REAL-WORLD ADHERENCE TO MULTIPLE SCLEROSIS THERAPY

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BACKGROUND / OBJECTIVES

High adherence to disease modifying therapy for multiple sclerosis is associated with reduced risk of relapse, maximizing the beneficial effects of treatment. Moreover adherence or compliance to multiple sclerosis therapy, is associated with lower healthcare resource utilization and improved health-related quality of life [1]. Hospital pharmacists are key healthcare professionals in patients' therapy management and adherence.

This study aimed to assess adherence to multiple sclerosis therapy in real-world setting.

METHODS

This was a retrospective cohort study based on drug hospital pharmacy claims for multiple sclerosis. Patients with at least one drug claim for multiple sclerosis, including:

- interferon
- fingolimod
- dimethyl fumarate
- glatiramer acetate
- natalizumab
- teriflunomide

were identified from a general hospital, between 2012 and 2019. Only patients who had a drug claim between 30 days prior the defined time-point or anytime until the end of follow-up were included for this analysis.

Adherence was evaluated using medication possession ratio (MPR), defined as the total number of days with drug supply divided by the observation period:

$$MRP = \frac{Number\ of\ days\ with\ drug\ supply}{Number\ of\ days\ in\ the\ observation\ period} \times 100$$

Adherence was calculated at 6, 12 and 24-month time points. Patients with an MPR ≥80% were considered adherent to therapy.

RESULTS

There were 302 patients with at least 6-month of follow-up. Their mean age at first drug claim was 42.2 (SD: 10.7) years (Table 1).

Table 1 Patient characteristics

Patient characteristics	All patients (n=302)
Age (years), mean (SD)	42.4 (10.7)
Treatment, n (%)	
Interferon	158 (52.3)
Glatiramer acetate	58 (19.2)
Teriflunomide	27 (8.9)
Fingolimod	26 (8.6)
Natalizumab	20 (6.6)
Dimethyl fumarate	13 (4.3)

RESULTS (cont.)

Adherence was studied for the 6-month, 12-month and 24-month time periods. Proportion of adherent patients, i.e., patients with MPR ≥80%, decreased over time for all patients.

Over the three time points, natalizumab, interferon and fingolimod were the drugs with the highest proportion of adherent patients. For the 6-months period, proportion of adherent patients was 95.0% for natalizumab, 94.3% for interferon and 84.6% for fingolimod. For natalizumab it should be noted that it is administered at the hospital, in an outpatient setting.

Over the defined time points, dimethyl fumarate, an oral drug, had the highest decrease, with a proportion of adherent patients decreasing from 84.6% at 6-month period to 23.1% at 24-month. It should also be noted that this analysis was performed in 13 patients.

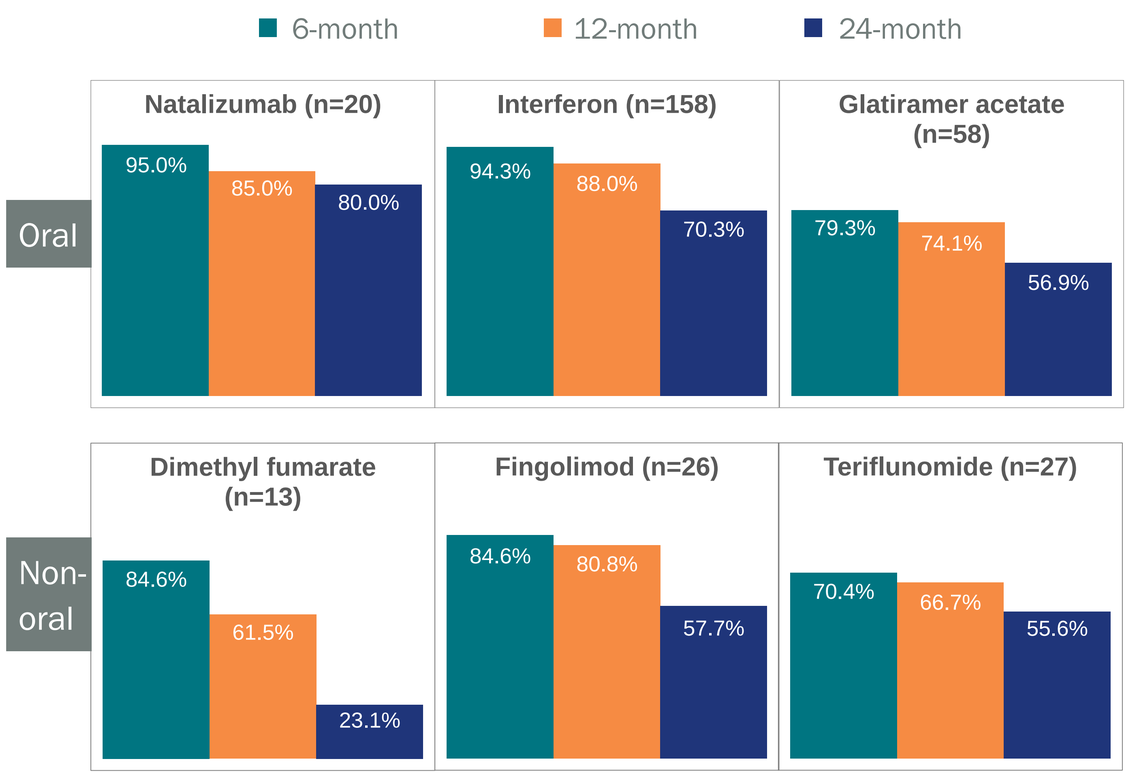

Figure 1 Adherence to disease modifying drugs at 6, 12 and 6 months, by drug

Overall adherence with non-oral drugs seemed higher at any time-point compared to oral drugs. Adherence to non-oral drugs, at 6, 12 and 24 months was 94.0%, 87.6% and 71.6%, respectively. Whereas adherence to oral drugs, ate the same time-points, was 83.1%, 76.3% and 54.2% (Figure 3).

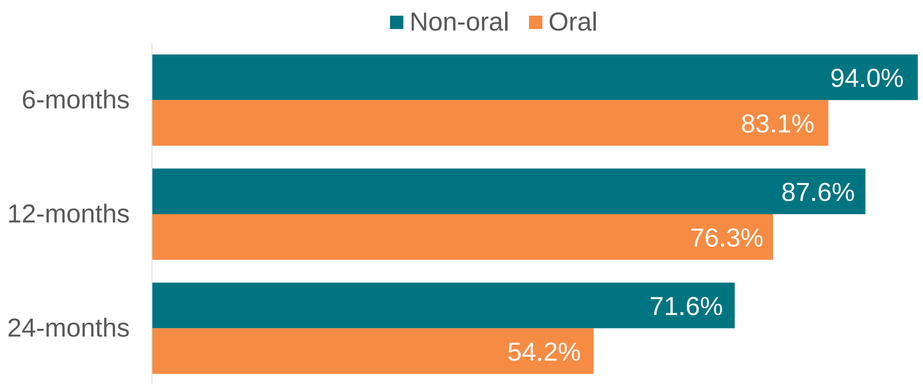

Figure 2 Adherence to oral *vs* non-oral drugs, at 6, 12 and 24 months

CONCLUSION

This retrospective analysis showed high 6-month to 24-month adherence rates for non-oral DMD in multiple sclerosis. Both interferon and natalizumab had higher adherence than reported elsewhere in the literature. One potential for the higher adherence for natalizumab would be that this drugs is scheduled and administered at the Hospital, in an outpatients setting and patients might feel more obligated to be compliant. Oral DMD presented lower than non-oral DMD adherence rates but more consistent with other studies in the literature [1].

REFERENCES: [1] Duquette P, Yeung M, Mouallif S, et al. A retrospective claims analysis: Compliance and discontinuation rates among Canadian patients with multiple sclerosis treated with disease-modifying therapies. PloS one. 2019 Jan 14;14(1):e0210417.