

# Obesity, Pregnancy and Lifestyle Clinic: Evaluations and Outcomes



Schulte R, Monaghan A, Rane V

## BACKGROUND

Increasing number of Australian women are entering pregnancy with an **elevated Body Mass Index (BMI)** (1).

Obesity in pregnancy is associated with a large number of **adverse outcomes** for both mother and child, including gestational diabetes mellitus, pre-term birth, macrosomia and complicated delivery (2).

There is emerging evidence that **antenatal dietary and lifestyle interventions** may have the potential to reduce the rate of many of these obstetric and neonatal complications, as well as limit excessive gestational weight gain (3).

The **Obesity, Pregnancy and Lifestyle (OPAL) Clinic** was started at the Northern Hospital in July 2018 to address the needs of pregnant women with a **BMI  $\geq$  40 kg/m<sup>2</sup>** through targeted attention to diet, gestational weight gain and other lifestyle factors from a dedicated obstetrician, midwife and dietician.

## AIMS & OBJECTIVES

This project aims to evaluate the **demographics** and **rate of obstetric and neonatal outcomes** of pregnant women with a BMI  $\geq$  40kg/m<sup>2</sup> at the Northern Hospital, comparing those who attended the OPAL clinic compared to those who received standard antenatal care.

## METHODS

**Retrospective cohort study** of women with a **BMI  $\geq$  40kg/m<sup>2</sup>** delivering a singleton pregnancy at the Northern Hospital, Victoria, between January 2019 and April 2020, comparing obstetric and neonatal outcomes of women who attended the **OPAL clinic** to those who received **standard antenatal care**.

Statistical analysis performed using SPSS using  $\chi^2$ , Fisher's Exact Test, Student's T-test and Mann-Whitney (rank sum) test with a significance level of 0.05.

Quality Assurance approval from Northern Health (ALR 06.2020).

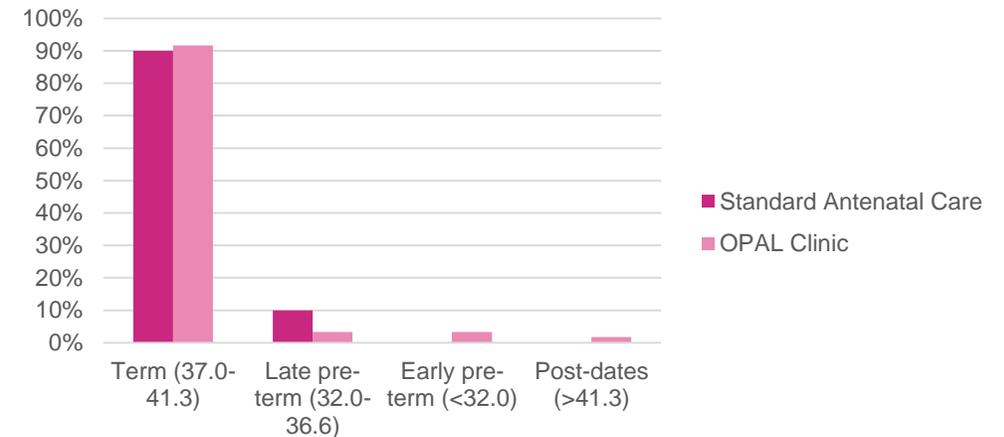
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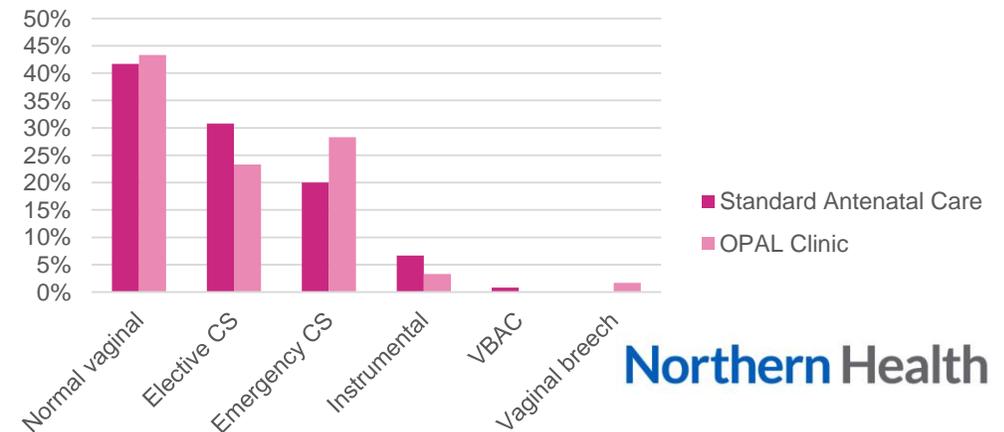
**Table 1: Maternal Demographics & Outcomes**

	Total (n=181)	Standard Antenatal Care (n=121)	OPAL Clinic (n=60)	P-Value	OR
Mean age +/- SD, years	31 +/- 5	31.75 +/- 5.37	28.97 +/- 5.178	0.001	
Median weight, kg (IQR)	117 (110-126)	117 (110-126)	119 (110-126)	0.462	
Median BMI, kg/m <sup>2</sup> (IQR)	43 (41-46)	43 (41-45)	43 (41-47)	0.122	
Primiparous	46 (25.4%)	23 (19.0%)	23 (38.3%)	<b>0.001</b>	<b>2.65 (1.33-5.28)</b>
Aboriginal or Torres Strait Islander	3 (1.7%)	3 (2.5%)	0 (0%)	0.552	
Born outside Australia/NZ	46 (25.4%)	36 (29.8%)	10 (16.7%)	<b>0.057</b>	<b>0.47 (0.22-1.03)</b>
Smoked during pregnancy	27 (14.9%)	19 (15.7%)	8 (13.3%)	0.674	0.83 (0.34-2.01)
Median number of antenatal visits (IQR)	8 (7-10)	8 (6-10)	9 (8-10)	<b>0.017</b>	
Median GWG, kg (IQR)	7 (3-10)	6 (6-10)	9 (8-10)	0.078	
Median gestational age of delivery, weeks (IQR)	38.4 (37.6-39.2)	38.5 (37.6-39.3)	38.3 (37.6-38.5)	<b>0.024</b>	

**Figure 1: Gestational Age of Delivery**



**Figure 2: Mode of Delivery**



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## DEMOGRAPHICS

Women in the OPAL clinic were significantly more likely to be **primiparous** (OR 2.65 (1.33-5.28),  $p=0.001$ ) and **less likely to be born outside of Australia or New Zealand** (OR 0.47 (0.22-1.03),  $p = 0.057$ ).

The **median number of antenatal visits was higher** for women attending the OPAL clinic (9) compared to those attending standard antenatal care (8) ( $p=0.017$ ), potentially indicating they had a **greater engagement with antenatal care**.

## OUTCOMES

The **median gestational age of delivery was lower** for OPAL women (38.3) compared to standard antenatal care (38.5) ( $p=0.024$ ) (table 1). This may be indicative of an **increased level of surveillance** during antenatal care and **planned timing of delivery**.

There was **no significant difference in mode of delivery** between women attending the OPAL clinic compared to standard antenatal care ( $p=0.398$ ) (figure 2).

There was **no significant difference in the rate of uncommon maternal and neonatal outcomes**, such as stillbirth, instrumental deliveries and shoulder dystocia, due to small numbers.

## CONCLUSIONS

The OPAL clinic is currently attracting a **subset** of obese pregnant women with demographics different to those in standard antenatal care. Women in the OPAL clinic had a significantly **higher engagement in antenatal care** and a significantly **lower median age of gestational delivery**.

Future research should focus on the **engagement and patient experience** of women attending the OPAL clinic.

## REFERENCES

1. McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? 2012;184.
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3. Oteng-Ntim E, Varma R, Croker H, Poston L, Doyle P. Lifestyle interventions for overweight and obese pregnant women to improve pregnancy outcome: **Northern Health** systematic review and meta-analysis. BMC Medicine. 2012;10:47