CO141

Impact of Prenatal Exposure to Antidepressants on Adverse Birth and Pregnancy Outcomes: A Propensity-Scored Matched Retrospective Cohort Study Using a Large Electronic Medical Record Database 2012-2021

Fatimah Alyami, BPharm, MS, PhD[1], Pam Heaton, BSPharm, FAPhA, PhD[2], Ana L. Hincapie, MS, PhD[3],

Marepalli B Rao, MS, PhD[4], Patricia Wigle, Pharm.D., BCPS, BCACP, FCCP[3], Jeff Jianfei Guo, B.Pharm, PhD[3]

[1]Center for Health Technology Assessment, Riyadh, Saudi Arabia,[2]College of Pharmacy and Pharmaceutical Sciences, University of Toledo, Toledo, OH, USA,[3]James L Winkle College of Pharmacy, University of Cincinnati, Cincinnati, OH, USA, Division of Environmental & Public Health Sciences, [4]College of Medicine, University of Cincinnati, Cincinnati, OH, USA.

INTRODUCTION

In the United States, mental health disorders affect 1 in 5 pregnant women each year. The use of antidepressants to treat mental health disorders during pregnancy must consider the impact of antidepressants on pregnancy and fetus development. This has drawn the attention of healthcare practitioners to the potential impact of antidepressants on pregnancy and fetus development.

OBJECTIVES

To explore the utilization of antidepressants in pregnant women diagnosed with mental health disorders and to determine the impact of prenatal exposure to antidepressants on the risk of adverse birth outcomes.

METHODS

A propensity score matched, retrospective cohort study using University of Cincinnati Medical Center Hospitals Electronic Medical Records (EMR) from 2012 to 2021.
The study consisted of two cohorts.
One cohort included pregnant women diagnosed with mental health disorders and exposed to antidepressants during pregnancy.
The second cohort consisted of pregnant women diagnosed with mental health disorders, without antidepressant exposure during their pregnancy.
Generalized estimating equation (GEE) model and multivariable logistic regression were used.

RESULTS

- A total of 3,573 mothers were identified after applying 1:2 propensity score matching(PSM).
- Of those, 1,191 were antidepressant users and 2,382 were non-users.
- The odds ratios for the association of antidepressant use and adverse outcomes ranged from 0.33 (95% CI:0.08-1.49) for persistent pulmonary hypertension to 1.44 (95% CI: 0.82-2.52) for ectopic pregnancy. The multivariate odds ratio for all adverse pregnancy outcomes for antidepressant users was 7% higher compared to non-users (OR=1.07, 95% CI: 0.97-1.20).
- Antidepressant use was associated with 17% lower odds of neonatal adverse outcomes (OR= 0.83, 95% CI: 0.71-0.97).
- The total number of antidepressant prescriptions among pregnant women was 4,000using University of Cincinnati Health UC Health EMR.
- Selective serotonin reuptake inhibitors(SSRIs) were the most prescribed class, accounting for 73.42% of antidepressant prescriptions.

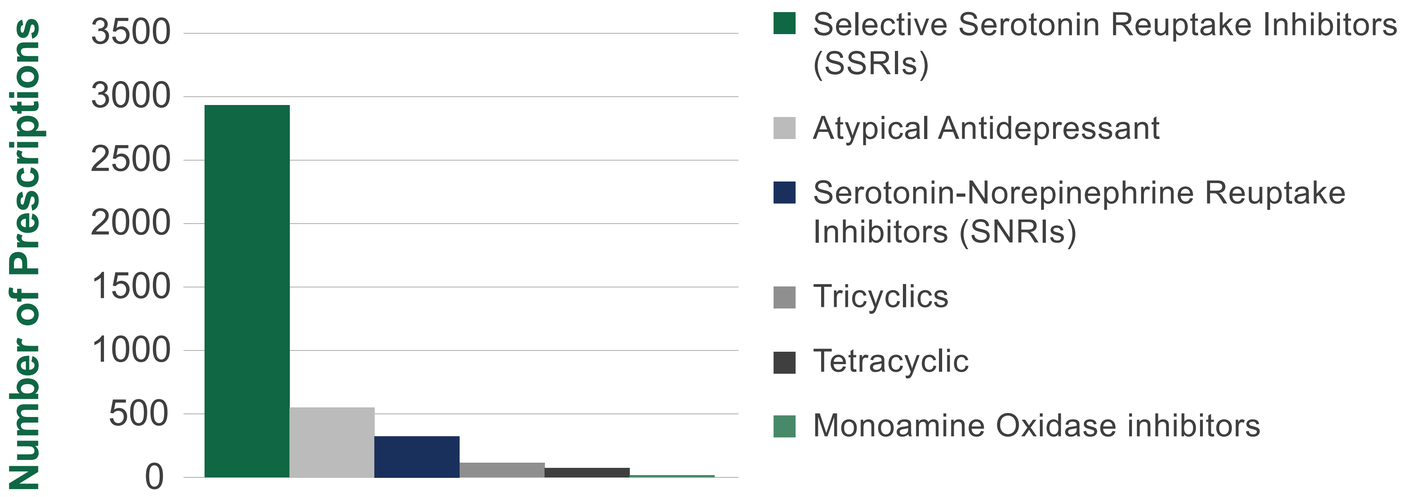
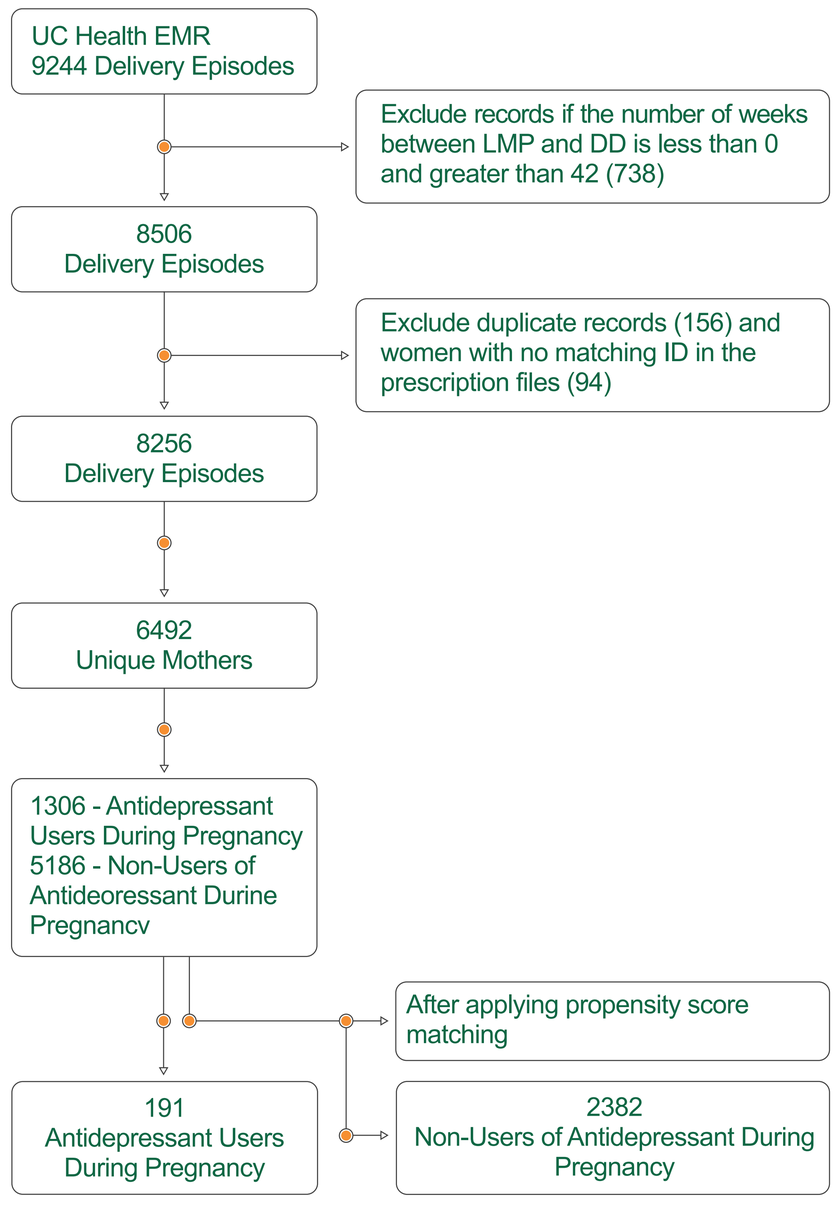


Figure 1. Utilization of Antidepressants Using University of Cincinnati Medical CenterHospitals Electronic Medical Records (EMR) from 2012 to 2021

Figure 2. Flow Chart of Cohort Creation



Note: LMP indicates last menstrual period: DD, delivery date: ID, identification

CONCLUSIONS

Prenatal exposure to antidepressants was not significantly associated with an increase in the odds of adverse birth or pregnancy outcomes such as preterm delivery and abortion. Our findings supported the question whether maternal antidepressants treatment during pregnancy is better or worse for the infant than untreated mental health disorders. Healthcare providers must be careful when weighing the known risks of untreated mental health disorders and the possible adverse effects of antidepressants use during pregnancy. Further research on the implications of these findings is needed.

References

Contact Information
Dr. Fatimah Alyami