

Title *A retrospective data-linkage cohort to estimate impact of STI testing on pregnancy outcomes*

Is chlamydia and gonorrhoea testing associated with pregnancy outcomes – a retrospective data-linkage cohort study

Topic *Epidemiology & Monitoring*

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Background Adverse reproductive health outcomes have been associated with *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoea* (NG) infections. Risk of adverse outcomes have been measured by following progression to Pelvic Inflammatory Disease (PID), ectopic pregnancy and tubal factor infertility. We propose that these measures are complemented by assessing long-term pregnancy outcomes. We compare long-term pregnancy outcomes including use of Assisted Reproductive Technologies (ART) to examine the association with sexually transmitted infections.

Methods We used a retrospective data-linkage cohort study design to link women aged 15-35 years based in Queensland, Australia, with a record of testing for CT and NG or a full blood test in a public health facility between Jan 1, 2000 and Dec 31, 2005. Records were linked to the Queensland Perinatal Registry until Dec 31, 2013. Multiple regression models were used to estimate the odds of a woman ever being pregnant based on her history of testing and exposure to an infection.

Results Complete data from 132,951 women were analysed. Of those tested for an STI, 592 recorded multiple positive results, 3,243 single positives and 20,870 negative results. Those who had not tested for an STI comprised 108,246 women. The adjusted odds ratio for having a successful pregnancy was 0.66 (95% CI 0.64 – 0.68) for women who had ever been tested. The adjusted odds ratio for usage of ART was 1.24 (1.02 - 1.50). Women with CT had an adjusted odds ratio of 0.70 (0.65 - 0.76), whereas women with NG had an adjusted odds ratio of 0.78 (0.66 - 0.92).

Conclusion Women with a history of testing for an STI are at significantly higher risk of not having a pregnancy and reporting a higher use of ART, suggesting that STI testing and a positive CT or NG test result is associated with adverse reproductive health outcomes.