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Compliance and Discontinuation Rates with Gilenya® and other Disease-modifying therapies: Canadian Real-world Experience.

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Background: Current pharmacological management of relapse-remitting multiple sclerosis (RRMS) includes the use of oral, injectable, or infusible Disease Modifying Therapies (DMTs). Achieving therapeutic goals in chronic conditions such as MS requires strict adherence to the medication and administration schedule.

Objective: To assess compliance and discontinuation rates with Gilenya® compared to other oral, injectable or infusible DMTs in Canadian patients with RRMS.

Methods: This non-interventional, retrospective analysis was based on private claims from patient cohorts accessed through IMS Brogan Rx Dynamics®. Patients had at least one prescription filled for each DMT (oral: Gilenya®, Tecfidera®, Aubagio®; injectable: Betaseron®, Rebif®, Avonex®, Copaxone®, Extavia® (BRACE); infusible: Tysabri®). Patients were deemed compliant if the medication possession ratio (MPR) was $\geq 80\%$. The discontinuation rate was calculated based on patients who stopped therapy or who were switched to another DMT. Both compliance and discontinuation rates were collected at 6-month intervals after starting a new DMT. Period for compliance cohorts were from August 2011 to December 2014 (rolling 36 months total). Period for discontinuation cohorts were from September 2011 to January 2015.

Results: The compliance data was collected for 10315 patients (Gilenya®, n=1524; Tecfidera®, n=1828; Aubagio®, n=456; Tysabri®, n=604; BRACE, n=5903). The compliance rate across Canadian provinces was higher for Gilenya® (78%) compared to other DMTs, including Tysabri® (72%), Tecfidera® (70%), and BRACE (56%). In Quebec, Gilenya® had a compliance rate of 80%, particularly higher than Tecfidera® (68%) and BRACE (65%). Patients treated with Gilenya® had the lowest discontinuation rate across Canada (22%), compared to Tysabri® (30%) and BRACE (47%). In Quebec, Tecfidera® had a higher discontinuation rate (29%) than other orals (Gilenya®, 20%; Aubagio®, 23%) and Tysabri® (25%).

Conclusions: In a real-world setting across Canada, the compliance rate with Gilenya® was higher than for other oral or injectable/infusible DMTs. In addition, the discontinuation rate with Gilenya® was lower compared to other DMTs. These findings may facilitate MS management strategies which may lead to improved clinical and economic outcomes.