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Introduction**:** In recent years, more high efficacy disease modifying treatments (DMT) have been approved and patients are placed on high efficacy DMT earlier in their disease course. Few studies have assessed the impact of high efficacy DMT on patients' quality of life (QoL).

Objective: The study objective was to determine whether participants on high efficacy DMT reported greater impact of MS on their physical and psychological QoL than those on first line DMT using survey data from the Pacific Northwest Multiple Sclerosis Registry (PNWMSR).

Methods**:** This was a cross-sectional study using participants' last annual follow up survey submitted between 2013 and 2019. Only participants with relapsing MS who reported use of one DMT were included in the analysis. Physical and psychological QoL was measured using the Multiple Sclerosis Impact Scale (MSIS-29). High efficacy DMT included use of alemtuzumab, natalizumab, rituximab, and ocrelizumab. First line DMT included interferons, glatiramer acetate, dimethyl fumarate, teriflunomide, and fingolimod. Multiple linear regression was used to determine the difference in QoL between those using high efficacy and those on first line DMT, adjusting for age, disease duration, sex, disability, and number of relapses in the previous 12 months.

Results**:** Of 991 participants meeting inclusion criteria, 13% (n=127) were on a high efficacy DMT and 87% (n=864) were on a first line DMT. The mean age was 50 (±13) among high efficacy and 55 (±11) among first line DMT users; and the median disease duration was 14 years [interquartile range (IQR): 9, 20] and 16 years [IQR: 11, 21] respectively. The median physical QoL score for high efficacy DMT users was 35 [IQR: 26, 45], and 33 [IQR: 25, 44] for first line. The median psychological scores were 17 [IQR 13, 20] for high efficacy, and 16 [IQR: 12, 21] for first line. There was no evidence that MS had a greater impact on physical (β=-0.21, 95% confidence interval (CI): -2.1, 1.6) or psychological (β=-0.58, 95% CI: -1.6, 0.5) QoL for those on high efficacy compared to first line.

Conclusions**:** We found no difference in physical or psychological QoL between those on high efficacy and first line DMT. A limitation of this study is the smaller number of those on high efficacy DMT. While imperative to consider patients' overall QoL when prescribing high risk DMT, we have found no difference for these medications in our analysis. The topic requires continued study with larger patient cohorts.

Disclosures:

Tamela Stuchiner: nothing to disclose. Lindsay Lucas: nothing to disclose. Elizabeth Baraban: nothing to disclose. Chiayi Chen: nothing to disclose. Stanley Cohan has served on advisory boards or steering committees for Biogen, Novartis, Sanofi Genzyme and Pear Therapeutics; has received research support from Biogen, Novartis, Sanofi Genzyme, MedDay, Mallinckrodt, Roche Genentech, and IMS Health; has received speaker honoraria from Biogen, Novartis, Sanofi Genzyme, and Roche Genentech.