**Supplementary Table S2. Characterization of DMT-switching MS patients stratified by the number of switches**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of switches** | | | **p-value** |
| **1 (N=917)** | **2 (N=326)** | **3–6 (N=118)** |
| **Sex**, N (%) |  |  |  | 0.592Chi |
| Female | 634 (69.1) | 234 (71.8) | 85 (72.0) |  |
| Male | 283 (30.9) | 92 (28.2) | 33 (28.0) |  |
| **Age at MS symptom onset [years]**, mean (SD) | 33.3 (10.2) | 32.8 (10.4) | 33.2 (9.4) | 0.724t |
| **Time from diagnosis to first DMT [years]**, mean (SD) | 0.8 (1.5) | 0.7(1.3) | 0.5 (1.1) | 0.229t |
| **Age at first DMT start [years]**, mean (SD) | 36.2 (10.6) | 36.3 (10.8) | 35.9 (10.3) | 0.938t |
| **Partnership status**, N (%)\* |  |  |  | 0.618Chi |
| Single | 236 (34.0) | 74 (31.6) | 21 (29.2) |  |
| Any partnership | 459 (66.0) | 160 (68.4) | 51 (70.8) |  |
| **Employment status**, N (%)\* |  |  |  | 0.069Chi |
| In training | 54 (7.9) | 17 (7.4) | 2 (2.7) |  |
| Employed – full time | 365 (53.3) | 123 (53.5) | 34 (46.6) |  |
| Employed –part time | 139 (20.3) | 37 (16.1) | 16 (21.9) |  |
| Retired – disability | 53 (7.7) | 21 (9.1) | 14 (19.2) |  |
| Retired – old age | 11 (1.6) | 4 (1.7) | 0 (0.0) |  |
| Other | 63 (9.2) | 28 (12.2) | 7 (9.59) |  |
| **Educational level**, N (%)\* |  |  |  | 0.534Chi |
| NSCE | 9 (1.4) | 2 (0.9) | 1 (1.5) |  |
| CSE/GCSE | 386 (58.0) | 134 (62.6) | 48 (69.6) |  |
| Advanced technical college entrance qualification | 76 (11.4) | 19 (8.9) | 6 (8.7) |  |
| A level | 195 (29.3) | 59 (27.6) | 14 (20.3) |  |
| **Observation period since first DMT start [years]**, mean (SD) | 4.2 (1.8) | 4.9 (1.7) | 5.5 (1.6) | ***<0.001t*** |
| **Calendar period of first DMT start**, N (%) |  |  |  | ***<0.001Chi*** |
| 2014–2017 | 624 (68.0) | 261 (80.1) | 108 (91.5) |  |
| 2018–2021 | 293 (32.0) | 65 (19.9) | 10 (8.5) |  |
| **First DMT class**, N (%) |  |  |  | 0.054Chi |
| Mild to moderate efficacy | 783 (85.4) | 294 (90.2) | 106 (89.8) |  |
| High efficacy | 134 (14.6) | 32 (9.8) | 12 (10.2) |  |
| **Time on first DMT [years]**, mean (SD) | 1.9 (1.5) | 1.2 (1.1) | 1.1 (1.0) | ***<0.001t*** |
| **EDSS at first DMT start**, N (%)\* |  |  |  | 0.539Fi |
| Mild [0.0–2.5] | 292 (83.0) | 87 (79.1) | 32 (78.0) |  |
| Moderate/Severe [≥3.0] | 60 (17.0) | 23 (20.9) | 9 (22.0) |  |
| **EDSS worsening within 6 months before first DMT cessation/last follow-up**, N (%)\* | 1 (0.2) | 1 (0.5) | 0 (0.0) | 0.521Chi |
| **ARR at first DMT start** (95% CI) | 0.27 [0.23;0.30] | 0.25 [0.20;0.31] | 0.20 [0.11;0.30] | 0.462Kru |
| **Relapses within 6 months after first DMT start**, N (%) | 80 (8.7) | 51 (15.6) | 16 (13.6) | ***0.002Chi*** |
| **ARR at first cessation/last follow-up** (95% CI) | 0.33 [0.28;0.37] | 0.44 [0.36;0.53] | 0.34 [0.21;0.47] | ***0.030Kru*** |
| **MRI results at first DMT start**, N (%)\* |  |  |  | ***0.003Chi*** |
| Stable | 141 (53.2) | 72 (66.1) | 35 (76.1) |  |
| Unstable | 124 (46.8) | 37 (33.9) | 11 (23.9) |  |
| **MRI results within 6 months after first DMT start**, N (%)\* |  |  |  | ***0.003Chi*** |
| Stable | 119 (55.1) | 78 (71.6) | 37 (74.0) |  |
| Unstable | 97 (44.9) | 31 (28.4) | 13 (26.0) |  |
| **MRI results at first cessation/last follow-up**, N (%)\* |  |  |  | 0.402Chi |
| Stable | 178 (58.2) | 43 (58.1) | 16 (72.7) |  |
| Unstable | 128 (41.8) | 31 (41.9) | 6 (27.3) |  |
| **Latest DMT ongoing**, N (%) | 654 (71.3) | 210 (64.4) | 71 (60.2) | ***0.008Chi*** |

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