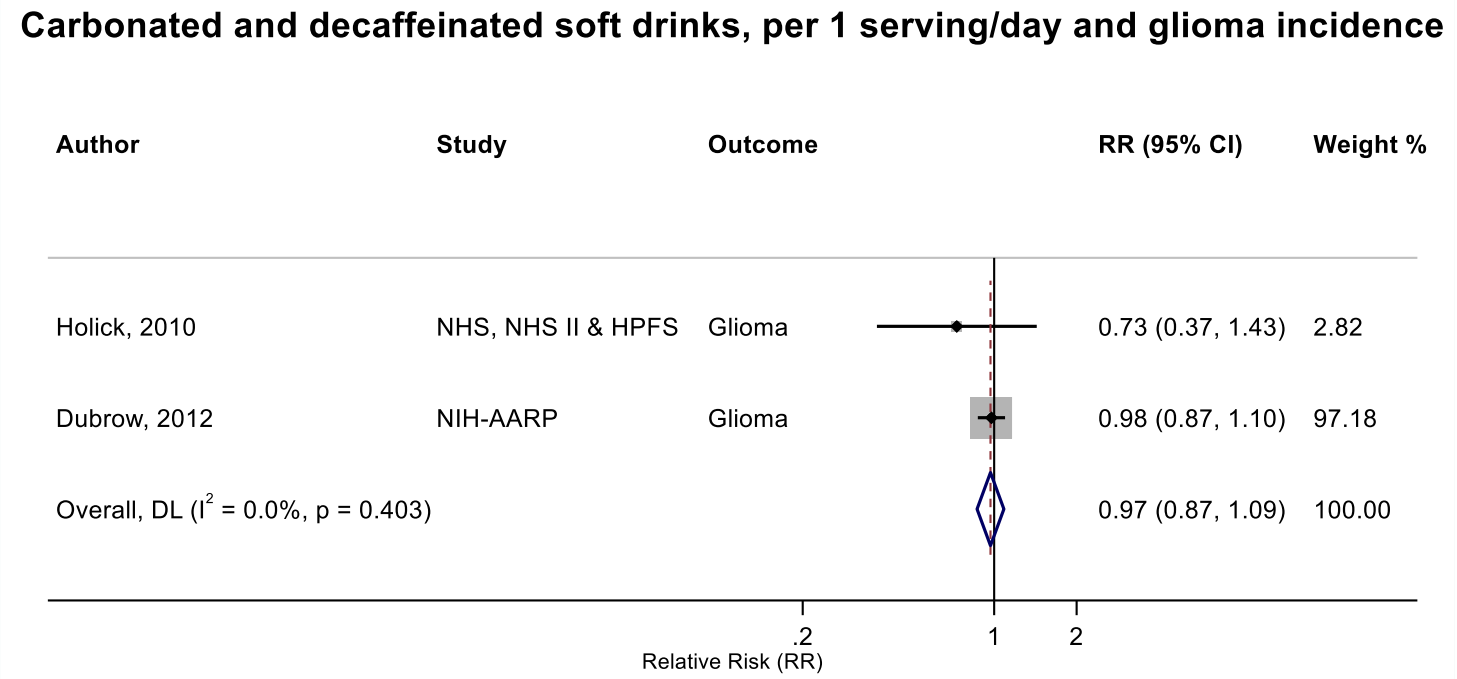


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated and decaffeinated soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: NHS, Nurse's Health Study; NHS II, Nurse's Health Study II; HPFS, Health Professionals Follow-up Study; NIH-AARP, National Institutes Of Health-AARP Diet And Health

Holick, 2010[71], Dubrow, 2012[48]

Supplementary Figure 319. Linear dose-response meta-analysis of soft drinks and pancreatic cancer incidence by geographical region.

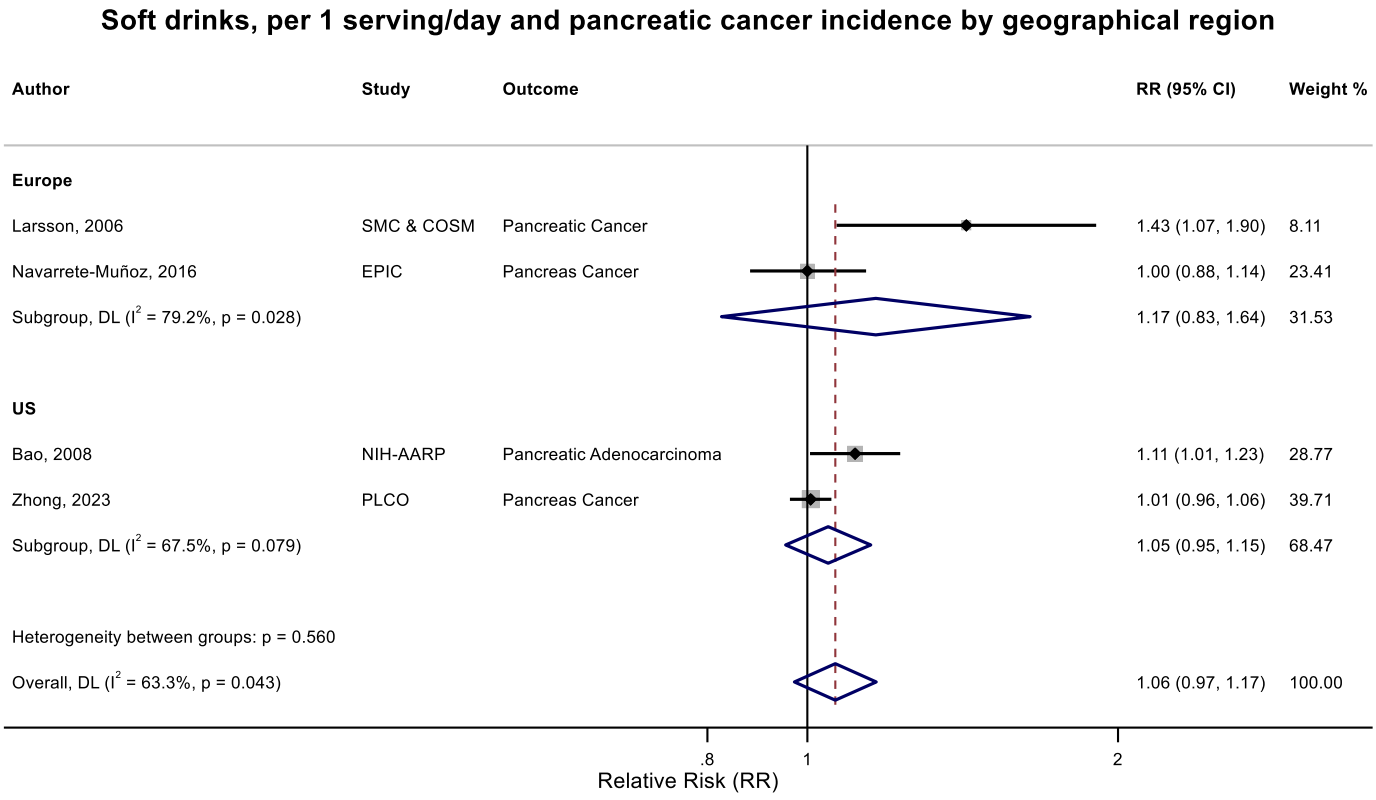


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC & COSM, Swedish Mammography Cohort and Cohort of Swedish Men; EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial

Larsson, 2006[95], Bao, 2008[39], Zhong, 2023[189], Navarrete-Muñoz, 2016[127]

Supplementary Figure 320. Linear dose-response meta-analysis of soft drinks and pancreatic cancer incidence by follow-up duration.

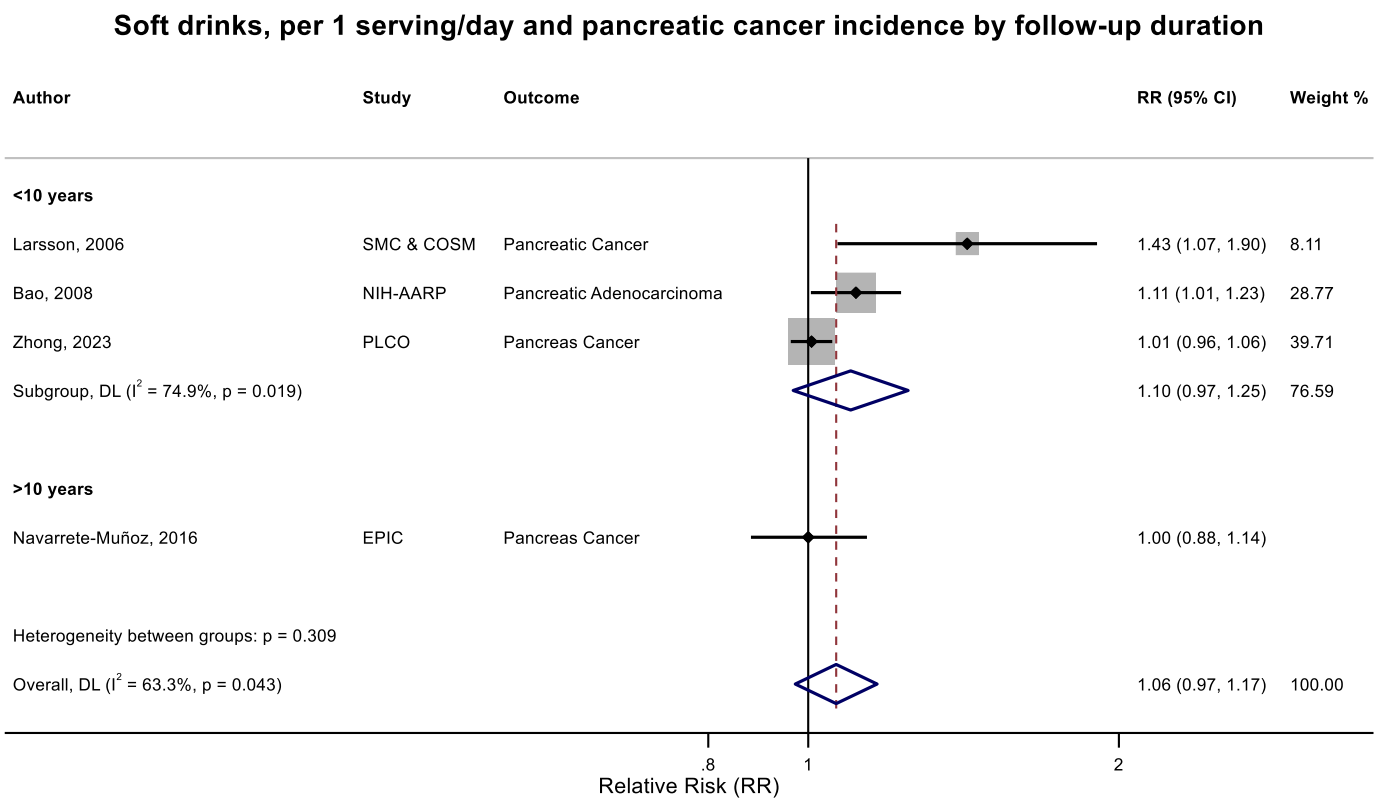


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC & COSM, Swedish Mammography Cohort and Cohort of Swedish Men; EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial

Larsson, 2006[95], Bao, 2008[39], Zhong, 2023[189], Navarrete-Muñoz, 2016[127]

Supplementary Figure 321. Linear dose-response meta-analysis of soft drinks and liver cancer incidence by geographical region.

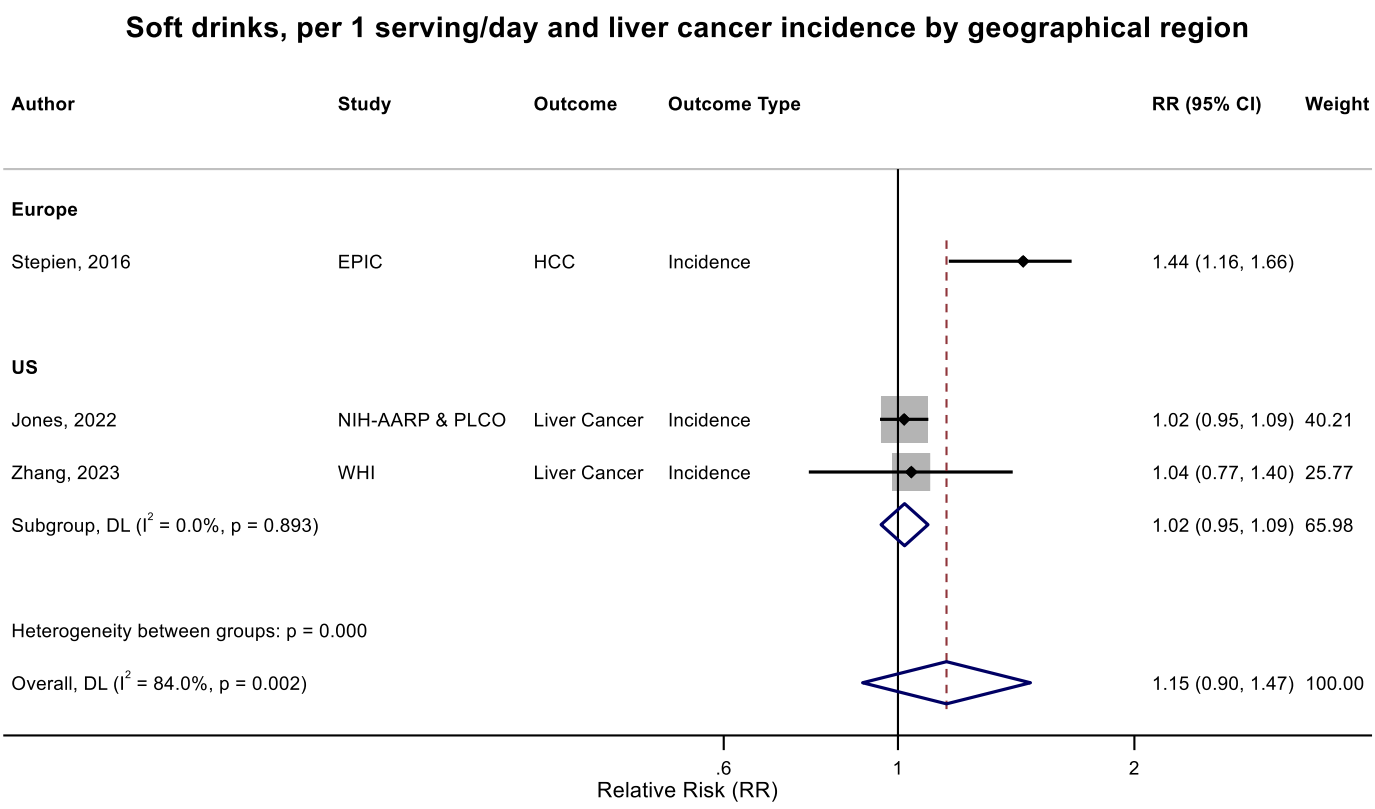


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial; WHI, Women's Health Initiative

Stepien, 2016[159], Zhang, 2023[183], Jones, 2022[79]

Supplementary Figure 322. Linear dose-response meta-analysis of carbonated soft drinks and kidney cancer incidence by sex.

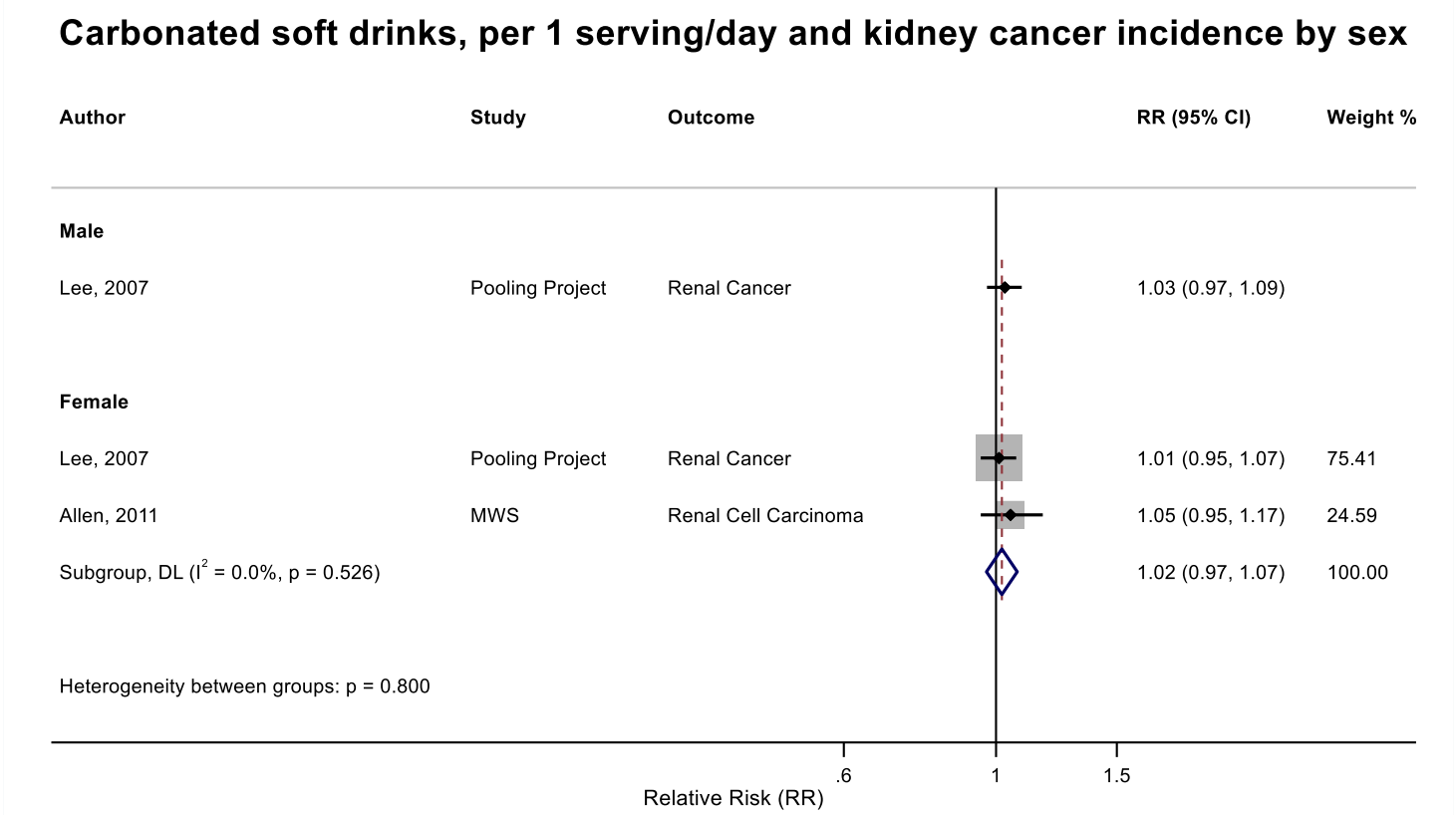


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model. The diamond represents the summary relative risk (RR) estimate, the diamond's width is the 95% confidence interval (CI). Each square and the horizontal line across the square represent the RR estimate of the individual study and its 95% CI.

Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: Pooling Project; The Pooling Project of Prospective Studies of Diet and Cancer (n=13); MWS, Million Women Study

Allen, 2011[36], Lee, 2007[26]

Supplementary Figure 323. Linear dose-response meta-analysis of soft drinks and liver cancer incidence, leave-one-out analysis.

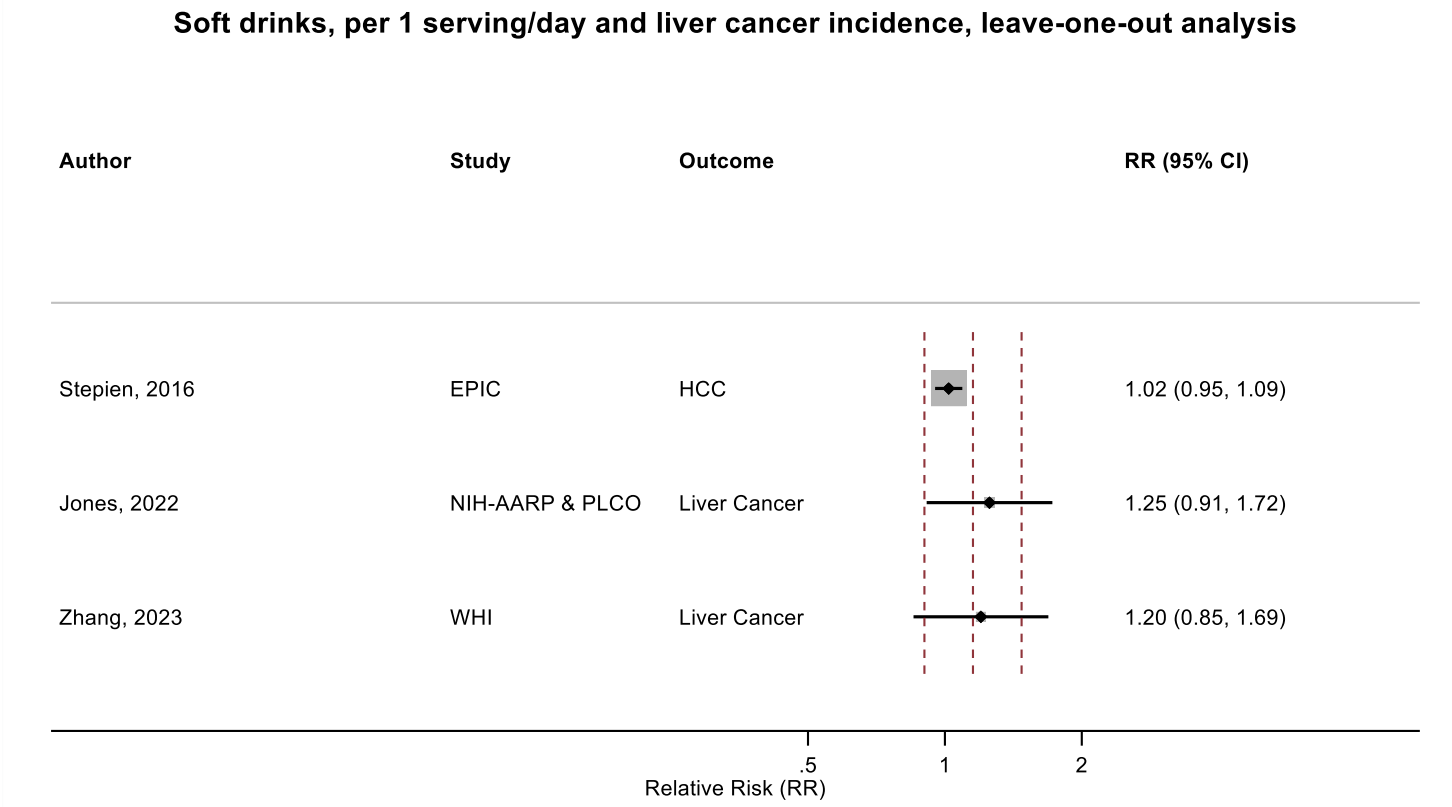


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of each study from the meta-analysis.

Abbreviations: CI, confidence interval; HCC, hepatocellular carcinoma; RR, relative risk.

Study abbreviations: EPIC, European Prospective Investigation into Cancer and Nutrition; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial; WHI, Women's Health Initiative

Stepien, 2016[159], Jones, 2022[79], Zhang, 2023[183]

Supplementary Figure 324. Linear dose-response meta-analysis of soft drinks and pancreatic cancer incidence, leave-one-out analysis.

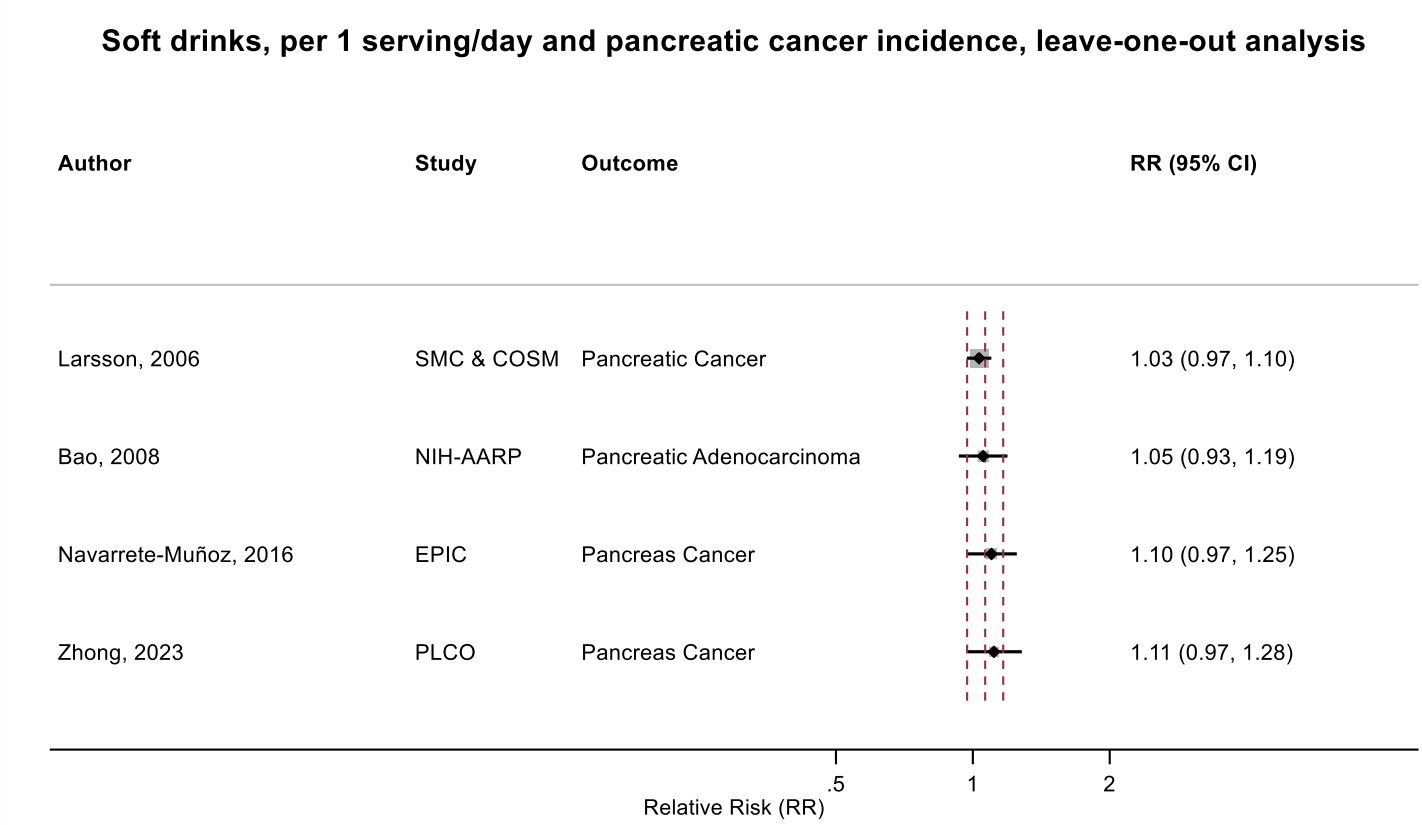


Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of each study from the meta-analysis.

Abbreviations: CI, confidence interval; RR, relative risk.

Study abbreviations: SMC & COSM, Swedish Mammography Cohort and Cohort of Swedish Men; NIH-AARP, National Institute of Health + American Association of Retired Persons Diet and Health Study; EPIC, European Prospective Investigation into Cancer and Nutrition; PLCO, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial

Navarrete-Muñoz, 2016[127], Zhong, 2023[189], Larsson, 2006[95], Bao, 2008[39]

Supplementary Figure 325. Linear dose-response meta-analysis of carbonated soft drinks and kidney cancer incidence, leave-one-out analysis.

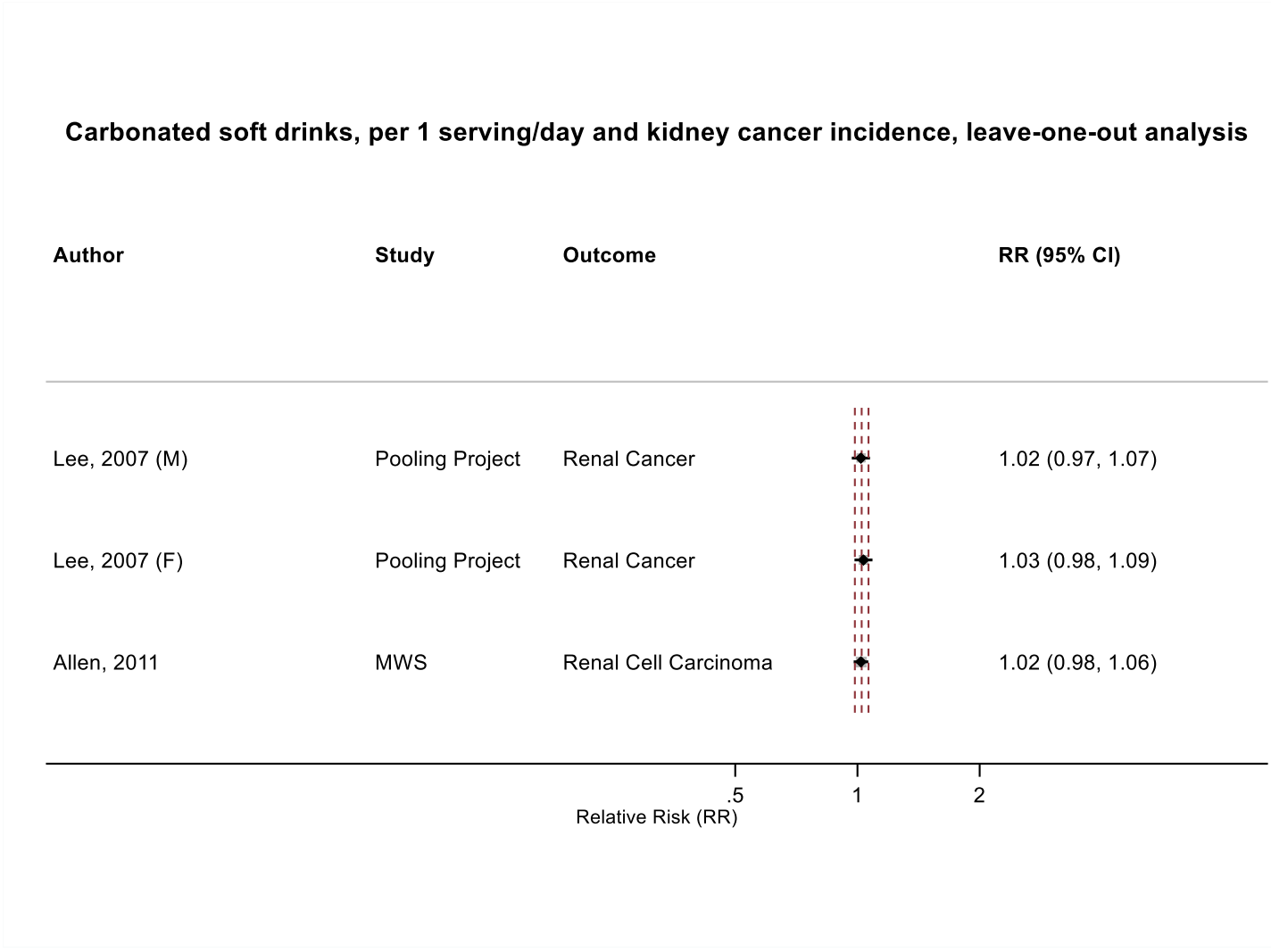


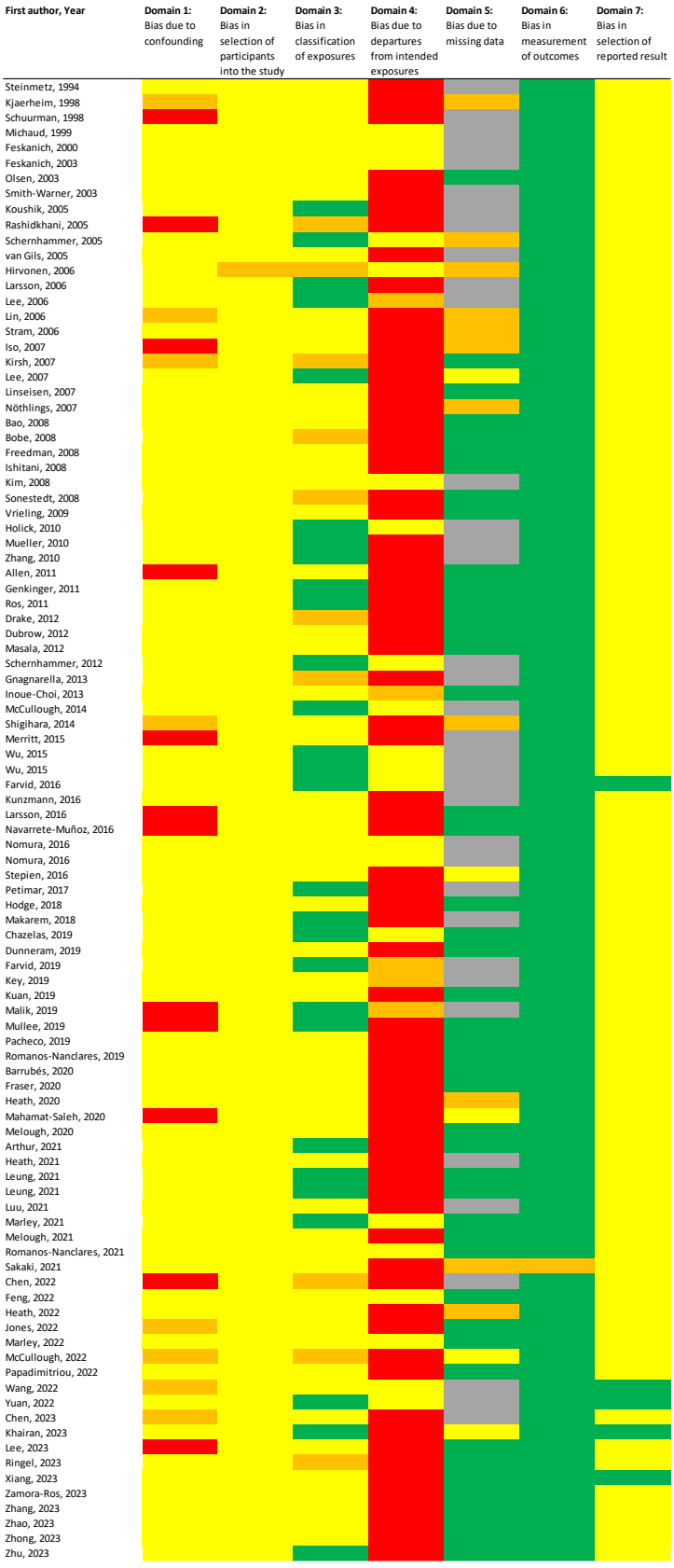
Figure legend: Forest plot shows the linear dose-response results (per 1 serving [355 mL] of carbonated soft drinks/day) from the inverse variance DerSimonian-Laird random-effects model after exclusion of each study from the meta-analysis.

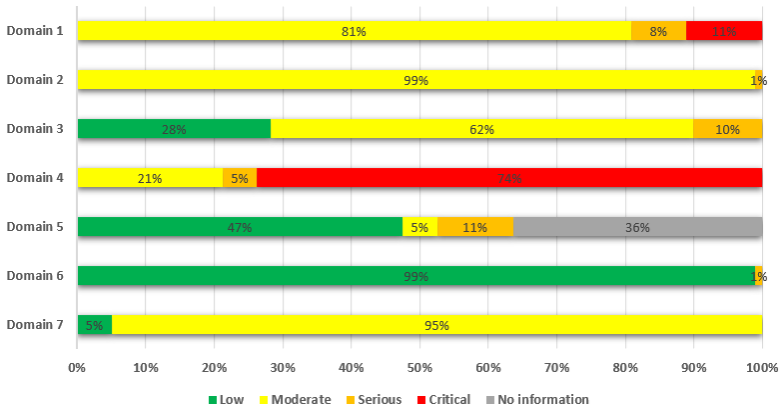
Abbreviations: CI, confidence interval; F, female, M, male, RR, relative risk.

Study abbreviations: Pooling Project, The Pooling Project of Prospective Studies of Diet and Cancer (n=13); MWS, Million Women Study

Allen, 2011[36], Lee, 2007[26]

Supplementary Figure 326. Observational studies risk of bias assessment.





Notes: Lee, 2023 (Examinees-Gem, PMID 37536716)[97] reported on several cancers and is rated moderate for prostate cancer, serious for colorectal cancer, and critical for breast, stomach and lung cancers in relation to confounding domain. Malik, 2019 (NHS and HPFS, PMID 30882235)[109] is at moderate risk for confounding for colon and prostate cancers and critical for breast and lung cancers. Hodge 2018 (MCCS, PMID 29463332)[70] reported on several cancers and were rated critical for breast, endometrial, and ovarian cancers and moderate for other cancers.

Allen, 2011[36], Arthur, 2021[38], Bao, 2008[39], Barrubés, 2020[40], Bobe, 2008[41], Chazelas, 2019[44], Chen, 2022[45], Chen, 2023[46], Drake, 2012[(94)], Dubrow, 2012[48], Dunneram, 2019[49], Farvid, 2016[51], Farvid, 2019[52], Feng, 2022[53], Feskanich, 2000[55], Feskanich, 2003[54], Fraser, 2020[56], Freedman, 2008[59], Genkinger, 2012[64], Gnagnarella, 2013[65], Heath, 2022[67], Heath, 2020[68], Heath, 2021[66], Hirvonen, 2006[69], Hodge, 2018[70], Holick, 2010[71], Inoue-Choi, 2013[74], Ishitani, 2008[75], [76]Jones, 2022[81], Kanehara, 2024[83], Key, 2019[84], Khairan, 2023[84], Kim, 2008[86], Kirsh, 2007[90], Kjaerheim, 1998[91], Koushik, 2005[92], Kuan, 2019[93], Kunzmann, 2016[93], Iso, 2007[76], Larsson, 2006[96], Larsson, 2016[98], Lee, 2006[26], Lee, 2007[97], Lee, 2023[100], Leung, 2021[101], Leung, 2021[103], Lin, 2006[104], Linseisen, 2007[106], Luu, 2021[107], Mahamat-Saleh, 2020[108], Makarem, 2018[109], Malik, 2019[110], Marley, 2021[111], Marley, 2022[112], Masala, 2012[114], McCullough, 2014[114], McCullough, 2022[113], Melough, 2020[115], Melough, 2021[117], Merritt, 2015[119], Michaud, 1999[125], Mueller, 2010[126], Mullee, 2019[127], Navarrete-Muñoz, 2016[136], Papadimitriou, 2022[128], Nomura, 2016[129], Nomura, 2016[129], Nöthlings, 2007[131], Olsen, 2003[133], Pacheco, 2019[139], Petimar, 2017[139], Rashidkhani, 2005[142], Ringel, 2022[146], Romanos-Nanclares, 2019[145], Romanos-Nanclares, 2021[147], Ros, 2011[148], Sakaki, 2021[148], Schernhammer, 2005[151], Schernhammer, 2012[150], Schuurman, 1998[152], Shigihara, 2014[155], Smith-Warner, 2003[155], Sonestedt, 2008[156], Steinmetz, 1994[158], Stepien, 2016[164], Stram, 2006[(143)], van Gils, 2005[167], Vrieling, 2009[168], Wang, 2022[170], Wu, 2015[171], Wu, 2015[173], Xiang, 2023[178], Yuan, 2022[180], Zamora-Ros, 2023[184], Zhang, 2020[182], Zhang, 2010[186], Zhao, 2023[189], Zhong, 2023[190], Zhu, 2023[190]

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