Medication Persistence, Duration of Treatment, and Treatment-Switching Patterns Among Canadian Patients Taking Once-Daily Extended-Release Methylphenidate Medications for Attention-Deficit/Hyperactivity Disorder: A Population-Based Retrospective Cohort Study.


Abstract

PURPOSE:
We conducted a retrospective cohort study to compare medication use patterns of a long-acting extended-release methylphenidate (Osmotic Release Oral System [OROS®] methylphenidate, CONCERTA®) and Teva-methylphenidate (methylphenidate ER-C), a generic drug determined by the Canadian regulatory authority, Health Canada, to be bioequivalent to OROS® methylphenidate.

METHODS:
We established an OROS® methylphenidate-experienced and new-user population cohort to compare medication use patterns, including medication persistence, duration of therapy, and treatment-switching patterns. Multivariable log-binomial regression was used to adjust for confounders of the associations with persistence.

FINDINGS:
In the OROS® methylphenidate-experienced cohort (n = 21,940), OROS® methylphenidate was associated with a 70% higher rate of medication persistence at 12 months relative to methylphenidate ER-C (adjusted relative risk = 1.70; 95% CI, 1.64-1.77). In the new-user cohort (n = 20,410), OROS® methylphenidate had a 58% higher rate of medication persistence relative to methylphenidate ER-C (adjusted relative risk = 1.58; 95% CI, 1.51-1.65). Median duration of therapy was significantly longer in patients taking OROS® methylphenidate compared with those taking methylphenidate ER-C, and treatment-switching occurred significantly more frequently in patients taking methylphenidate ER-C compared with those taking OROS® methylphenidate.

IMPLICATIONS:
Significant differences were observed in how the medications were used by patients in the real-world setting. Because the data sources were administrative databases, it was not possible to control for all potentially important confounding variables. Although differences in medication persistence may not directly reflect differences in treatment efficacy, the findings are important because these products are used interchangeably in a number of Canadian provinces.