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Varenicline is More Effective than Nicotine Replacement Therapy During Pregnancy: Findings from the Smoking MUMS (Maternal Use of Medications and Safety) Study

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Introduction

Studies in the general population suggest that varenicline is more effective than nicotine replacement therapy (NRT) for smoking cessation. However, clinical guidelines recommend against the use of varenicline during pregnancy and suggest NRT be used when the expected benefits outweigh the potential risks.

Objectives and Approach

We evaluated whether varenicline was more effective than NRT for smoking cessation when used during pregnancy. Routinely-collected records of all births (01/01/2011-12/31/2012) in New South Wales and Western Australia were used to identify a cohort of women who smoked during the first 20 weeks of pregnancy. Pharmaceutical dispensing data were then linked to identify varenicline or NRT dispensing in the first 20 weeks of pregnancy. Smoking cessation was defined as women reported not smoking after the first 20 weeks of pregnancy. Inverse probability of treatment weighting with propensity scores were used to account for differences between the two treatment groups.

Results

Overall, 117 women used varenicline and 135 NRT in the first 20 weeks of pregnancy. In the unweighted sample, more women who used varenicline quit smoking after the first 20 weeks than women using NRT (28.2 vs. 11.1%, crude rate difference:17.1%, 95% confidence intervals[CI]:7.4-26.8%). In the weighted sample, quitting rate was 12.7% (95%CI:0.8-24.6%) higher in pregnant smokers who used varenicline (27.4% vs. 14.7%) when compared to those who used NRT.

Conclusion/Implications

Pregnant smokers using varenicline were more likely to quit smoking than those using NRT. This information will assist healthcare providers to make informed recommendations, but data regarding safety of varenicline in pregnancy are also urgently needed. Future studies with greater statistical power are required to confirm our results.

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