Maternal BMI and obstetric outcomes at The Northern Hospital 2011–2016

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BACKGROUND
- Obesity is a major public health concern for Australia and carries special risks during pregnancy
- Many complications associated with maternal obesity behave in a dose-dependent manner, placing severely obese women and their infants at greatest risk of adverse outcomes
- Internationally, a BMI >50 kg/m² has a reported prevalence of 0.06-2.2%2,3 but data on Australian women is limited

AIM
- To examine obstetric and neonatal outcomes by maternal BMI for women delivering at The Northern Hospital, with a particular focus on outcomes for women with a BMI ≥50 kg/m²

METHODS
- A retrospective study in a non-tertiary hospital was undertaken using data from the Birthing Outcome System
- Inclusion criteria: women delivering a singleton infant from 2011–2016 with BMI recorded at first antenatal visit
- Women with weight >180 kg were transferred to a tertiary centre and were excluded from the study
- Maternal and neonatal outcomes analysed by BMI group (Figure 1)
- Univariate analysis was performed with the chi-square test and Kruskal-Wallis test as appropriate, with a significance level of 0.05
- Multivariate analysis controlled for maternal age, parity, Indigenous status and maternal birth overseas

RESULTS
- Of the 18 518 singleton deliveries, 18 402 (99.4%) of women had a BMI recorded at the first antenatal visit and were included (Figure 1)
- Maternal BMI was associated with increased rates of obstetric and neonatal complications and interventions (Figure 3)
- 92 women with BMI ≥50 kg/m² gave birth during the study period (0.5%) (Figure 2)
- Of this group, 48% required a cesarean section, 38% required an induction of labour, 29% developed gestational diabetes and 22% developed a hypertensive disorder of pregnancy
- 20% of their infants had a birth weight >4.0 kg, 23% required admission to a special/intensive care unit and 13% were born late pre-term
- Compared to obese mothers with BMI 30–49 kg/m², those with BMI ≥50 kg/m² were more likely to develop a hypertensive disorder of pregnancy (aOR 3.55, 95%CI 1.79–7.73) and to deliver a late-preterm infant (aOR 2.54, 95%CI 1.31–4.58)

CONCLUSION
- Obesity is prevalent in our antenatal population
- We provide new Australian data on obstetric outcomes for women with BMI ≥50 kg/m² delivering in a non-tertiary setting and confirm that they are at highest risk of obstetric and neonatal complications and medical intervention
- Health services need to anticipate future needs of our antenatal population and provide appropriate infrastructure for optimal care

REFERENCES

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