**Supplementary Table S6. Characterization of DMT-switching MS patients stratified by the first DMT class**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Mild-moderate-efficacy DMT (N=1183)** | **High-efficacy DMT (N=178)** | **p-value** |
| **Sex**, N (%) |  |  | 0.367Chi |
| Female | 834 (70.5) | 119 (66.9) |  |
| Male | 349 (29.5) | 59 (33.1) |  |
| **Age at MS symptom onset [years]**, mean (SD) | 33.3 (10.2) | 32.1 (10.0) | 0.142t |
| **Time from diagnosis to first DMT [years]**, mean (SD) | 0.6 (1.3) | 1.4 (1.8) | ***<0.001t*** |
| **Age at first DMT start** [years], mean (SD) | 36.3 (10.7) | 35.3 (10.2) | 0.219t |
| **Partnership status**, N (%)\* |  |  | 0.932Chi |
| Single | 284 (33.2) | 47 (32.4) |  |
| Any partnership | 572 (66.8) | 98 (67.6) |  |
| **Employment status**, N (%)\* |  |  | 0.762Chi |
| In training | 65 (7.7) | 8 (5.8) |  |
| Employed – full time | 450 (53.0) | 72 (51.8) |  |
| Employed –part time | 167 (19.7) | 25 (18.0) |  |
| Retired – disability | 73 (8.6) | 15 (10.8) |  |
| Retired – old age | 12 (1.4) | 3 (2.2) |  |
| Other | 82 (9.7) | 16 (11.5) |  |
| **Educational level**, N (%)\* |  |  | 0.585Chi |
| NSCE | 9 (1.1) | 3 (2.1) |  |
| CSE/GCSE | 484 (60.1) | 84 (58.3) |  |
| Advanced technical college entrance qualification | 88 (10.9) | 13 (9.0) |  |
| A level | 224 (27.8) | 44 (30.6) |  |
| **Observation period since first DMT start [years]**, mean (SD) | 4.5 (1.8) | 4.3 (1.65) | 0.148t |
| **Calendar period of first DMT start**, N (%) |  |  | 0.511Chi |
| 2014–2017 | 859 (72.6) | 134 (75.3) |  |
| 2018–2021 | 324 (27.4) | 44 (24.7) |  |
| **Time on first DMT [years]**, mean (SD) | 1.65 (1.4) | 1.9 (1.6) | ***0.034t*** |
| **EDSS at first DMT start**, N (%)\* |  |  | ***0.021Fi*** |
| Mild [0.0–2.5] | 348 (83.7) | 63 (72.4) |  |
| Moderate/severe [≥3.0] | 68 (16.3) | 24 (27.6) |  |
| **EDSS worsening within 6 months before first DMT cessation/last follow-up**, N (%)\* | 5 (1.0) | 0 (0.0) | >0.999Chi |
| **ARR at first DMT start** (95% CI) | 0.27 [0.23;0.30] | 0.22 [0.14;0.30] | 0.282Kru |
| **Relapses within 6 months after first DMT start**, N (%) | 134 (11.3) | 13 (7.3) | 0.138Chi |
| **ARR at first DMT cessation/last follow-up** (95% CI) | 0.38 [0.34;0.42] | 0.21 [0.13;0.29] | ***<0.001Kru*** |
| **MRI results at first DMT start**, N (%)\* |  |  | 0.622Chi |
| Stable | 26 (29.9) | 4 (21.1) |  |
| Unstable | 61 (70.1) | 15 (78.9) |  |
| **MRI results within 6 months after first DMT start**, N (%)\* |  |  | 0.329Chi |
| Stable | 194 (61.2) | 40 (69.0) |  |
| Unstable | 123 (38.8) | 18 (31.0) |  |
| **MRI results at first DMT cessation/last follow-up**, N (%)\* |  |  | 0.311Chi |
| Stable | 189 (57.6) | 48 (64.9) |  |
| Unstable | 139 (42.4) | 26 (35.1) |  |

ARR – annualized relapse rate

CI – confidence interval

Chi – chi-square test

CSE/GCSE – certificate of secondary education/ general CSE

DMT – disease-modifying therapy

EDSS – expanded disability status scale

Fi – Fisher’s exact test

Kru - Kruskal-Wallis test

MRI - magnetic resonance imaging

MS – multiple sclerosis

N – number of patients

NSCE – no school-leaving certificate

SD – standard deviation

t – Student's t test

\* – denominators may differ due to missing values