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Pregnancy outcomes in women with class III obesity according to gestational diabetes status



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Introduction: Previous studies have shown that the combination of obesity and untreated gestational diabetes mellitus (GDM) has a higher risk of adverse pregnancy outcomes compared with obesity alone. It is not known if obesity in combination with treated GDM also has an increased risk.

Objectives: To compare the maternal and neonatal outcomes of women with class III obesity (body mass index ≥ 40 kg/m²), with and without GDM (treated with diet or insulin).

Methods: A retrospective cohort study of 307 class III obese women who had singleton deliveries at The Canberra Hospital between mid-2011 and mid-2014. Women with pre-existing diabetes were excluded. Maternal demographic and clinical data, including GDM diagnosis and treatment, and maternal and neonatal outcomes were obtained from the Birthing Outcomes System, clinic attendance records and patient medical records. Occurrence rates of large-for-gestational-age (LGA) neonates, preterm delivery, primary caesarean section and pregnancy-related hypertension were compared between groups according to GDM status using logistic regression.

Results: 240 women (78.2%) did not have diabetes, 28 (9.1%) had diet-treated GDM and 39 (12.7%) had insulin-treated GDM. LGA was observed in 42 (17.5%) women with no diabetes, 3 (10.7%) with diet-treated GDM and 13 (33.3%) with insulin-treated GDM. Relative to women with no diabetes and diet-treated GDM, the odds ratio for a LGA neonate for women with insulin-treated GDM was

2.3 (1.06–4.92) after adjustment for maternal age, BMI, parity, smoking during pregnancy and chronic hypertension ($p = 0.04$). Differences in rates of preterm delivery, primary caesarean section and pregnancy-related hypertension according to diabetes status were not seen.

Conclusion: In class III obese women, insulin-treated GDM compared to diet-treated GDM and no diabetes was associated with a higher rate of LGA neonates. Diet only or insulin-treated GDM were not associated with a greater risk of other adverse maternal or neonatal outcomes.

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Correlates of growth trajectories in early childhood: Results from two cohorts of Australian children



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Background: Knowledge of growth trajectories and their determinants early in life have particular implications for designing future interventions to promote healthy growth. This study aimed to identify the modifiable child and maternal correlates of longitudinal growth trajectories from birth to age 42 months.

Methods: Secondary analyses of pooled data from the Melbourne Infant Feeding Activity and Nutrition Trial (InFANT) Program ($n = 540$) and the InFANT Extend study ($n = 514$) were conducted. Children's height and weight were collected at birth, 3, 9, 18, and 42 months. Age- and gender-specific height, weight, and body mass index-for-age z-scores (HAZ, WAZ, and BAZ) were computed using World Health Organisation growth charts. Mixed effect modelling was performed to examine whether growth trajectories (changes in HAZ, WAZ and BAZ) from birth to age 42 months were influenced by birth weight, rapid weight gain (defined as an increase from birth to 9 months in $WAZ \geq 0.67$) and maternal factors.

Results: Low birth weight infants had significantly lower HAZ, WAZ and BAZ than normal weight