

Impact of COVID-19 variants in the pregnant South Auckland population: a case control study with COVID-free controls

May Ching Soh¹, Aimee Brighton¹, Sarah Wadsworth¹, and Emma Ellis¹

¹Middlemore Hospital

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Abstract

Objective Little has been published about maternity outcomes from New Zealand's unique handling of the COVID-19 pandemic. Objectives were to determine obstetric outcomes between the variants, identify risk factors, and whether the changes to healthcare delivery affected pregnancy outcomes. *Design* This was a case control study comparing singleton pregnancies affected by the Delta and Omicron strains of COVID-19. The COVID 19-free controls were from 2019. *Setting & Population* The largest tertiary maternity unit in New Zealand providing taxpayer funded healthcare to a multi-ethnic, high deprivation index population with complex health needs. *Methods* Data were extracted from electronic record systems and further verified by reviewing patient's notes. The risk of an event was modelled with logistic regression. The multivariate analyses adjusted for known clinical risk factors and other significant differences between the groups. *Main Outcome Measures* Outcomes of interest included admission for COVID-19, adverse pregnancy outcomes, including placentally-mediated ones. *Results* In the study population of > 8,000 pregnancies, Delta variant was associated with significantly worse maternal and obstetric outcomes. Fetal anomalies and most placentally-mediated adverse outcomes of pregnancy in the COVID-19 affected cohort did not persist once adjusted for underlying maternal risk factors, except for a 4-fold increased risk of stillbirth. Vaccination was protective against admissions and severe disease (OR 0.19;95%CI 0.11-0.32). *Conclusions* While the Delta variant has been associated with poorer outcomes, modifications to the delivery of maternity care during the pandemic could have unintended consequences on how patients utilised healthcare; this may have contributed to poorer outcomes.

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