

A Multidisciplinary Approach to Managing Gestational Diabetes Mellitus in a Rural Hospital

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BACKGROUND:

Gestational diabetes mellitus (GDM) is an increasing and complex pregnancy related condition across Australia. Regional hospitals are now facing increasing numbers of pregnant women with GDM, due to change in diagnostic criteria and rising rates of maternal obesity. A multidisciplinary management approach for low resource settings is needed to minimise maternal and fetal complications.

METHODOLOGY:

- A prospective descriptive study with the aim to assess the Multi-Disciplinary Team (MDT) GDM model clinic approach to managing women with GDM in a small rural hospital on the mid-north coast of NSW
- The weekly afternoon clinic involves initial group then individualised diabetic education, dietician advice and management, glycaemic medical therapy, obstetric medical care, fetal growth and wellbeing monitoring with ultrasound, and midwifery antenatal care
- Data was collected on all women diagnosed with GDM during pregnancy between 14 – 34 weeks gestation, who delivered at MBH between 1 January 2018 – 31 October 2018
- Exclusions: GDM diagnosed <14 weeks or >34 weeks gestation; had shared care with private obstetrician; multiple pregnancy; did not deliver at the regional hospital; poor antenatal attendance or compliance with GDM management; incomplete data available; or pre-existing diabetes mellitus
- Data was collected on maternal risk factors for GDM, and the intra-partum and neonatal outcomes experienced
- The data was used to evaluate the effectiveness of the multidisciplinary management approach at minimising the adverse outcomes associated with GDM

RESULTS:

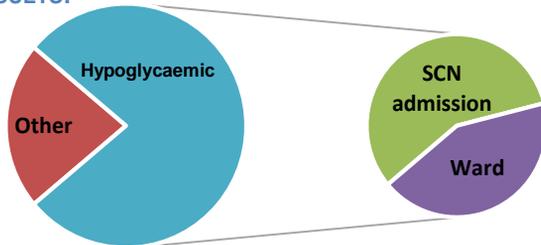


Figure 1: Adverse neonatal outcomes and management

DISCUSSION:

Using a MDT clinic approach to GDM management, a small regional hospital can achieve comparable results to national statistics.

- We suggest involving a diabetic educator, dietitian, midwife, obstetrician, and administration support, along with a set weekly clinic time

While there was a higher rate of IOL (63% versus 44%), the proportion of women who had a normal vaginal delivery was comparable to the national statistics (50%).

There was a high rate of SCN admissions for blood glucose monitoring compared to national standards. From this, we have:

- Suggested further audit of neonatal outcomes is required across all deliveries
- Revision and re-education on our neonatal hypoglycaemia protocol
- Initiated an antenatal expressing program at our centre

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RESULTS:

Figure 2: Risk factors for GDM compared with management

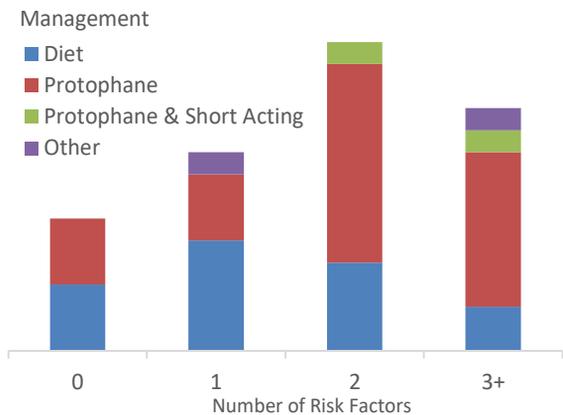


Table 1: GDM clinic outcomes and National standards [5]

	GDM Clinic n (%)	National standard (%)
Total Number	40 (17%)	9%
Demographics		
Parity		
Nulliparous	20 (50%)	45%
Multiparous	20 (50%)	55%
Maternal age at booking	27yo	30-34yo
BMI	30.5	
Smoker	6 (12%)	10.8%
Onset of labour		
Induction of labour	25 (63%)	44%
Spontaneous vaginal	6 (15%)	31.8%
Delivery		
Normal vaginal	20 (50%)	49%
Operative vaginal	3 (7.5%)	10.9%
Emergency LSCS	8 (20%)	16.4%
Elective LSCS	9 (23%)	21%
Outcomes		
Perineal injury 3 rd /4 th degree	1 (2.5%)	-
Shoulder dystocia	3 (7.5%)	-
Post partum haemorrhage	6 (15%)	-
Gestation (weeks)	38.5 weeks	-
Birth weight (grams)	3419g	-
Macrosomia (≥ 4500 grams)	0	1.3%
Preterm delivery	2 (5%)	-
Admission to Special Care nursery	18 (45%)	26%
Hypoglycaemia	28 (70%)	-
Jaundice	4 (10%)	-
Respiratory distress	4 (10%)	-
Breastfed (exclusive) on discharge	23 (58%)	-

CONCLUSION:

We present an alternative model for the management of gestational diabetes that requires limited resources. The outcomes for mothers and babies in our study are comparable to the national standards in minimising adverse GDM outcomes. While preliminary results are encouraging, there is scope for ongoing improvements in MDT management and further clinical audit cycles.