

Differences In Tobacco Smoking And Alcohol Consumption Among 57,757 Women From Early To Late Pregnancy: A State-Representative Study In Queensland, Australia

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Introduction: Tobacco smoking and alcohol consumption during pregnancy can cause life-limiting and life-threatening complications for women and children. Yet knowledge on changes in smoking and alcohol consumption across the pregnancy period is limited. This study compared smoking and alcohol use in early (<20 weeks) and late (≥20 weeks) pregnancy using routinely collected administrative perinatal data from a state-representative cohort of women in Queensland, Australia.

Methods: This cross-sectional study used statewide data from the Queensland Perinatal Data Collection, which included all women who gave birth in Queensland between 2022-2023. Data on smoking and alcohol consumption were collected in early (<20 weeks) and late (≥20 weeks) pregnancy. Sociodemographic variables were also examined. We examined the absolute risk reduction (ARR) and mean differences (MD) in smoking and alcohol consumption behaviours between early and late pregnancy. We also examined the relative risk of behaviour change as a function of key sociodemographic variables.

Key Findings: The sample comprised 57,757 women. Smoking prevalence decreased from 10.7% in early pregnancy to 7.9% in late pregnancy (ARR = 2.8%, 95%CI 2.5-3.1%). Alcohol consumption decreased from 5.8% to 0.7% over the same period (ARR = 5.1%, 95%CI 4.9-5.3%). Women who were single, received limited antenatal care, had late commencement of antenatal care (≥14 weeks gestation), mental health conditions, or identified as First Nations, were at higher risk of smoking and alcohol consumption in early and late pregnancy.

Discussions and Conclusions: Results underscore the need for pregnancy-specific public health interventions focussed on reducing tobacco smoking and alcohol use in pregnancy. Interventions targeting alcohol use should focus on early pregnancy, whereas smoking interventions should span the entire pregnancy, as these behaviours are less likely to change overtime. Results also highlight the characteristics of pregnant women who, along with their families, may benefit from improved antenatal care and social support.

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