

Persistence of symptoms and course of biomarkers in patients with post-COVID chronic fatigue syndrome – results from a prospective observational cohort

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Supplementary Material

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Supplementary Tables

Supplementary Table 1

Scores	Sample Size Baseline		Sample Size Follow-up 1		Sample Size Follow-up 2	
	PCS	ME/CFS	PCS	PCS-ME/CFS	PCS	PCS-ME/CFS
Bell (0-100)	51	54	47	47	28	41
Chalder Total(0-33)	51	54	46	46	29	41
Chalder Mental (0-12)	51	55	47	47	29	41
Chalder Physical (0-21)	51	54	46	47	29	41
COMPASS 31 Overall (0-100)	50	54	47	47	28	41
COMPASS 31 Gastrointestinal (0-25)	51	55	51	52	28	41
ESS (0-18)	50	53	46	47	28	41
PEM Duration (0-7)	49	55	45	47	29	41
PEM Frequency (0-20)	45	55	46	47	29	41
PEM Severity (0-20)	44	55	46	46	29	41
PHQ9 Affective symptoms (0-27)	49	51	46	47	28	41
SF-36 Health change (0-100)	51	52	47	47	28	41
SF-36 Health perception (0-100)	48	51	47	47	28	41
SF-36 Energy/Fatigue (0-100)	51	55	47	47	28	41
SF-36 Physical functioning (0-100)	45	54	47	47	28	41
SF-36 Social functioning (0-100)	51	51	47	47	28	41
SF-36 Pain (0-100)	50	53	47	47	28	41
SF-36 Emotional well-being (0-100)	51	51	47	46	28	41
Laboratory						
ANA (Hep-2) IFT (titer)	33	30	21	17	NA	NA
Ferritin (µg/l)	34	30	23	28	NA	NA
Serum phosphate (mmol/l)	34	30	23	28	NA	NA
Interleukin-8 after erylysis (pg/ml)	35	31	23	29	NA	NA
HGS*						
HGS fmean session 1 (kg)	35	49	25	37	NA	NA
HGS fmean session 2 (kg)	35	47	25	37	NA	NA
HGS fmax session 1 (kg)	35	49	25	37	NA	NA
HGS fmax session 2 (kg)	35	47	25	37	NA	NA
HGS fatigue ratio session 1	35	49	25	37	NA	NA
HGS fatigue ratio session 2	35	47	25	37	NA	NA
HGS recovery ratio	35	47	25	37	NA	NA
POTS						
	50	52	42	48	NA	NA

Supplementary Table 2

	PCS PCS-ME/CFS	Dropouts (n=19)		Study cohort (n=106)		p-values between groups
		12 7		51 55		
		median	range	median	range	
Age (yrs)		43	24-62	41	19-66	0.7
BMI (kg/m2)		23.4	17-40	23.9	15-40	0.6
Bell (0-100)		50	20-90	40	20-100	<0.01
CCC Symptom severity		141	103-168	143.5	30-200	0.5
Chalder Total(0-33)		25	4-33	27	4-33	0.4
Chalder Mental (0-12)		9	2-12	9	1-12	0.4
Chalder Physical (0-21)		16.5	2-21	18	3-21	0.1
COMPASS 31 Overall		42	5.5-62.4	34.4	2.6-76.6	0.2
PEM Duration (0-7)		3	1-7	5	0-7	0.1
PEM Frequency (0-20)		9.5	6-17	13	0-20	0.02
PEM Severity (0-20)		11	9-17	13	0-20	0.05
SF-36 Physical functioning (0-100)		65	30-100	50	0-95	0.03
SF-36 Social functioning (0-100)		56,25	0-100	25	0-100	0.01
SF-36 Emotional well-being (0-100)		60	20-92	48	16-96	0.05

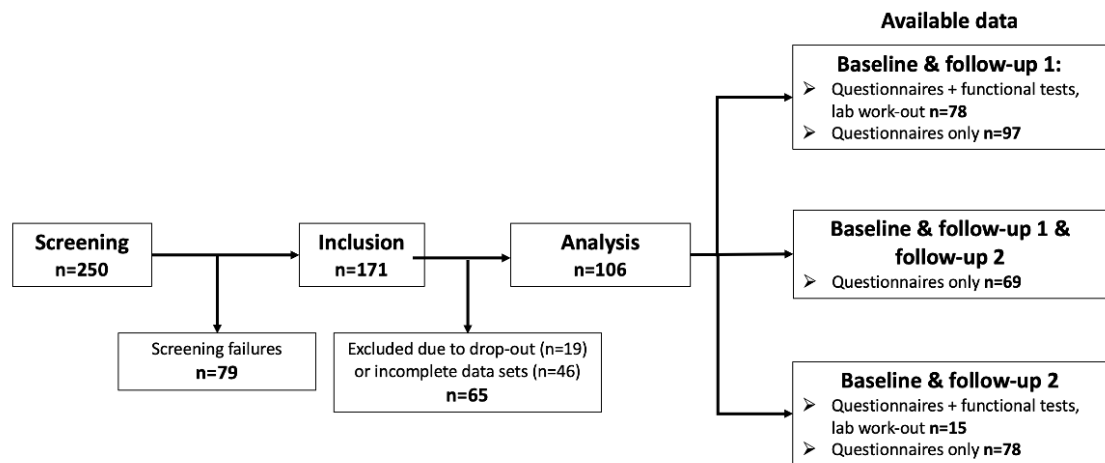
Supplementary Table 3

Scores	Baseline			Follow-up 1			Follow-up 2			PCS time effect*	PCS-ME/CFS time effect*
	PCS	PCS-ME/CFS	P-value between groups*	PCS	PCS-ME/CFS	P-value between groups*	PCS	PCS-ME/CFS	P-value between groups*		
	Median	Median		Median	Median		Median	Median			
Bell (0-100)	40	40	<0-01	50	40	<0-01	60	40	<0-01	<0-01	0-1
Chalder Total(0-33)	25	28	<0-01	24	27	<0-01	21	27	<0-01	<0-01	0-58
Chalder Mental (0-12)	8	10	0-01	8	9	0-04	6	9	<0-01	<0-01	0-15
Chalder Physical (0-21)	17	18	0-01	16	18	0-01	14	19	<0-01	<0-01	0-71
COMPASS 31 Overall (0-100)	30	38	0-23	25	30	0-21	22	34	0-01	0-02	0-49
COMPASS 31 Gastrointestinal (0-25)	6	7	0-45	5	7	0-17	2	7	0-02	<0-01	0-44
ESS (0-18)	11	11	1	10	9	1	10	11	1	0-77	0-68
PEM Duration (0-7)**	3	6	0	3	6	<0-01	3	6	<0-01	0-36	0-10
PEM Frequency (0-20)	10	14	0	10	14	<0-01	9	14	<0-01	0-25	0-25
PEM Severity (0-20)	10	14	<0-01	11	13	<0-01	9	14	<0-01	0-03	0-08
PHQ9 Affective symptoms (0-27)	13	13	0-24	10	13	0-0102	8	13	<0-01	<0-01	0-24
SF-36 Health change (0-100)	0	0	0-03	75	25	<0-01	75	50	0-04	<0-01	<0-01
SF-36 Health perception (0-100)	35	40	0-88	35	35	0-88	45	30	0-01	<0-01	0-53
SF-36 Energy/Fatigue (0-100)	20	10	0-01	30	20	0-01	40	15	<0-01	<0-01	0-02
SF-36 Physical functioning (0-100)	55	45	0-02	65	45	0-03	70	50	0-02	0-03	0-59
SF-36 Social functioning (0-100)	38	25	0-21	50	38	0-02	63	25	0-02	<0-01	0-33
SF-36 Pain (0-100)	45	33	0-04	45	43	0-02	58	33	<0-01	<0-01	0-55
SF-36 Emotional well-being (0-100)	48	48	0-85	56	54	0-51	68	56	0-06	<0-01	0-33
Laboratory	mean	mean		mean	mean		mean	mean			
ANA (Hep-2) IFT (titer)	0	91	0-87	0	0	0-67	NA	NA	NA	0-05	0-89
Ferritin (µg/l)	97	123	1	53	57	1	NA	NA	NA	0-04	<0-01
Serum phosphate (mmol/l)	1	1	0-89	1	1	<0-01	NA	NA	NA	<0-01	0-37
Interleukin-8 after eryllysis (pg/ml)	150	159	1	124	136	1	NA	NA	NA	0-10	0-10
Mannose binding Lelktin (ng/ml)	2255	1486	0-08	NA	1382	NA	NA	NA	NA	NA	NA
HGS	mean	mean		mean	mean		mean	mean			
HGS fmean session 1 (kg)	18	16	0-26	6	17	0-27	NA	NA	NA	0-72	0-72
HGS fmean session 2 (kg)	22	20	0-29	7	19	0-29	NA	NA	NA	0-38	0-38
HGS fmax session 1 (kg)	17	15	0-56	7	16	0-56	NA	NA	NA	1	1
HGS fmax session 2 (kg)	20	18	0-71	8	19	0-71	NA	NA	NA	1	1
HGS fatigue ratio session 1	1	1	0-19	0	1	0-01	NA	NA	NA	<0-01	0-02
HGS fatigue ratio session 2	1	1	0-02	0	1	0-09	NA	NA	NA	0-02	<0-01
HGS recovery ratio	1	1	0-82	0	1	0-89	NA	NA	NA	0-69	0-67

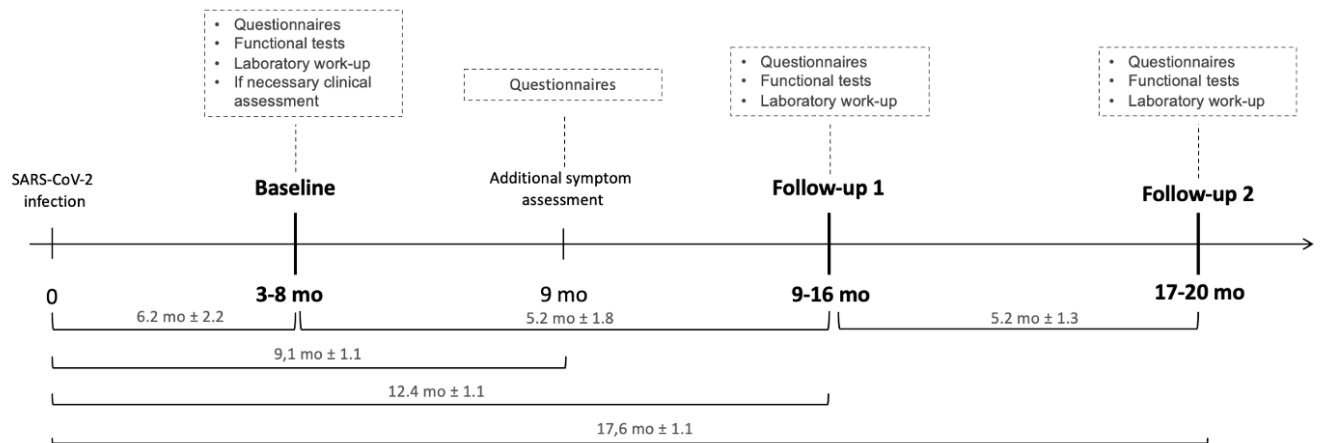
Supplementary Figures

Supplementary Figure 1

A

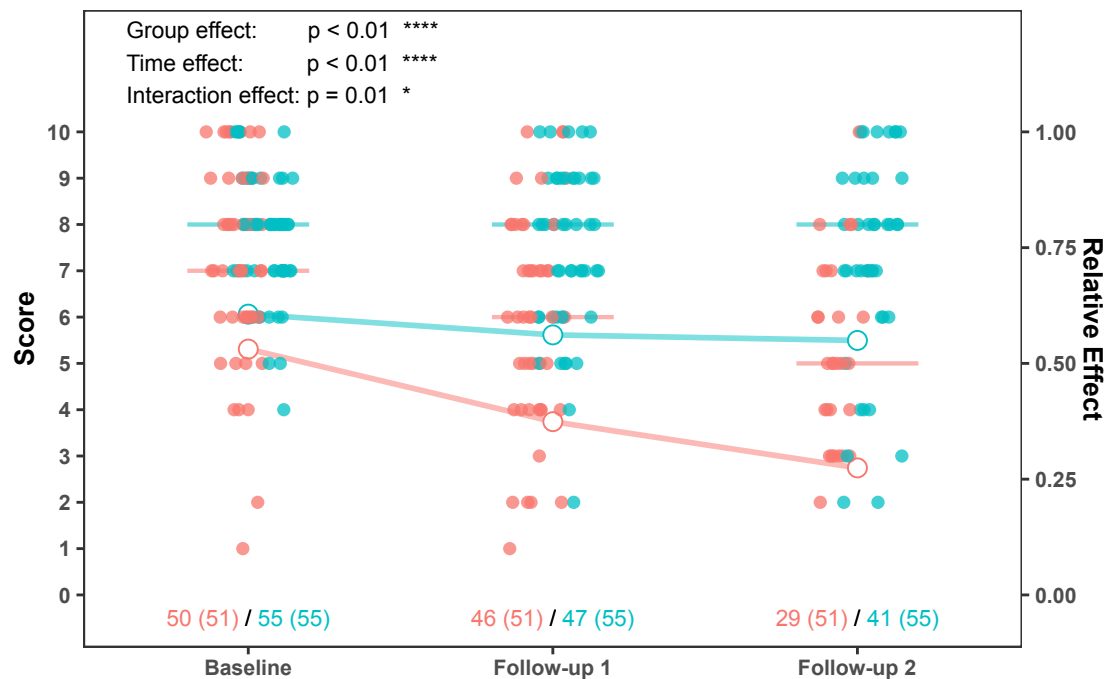


B

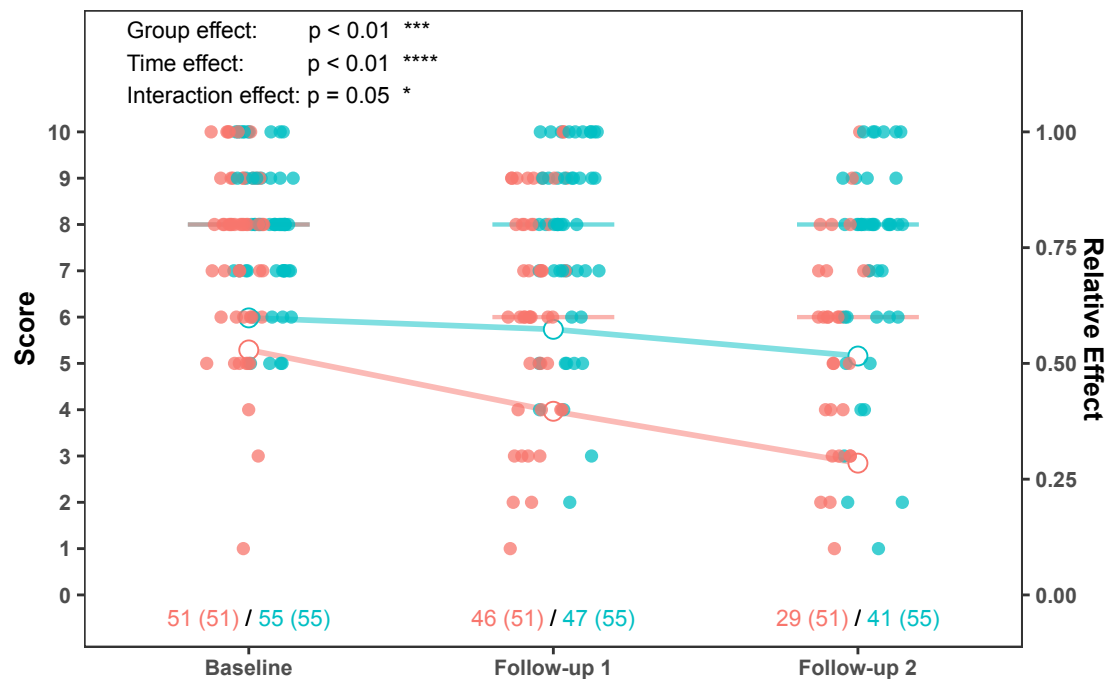


Supplementary Figure 2

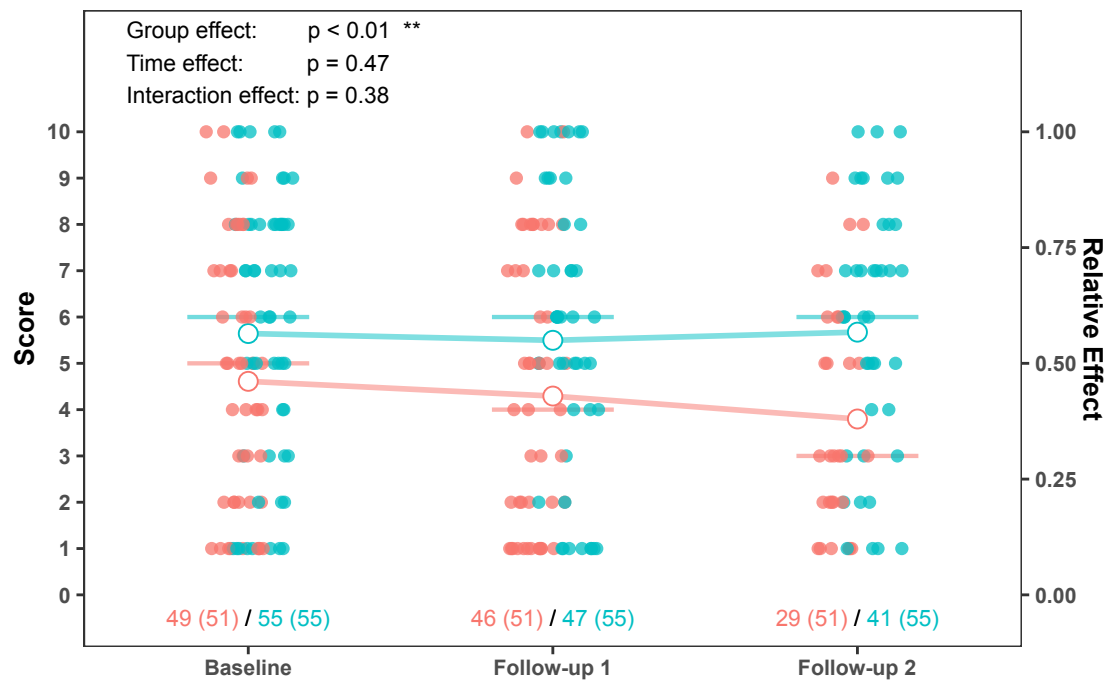
A CCC Fatigue



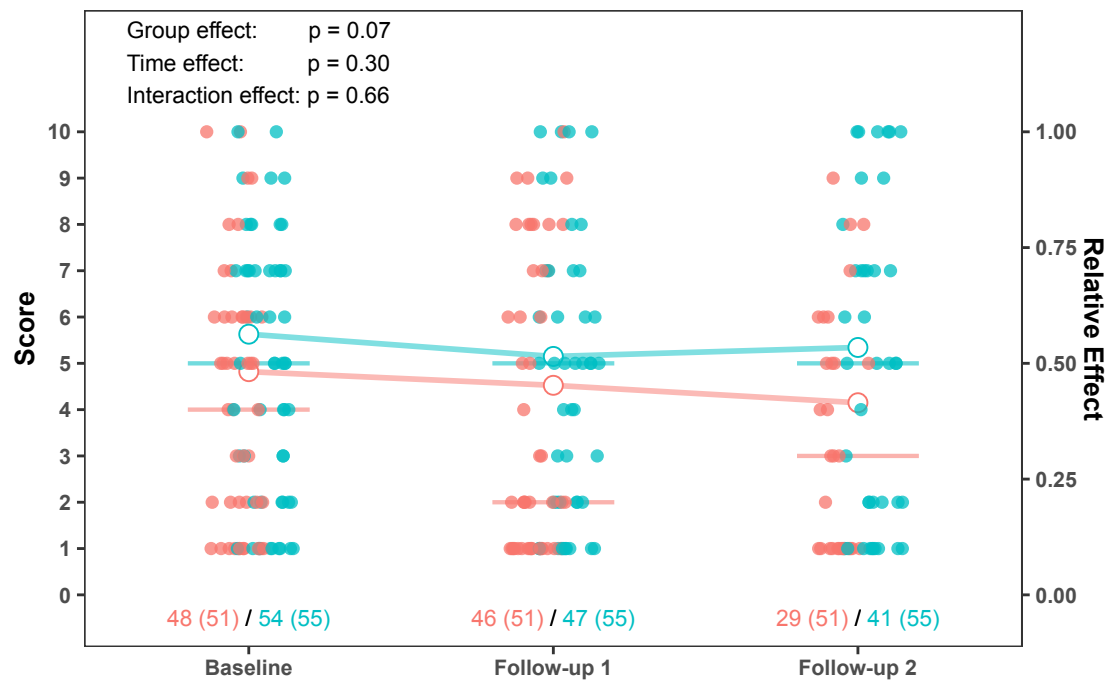
B CCC Impaired performance



C CCC Muscle pain

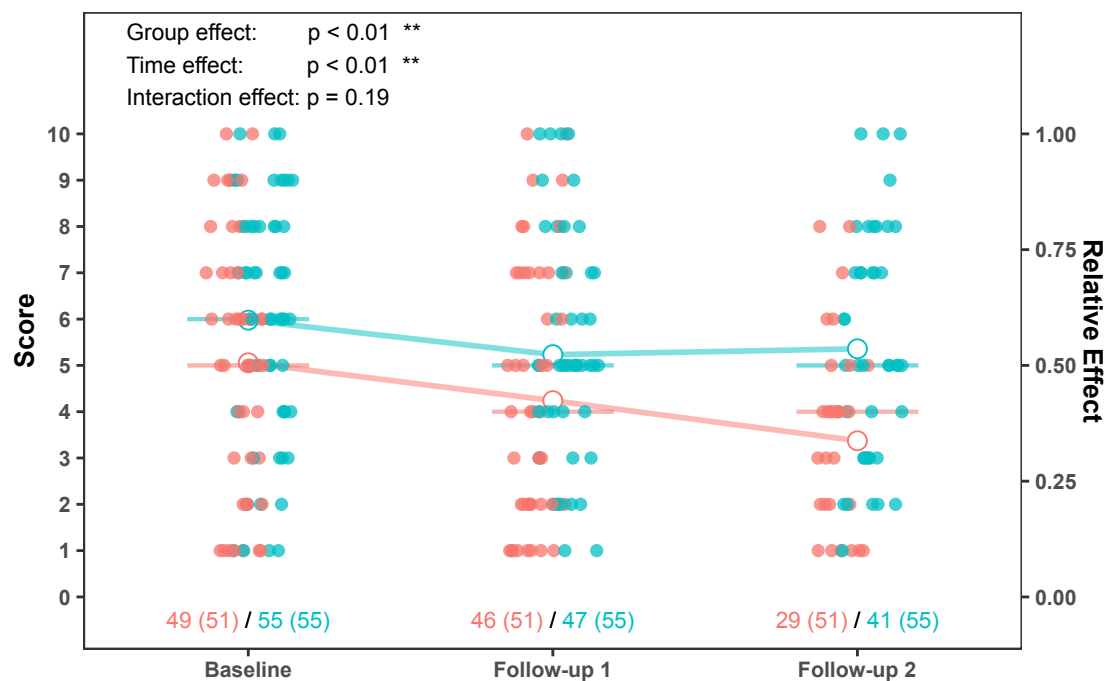


D CCC Joint pain

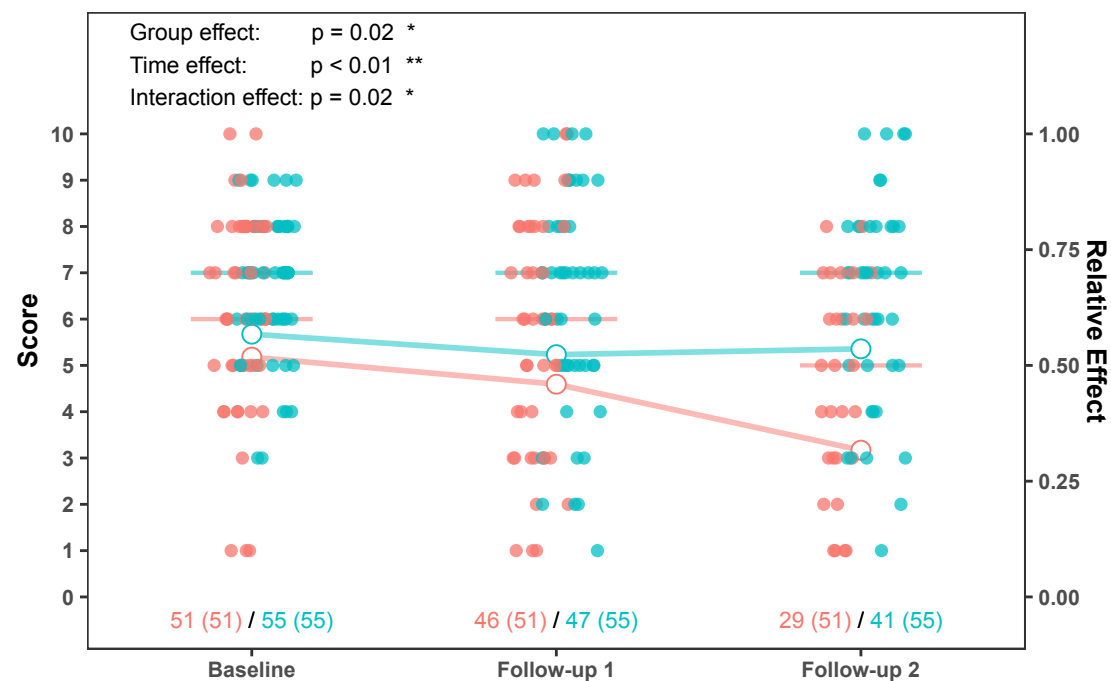


Supplementary Figure 2

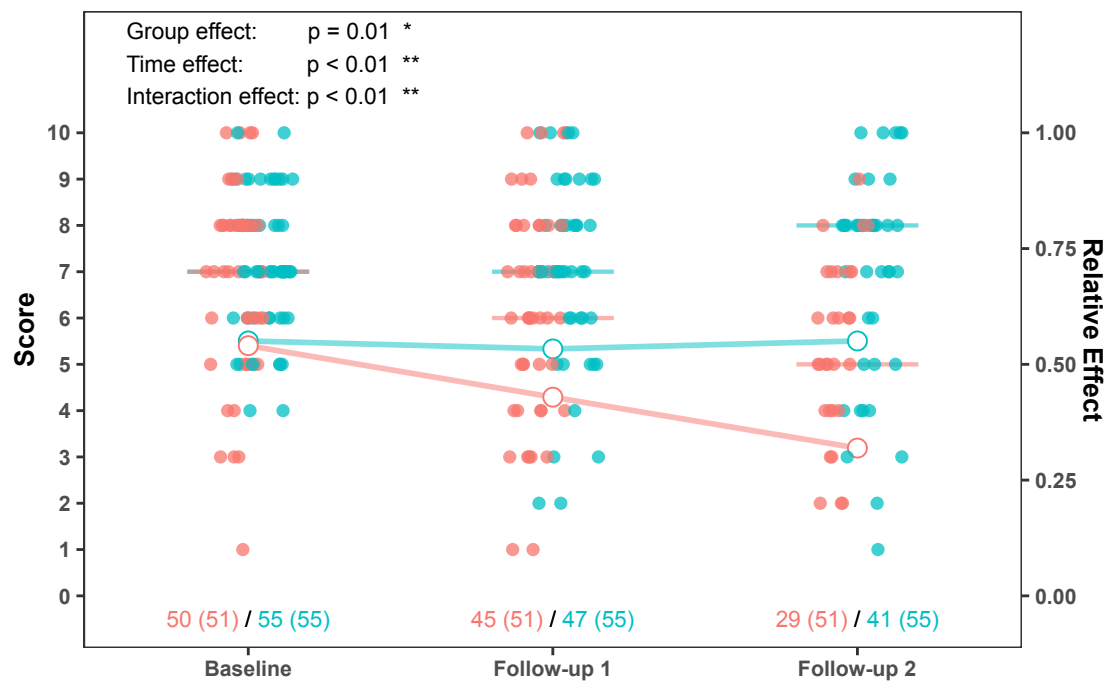
E CCC Headache



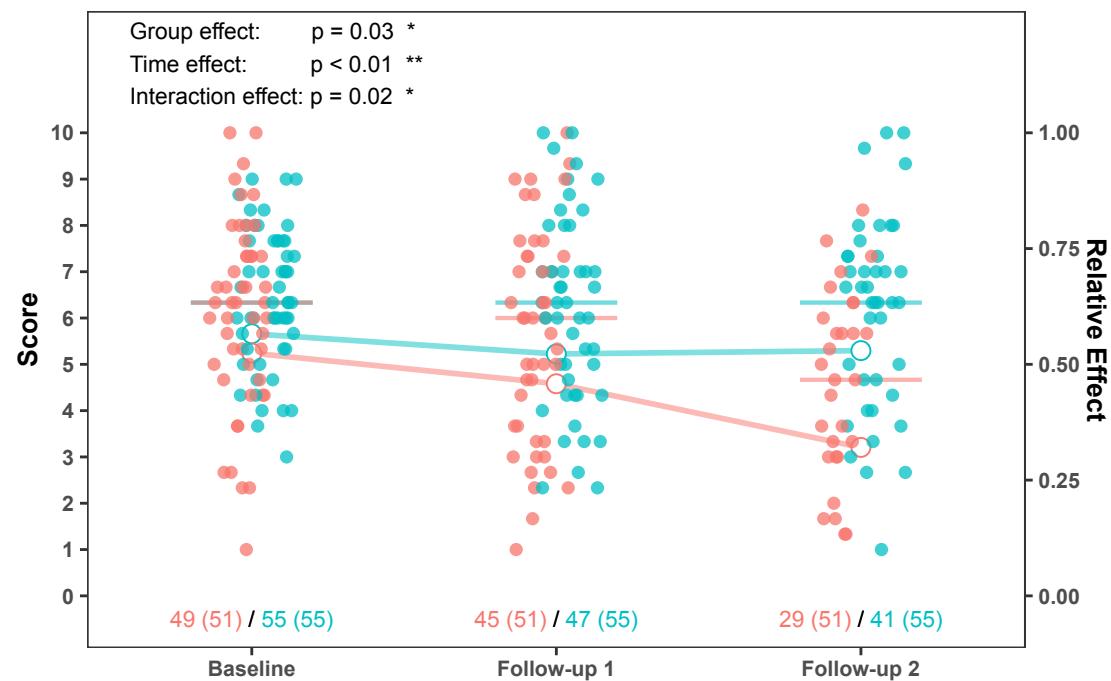
F CCC Concentration problems



G CCC Mental fatigue

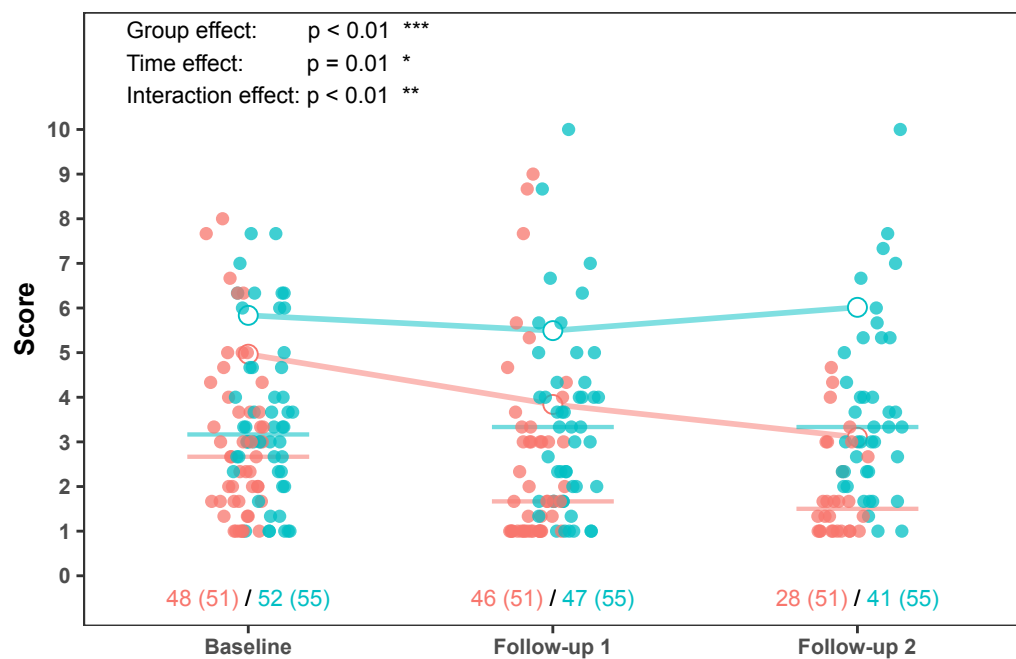


H CCC Cognitive Score

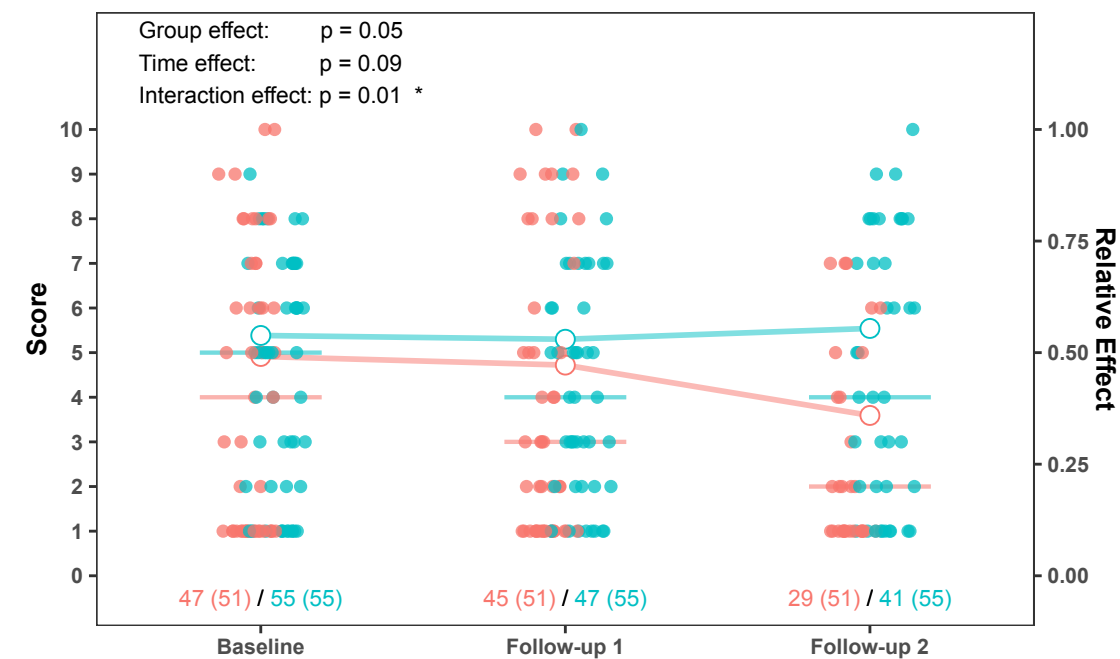


Supplementary Figure 2

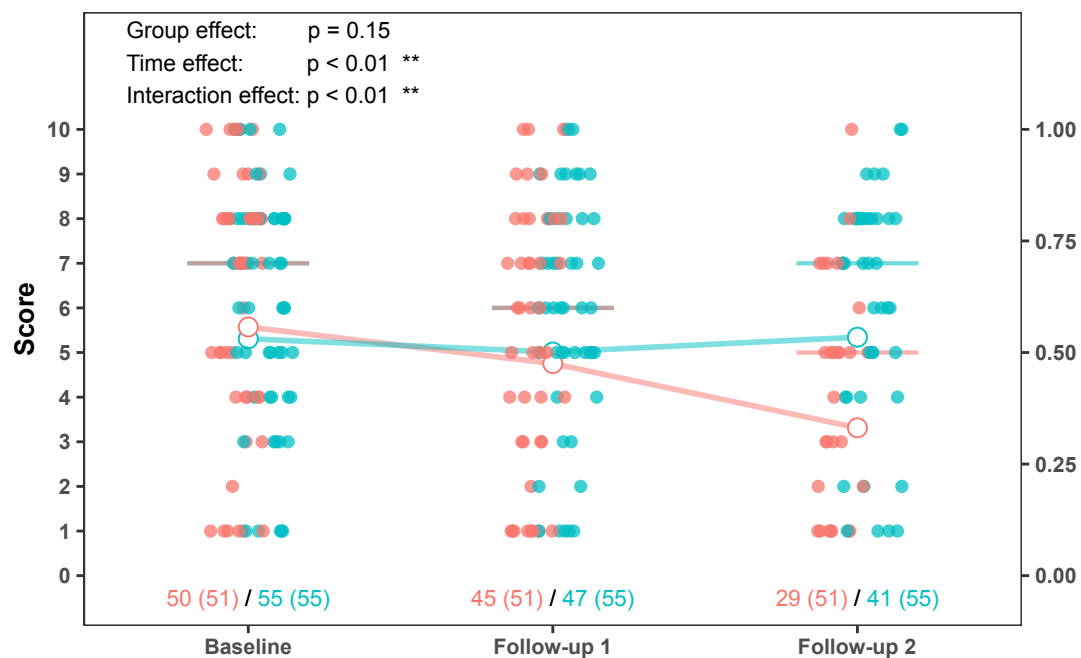
I CCC Immune Score



J CCC Irritable bowel



K CCC Sleep disturbance



● PCS ● PCS-ME/CFS