

## Linking midwives and hospital morbidity data to investigate the effect of inter-pregnancy interval on gestational diabetes: a 35-year cohort study in Western Australia

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### Introduction

Interpregnancy interval (IPI) is a potentially modifiable risk factor for pregnancy outcomes, and short and long IPI may be associated with increased risk of pregnancy complications. Record linkage provides the only practicable means to investigate IPI effects, which requires large generalisable sample sizes and long follow-up time.

### Objectives and Approach

This study examines the effect of IPI on gestational diabetes in Western Australia, with the aim to inform the evidence-base for IPI recommendations in high-income countries. A longitudinal population-based retrospective cohort study was conducted using de-identified, probabilistically-linked records for all births in Western Australia from 1980 to 2015 (inclusive) from the state's Midwives Notification System and the WA Hospital Morbidity Data Collection. Logistic regression model was used to estimate the odds of gestational diabetes by IPI category. Analyses included all women with at least two consecutive singleton live births at 20-44 weeks of gestation.

### Results

A cohort of 320,616 women were included in the study. Of these, 13,680 (4%) had an IPI > 120 months (AOR:1.53, 95% CI 1.38-1.70) as compared to 18-23 months.

### Conclusion/Implications

Our findings show that both short and long IPIs may be associated with increased risk of gestational diabetes in a high-income setting. In this study, data linkage improved ascertainment of the outcome measure. Results suggest 18-23 months following a previous livebirth may be optimal for avoiding complications in future pregnancies.

