**Women diagnosed with gestational diabetes have an increased post-partum risk**

**of cardiovascular and renal disease – a national New Zealand retrospective**

**cohort study (2001-2010)**

***Aim/s***

To quantify the risk of cardiometabolic and renal disease for all women diagnosed with gestational diabetes between 2001 and 2010 compared with women without diabetes over 10-20 years following delivery.

***Methods***

National datasets (maternity, hospital admissions and pharmaceutical) provided information for all women and delivery events between 1 January 2001 and 31 December 2010 (n=604,398). Comparisons were made between women diagnosed with gestational diabetes, and control women without diabetes during pregnancy, for cardiometabolic and renal outcomes until 31 May 2021. Women >50 years, adolescent girls <15 years, and women with pre-pregnancy diabetes were excluded. Of the total 11,459 women diagnosed with gestational diabetes, 11,447 were matched for age and delivery date with 57,235 control women.

***Results***

Women with gestational diabetes had a significantly higher risk than control women, after adjusting for ethnicity, of a first cardiovascular event – HR (95% CI) 2.19 (1.86−2.58); developing renal disease 6.34 (5.35−7.51); type 2 diabetes 20.06 (18.46−21.79): all-cause mortality 1.55 (1.31−1.83) and women dispensed at least two lipid modifying 5.61 (5.31−5.94) or antihypertensive 2.77 (2.66, 2.88) medications in the post-partum period, all *p*-values<0.0001. After controlling for all significant covariates, the HR (95% CI) were similar for each outcome. Including time-dependent diabetes in the model, renal disease 2.33 (1.88−2.88), p<0.0001 and cardiovascular events 1.33 (1.10−1.61), *p*=0.003 remained significant but not all-cause mortality. European women with gestational diabetes were also more likely to develop type 2 diabetes HR (95% CI) 37.45 (31.79 – 44.12) than Māori 16.44 (14.16 – 19.09), Pacific 11.15 (9.67 - 12.86) and Asian 13.34 (9.78 – 18.19) women.

***Conclusion***

Findings highlight the increased risk of major cardiovascular events and renal disease in addition to type 2 diabetes for this cohort. Post-partum follow-up screening and management of cardiometabolic and renal risk factors is vital to improve health outcomes for this relatively young population of women.