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No difference in quality of life (QoL) among people who switched from injectable to oral disease modifying treatment (DMT) compared to those who stayed on injectable in a community cohort: a propensity score matched (PSM) analysis

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Introduction: Since the emergence of oral DMT to the market, few studies have examined patient reported outcomes of quality of life (QoL) after switching to oral DMT.

Objective: The aim of this study was to evaluate the impact of switching from injectable to oral disease modifying treatment (DMT) on QoL among relapsing multiple sclerosis (MS) participants.

Methods: Participants registered in the Pacific Northwest Multiple Sclerosis Registry who completed at least two annual surveys between 2012 and 2018 were included. Two cohorts were identified: “switchers”, those who switched from injectable to oral DMT, and “stayers”, those who stayed on injectable DMT. “Switchers” had to be on injectable DMT for ≥ 12 months at the first survey (“time one”) and on oral DMT \geq six months at the follow-up survey (“time two”). “Stayers” had to have at least two consecutive surveys in which they stayed on the same injectable DMT and were on it for ≥ 12 months at the first survey. Both groups had to have a maximum of 36 months between survey responses. Physical and psychological QoL was measured using the Multiple Sclerosis Impact Scale (MSIS-29). To analyze the effect of switching from injectable to oral DMT on QoL, we used propensity score matching (PSM) to match switchers with stayers who had a similar length of time between surveys and had similar demographic and clinical characteristics at time one. A one-to-two match without replacement was used to match switchers to stayers based on closest propensity score. Outcomes were compared using paired t-tests.

Results: Among 1,542 participants with relapsing MS, 427 stayers and 62 switchers were eligible for matching, and PSM resulted in 118 matched pairs. Before matching, there were significant differences in insurance status and MSIS psychological score. Matched pairs showed no differences between stayers and switchers in impact of MS on physical (mean difference: -0.95 (95% confidence interval (CI): (-3.82, 1.92; $p=0.51$) or psychological (mean difference: -0.71 (95% CI: -2.07, 0.64; $p=0.30$) MSIS scores at time two.

Conclusions: After matching on demographic and clinical characteristics as well as time one QoL, no significant differences were found in impact of MS on QoL in participants switching to oral DMT from injectable DMT. Results suggest QoL is not impacted after switching to oral medications for registry participants.

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