

HRB Centre for Primary Care Research Research Briefs

Observational Epidemiology

Medication use in early pregnancy: prevalence, determinants and outcomes



The safety of medicines taken during pregnancy is an important concern for patients and healthcare professionals. In many developed countries the average maternal age at delivery is increasing with a consequence that pregnant women are more likely to have co-existing medical disorders during pregnancy which may require drug treatment. Combined with high rates of unplanned pregnancy, this means that exposure to potentially harmful medications in pregnancy may be unavoidable and is likely to increase. It is important to examine patterns of medication use in early pregnancy to avoid potentially inappropriate use of medicines that may harm the foetus. Epidemiological studies of the safety of medications in pregnancy are required to assess their benefits and harms, and so guide patients and prescribers when making decisions concerning choice of medicines during pregnancy.



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The researchers at the Health Research Board (HRB) Centre for Primary Care Research (www.hrbcentreprimarycare.ie) have conducted a number of studies examining medication use in early pregnancy. Recent publications have explored the prevalence of medication use in early pregnancy and determinants of peri-conceptual use of folic acid in pregnant women.

In a project co-funded by the School of Pharmacy (RCSI) and the Friends of the Coombe Charity, Dr Brian Cleary led a study of medication use in early pregnancy among 61,252 women delivering in the Coombe Women and Infants University Hospital (CWIUH) between 2000 and 2007. Four in ten women reported medication use besides folic acid. Some women with chronic medical disorders, including depression and hypertension, reported use of potentially inappropriate medications in early pregnancy. Factors associated with the use of medications with potential for foetal harm included unplanned pregnancy or first pregnancy, booking at less than 12 weeks gestation, age >25 years, being unemployed, single, and being a current smoker. The study, published in *Pharmacoepidemiology & Drug Safety* [1], suggests that awareness needs to be increased among women and prescribers about the lack of pregnancy safety data for many medications, and the need for pre-pregnancy planning for all women.

A further study, published in *Human Reproduction* [2], examined the prevalence and determinants of optimal peri-conceptual folic acid uptake in CWIUH. Although 85% of women took folic acid, less than one third of them used folic acid as recommended in national guidelines. Factors associated with taking sub-optimal or no folic acid included younger age groups, unplanned pregnancy, lower socio-economic status, non-Irish nationality and being a current smoker. This study identifies vulnerable groups with limited uptake of folic acid for future public health campaigns.

These linked studies highlight the importance of pre-pregnancy planning for women with co-existing medical conditions who are considering pregnancy. The studies also show that effective preventative treatments such as folic acid need to target vulnerable, difficult to reach groups.

The articles can be viewed at:

[1] Cleary BJ, Butt H, Strawbridge JD, Gallagher PJ, Fahey T, Murphy DJ. Medication use in early pregnancy-prevalence and determinants of use in a prospective cohort of women. *Pharmacoepidemiology & Drug Safety* 2010; 19(4): 408-417. (www.ncbi.nlm.nih.gov/pubmed/20099251)

[2] McGuire M, Cleary B, Sahm L, Murphy DJ. Prevalence and predictors of periconceptual folic acid uptake - prospective cohort study in an Irish urban obstetric population. *Human Reproduction* 2010; 25(2): 535-543. (www.ncbi.nlm.nih.gov/pubmed/19910320)