

Relapses and disease-modifying drug treatment in pregnancy and live birth in US women with MS

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Study objective

To evaluate the rates of relapse and disease-modifying drug (DMD) treatment in women with multiple sclerosis (MS) before, during, and after pregnancy ending in live birth.

Summary results

The rates of relapse and DMD treatment both decrease during pregnancy and increase after pregnancy. Few women were taking DMDs in the year before pregnancy.

What is known and what this paper adds

Few published large-cohort studies have examined rates of relapse and DMD treatment in women with MS before, during, and after pregnancy. This study clarifies these rates in a large US cohort.

Participants and setting

This study examined data for 2,158 women with MS who experienced a pregnancy ending in live birth. The women had US commercial health insurance plans, and the study data came from a period starting on 1 January 2006 and ending on 30 June 2015.

Design, size, and duration

The study data were obtained from the IQVIA Real-World Data Adjudicated Claims database. For each woman, the live birth date was used to estimate the conception date and the pregnancy period. Claims data were analyzed to detect MS relapse and DMD usage in the 1-year preconception period, each pregnancy trimester, puerperium (the first 6 postpartum weeks), and the 1-year postpartum period. A generalized estimating equation approach was used to study how the rates of relapse and DMD usage varied throughout these periods.

Primary outcome measures

The primary outcomes were the longitudinal changes in the rates of relapse and DMD usage before, during, and after pregnancy.

Table Longitudinal changes in the likelihoods of relapse and DMD usage

Study period	Odds ratio (95% confidence interval) for MS relapse relative to preconception period	Odds ratio (95% confidence interval) for DMD usage relative to preconception period
Pregnancy	0.623 (0.521–0.744)	0.171 (0.144–0.203)
Puerperium	1.710 (1.358–2.152)	0.361 (0.312–0.418)
Last 3 quarters of first postpartum y	1.216 (1.052–1.406)	1.259 (1.156–1.371)

Main results and the role of chance

Rates of relapse and DMD usage varied significantly over time. Relative to the preconception period, relapse rates decreased during pregnancy, increased during puerperium, and remained elevated in the postpartum year's last 3 quarters. DMD usage rates were low for a year leading up to pregnancy, further decreased during pregnancy, remained depressed during puerperium, and slowly increased over the postpartum year's last 3 quarters.

Bias, confounding, and other reasons for caution

Claims data are not collected for research purposes and sometimes exclude important information.

Generalizability to other populations

The western US, minority populations, persons with Medicare or Medicaid, and persons with severe disabilities might have been underrepresented in the study dataset.

Study funding/potential competing interests

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A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.

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