
CONFERENCE ABSTRACT

Antiepileptic drug exposure in pregnancy and pregnancy outcome from national drug usage data

4th World Congress on Integrated Care, Wellington, NZ, 23-25 Nov 2016

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Introduction: Antiepileptic drugs (AEDs) taken during pregnancy are known to increase the risk of fetal malformations and potentially affect the neurodevelopment in children exposed. This study aimed to determine the overall use of AEDs and patterns of use by women during their childbearing years and women who were pregnant in New Zealand and the association between AED use and rates of pregnancy termination, spontaneous abortion and stillbirth.

Methods: Retrospective population based cohort study using linked hospital discharge and pharmaceutical administrative databases in New Zealand between 2008 and 2014.

Results: There was a statistically significant increase in the number of women of child-bearing potential prescribed AEDs, from 9 per 1000 women in 2008 to 11.4 per 1000 women in 2014. Use of the older generation AEDs declined over the time period while use of the newer generation AEDs increased. General practitioners provided 60% of the prescriptions of AEDs to women of child-bearing potential. 3766 women had been dispensed an AED in the 12 months before a maternity event. Women who had been dispensed an AED had an increased rate of spontaneous abortion RR 1.62 (95% CI 1.48 to 1.78) and pregnancy termination RR 1.13 (95% CI 1.05 – 1.22) compared to those not dispensed an AED.

Discussion: It is difficult to get the right balance between benefit and harm when using medicines during pregnancy. Ensuring women are receiving optimal care is vital for both her health and that of a developing fetus. AED use in this study was associated with an increased risk of spontaneous abortion and increased rate of pregnancy termination. Having a shared electronic health record would help health professionals to identify women at risk of exposure to these medicines, particularly as women are prescribed these medicines for an increasing number of indications by different prescribers.

Conclusions: Rates of AED use are increasing among women of child-bearing potential and pregnant women in New Zealand, further work is needed to optimise treatment in this cohort.

Lessons learned: The trend towards increased use of AED among pregnant women and women of child-bearing potential is likely to continue, resulting in more women exposed to AEDs during pregnancy both in New Zealand and internationally. Administrative databases are a useful tool to measure health outcomes following medicine exposure. Shared care records and further education for health professionals is needed to promote optimal use of these medicines in women of child-bearing potential to minimise adverse pregnancy outcomes.

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Limitations: Pregnancy termination in private hospitals and spontaneous abortions not managed in hospital are missing from the National Minimum Dataset so this data could not be captured. Data on potential confounding factors was also unavailable.

Suggestions for future research:

- Investigate use of the newer AEDs more closely.
- Investigate health and developmental outcomes for the children exposed to AEDs in utero.
- Develop a prescribing tool for health practitioners to enable safe and effective prescribing of AEDs to women.

Keywords: antiepileptics; pregnancy; child-bearing age
