BELpREG, a unique nationwide registry providing novel insights into perinatal medication use and maternal-infant health outcomes in Belgium: implications for internal medicine

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Introduction and Objective

BELpREG is the only generic, nationwide, pregnancy registry in Belgium collecting real-world data on perinatal medication exposure and mother-infant outcomes via digital, self-reported questionnaires during and after pregnancy. Women complete a questionnaire upon enrolment, followed by questionnaires every four weeks until eight weeks postpartum, and at 6 and 12 months after birth. The aim was to determine the characteristics of the BELpREG cohort so far, including longitudinal follow-up rates as well as prevalence estimates and type of medication reported.

Materials and Methods

Data collection in BELpREG started in November 2022. All pregnant women, ≥18 years, and followed up in the Belgian healthcare system can participate, with French and English-speaking women having been able to enroll from January 2024 onwards. On July 30th, 2024, the available data were extracted for this descriptive analysis.

Results

In total, 1592 individuals consented for participation, with 1279 having fully completed the enrolment questionnaire (80.3%). Most participants are between 25-34 years (82.3%) and were recruited via social media (52.7%) or caregivers (21.9%). Median gestational age at enrolment was 16 weeks (IQR: 10-25 weeks). Participants have high educational attainment (85.6%) and employment rates (96.9%). Fertility treatment prior to pregnancy was common (18.1%). A chronic condition prior to pregnancy was reported by 36.4%, mainly allergic conditions, asthma, and migraine. Completion rates for pregnancy and postpartum questionnaires vary between 65.5-90.9%. Overall, 87.1% indicated having used a medication since pregnancy onset, mainly analgesics and antihistamines, with paracetamol, doxylamine / pyridoxine, and levothyroxine being the most reported compounds. BELpREG also contains cases of poorly studied medications in pregnancy, such as some biologicals (e.g., mepolizumab, vedolizumab), CFTR modulators, tacrolimus, lacosamide, dimethyl fumarate,

rivaroxaban, mercaptopurine, valaciclovir, and semaglutide, as well as teratogenic medication use (e.g., ibuprofen and pseudo-ephedrine).

Conclusion/Significance

BELpREG's capacity to collect exposure/outcome data on poorly studied medications in pregnancy and used for various types of conditions, along with increasing participant engagement, underscores its potential as a promising and collaborative research instrument in Belgium. As next steps, child follow-up until 24 months will be enabled, as well as the integration of disease-specific variables to maximize BELpREG's potential.

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