

TYPE 1 AND TYPE 2 DIABETES MANAGEMENT IN PREGNANCY AN IN-DEPTH REVIEW AT A TERTIARY MATERNITY CENTRE

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INTRODUCTION

Women with Type 1 and Type 2 diabetes are at increased risk of adverse pregnancy outcomes including hypertensive disorders of pregnancy, stillbirth and pre-term birth. Babies of mothers with pre-existing diabetes have higher rates of congenital malformations, low APGAR scores and longer admissions. A multidisciplinary approach is the standard of care provision for women with Type 1 and 2 diabetes at this tertiary centre however, continuity of care is not standardised across this high-risk group.

OBJECTIVE

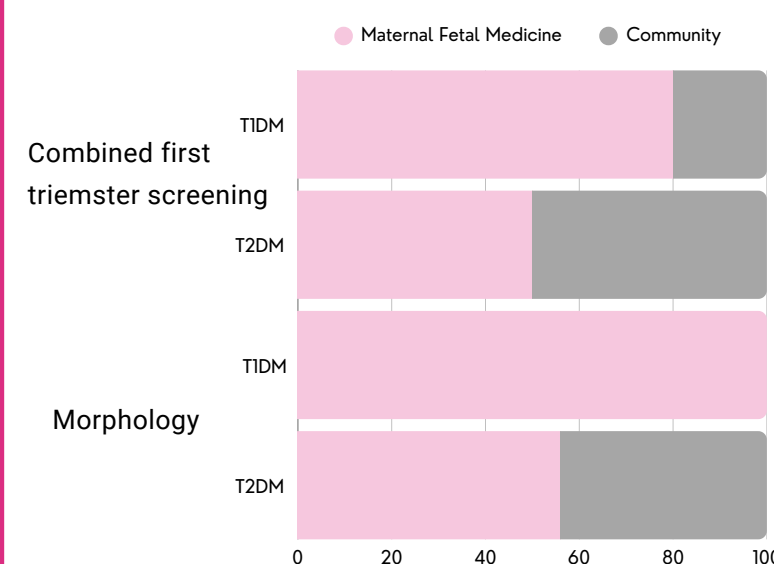
To analyse the antenatal management and outcomes of women with Type 1 and 2 diabetes in a tertiary maternity centre to understand how to optimise care provision for this high risk cohort.

METHODOLOGY

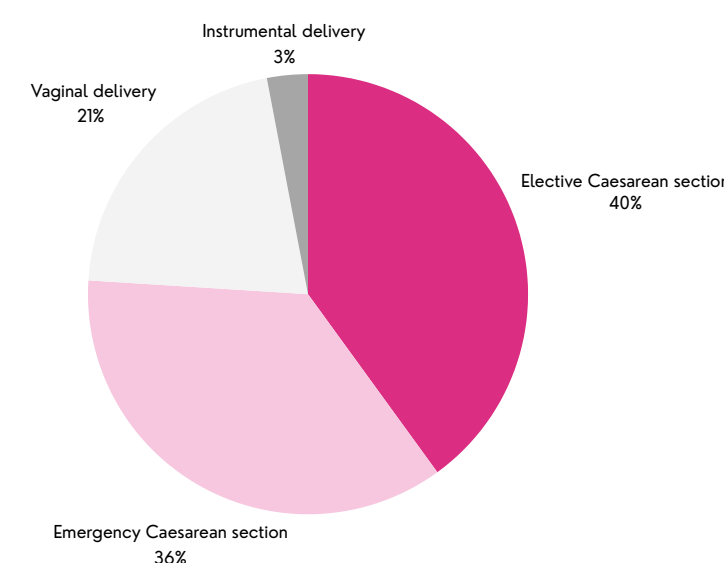
This quality improvement initiative was a single-centre audit at Gold Coast University Hospital. Retrospective analysis of electronic medical records pertaining to pregnant women with Type 1 or Type 2 diabetes in 2024 was undertaken. Data collection focused on demographics, diabetic comorbidities, antenatal and diabetes management, delivery timing and both intrapartum and postpartum complications. Data was analysed to ascertain current standards of care and identify areas for systems improvements.

RESULTS

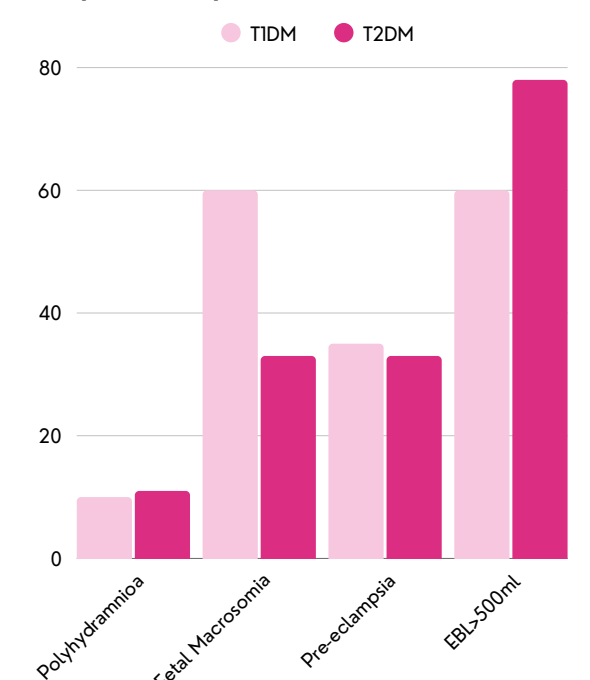
Graph 1: Ultrasound Provision



Graph 2: Mode of Delivery



Graph 3: Complications



- 100% recognition of Type 1 and Type 2 diabetes as a risk factor in pregnancy, and allocation to multidisciplinary model of care
- 90% of Type 1 diabetic patients were in a continuity model of care however in Type 2 diabetic mothers only 33% were, with majority (67%) allocated Midwifery and General Practice shared care model
- High burden of antenatal appointments with patients attending up to 46 antenatal appointments, with an average of 29 appointments, of which 41% were with Endocrine
- Provision of antenatal ultrasounds through Maternal Fetal Medicine was higher with Type 1 Diabetic Mothers compared with Type 2 mothers. 100% of routine morphology ultrasounds were completed by Maternal Fetal Medicine for Type 1 Mothers compared with 56% in Type 2
- 76% of diabetic mothers had a Caesarean section (graph 2)
 - 55% emergency caesareans with 33% for failed induction of labour, 25% for fetal distress, with 8% due to failure to progress
 - 45% elective caesareans, most commonly for elective repeat (33%), or maternal request (30%), less commonly for breech (20%) and large for gestation age (10%)
- 24% of diabetic mothers had a vaginal birth (graph 2) of which 71% were inductions of labour
- 50% of inductions of labour resulted in emergency caesareans
- Type 2 diabetic mothers had high rates of post partum haemorrhage compared with Type 1, however rates of fetal macrosomia were higher in Type 1 mothers (graph 3)

CONCLUSION

At this tertiary centre, a multidisciplinary approach to the management of pregnant women with both Type 1 and Type 2 diabetes was shown to be standard. Despite continuity of care being evidence based to improve pregnancy outcomes, this is only afforded to our Type 1 diabetic patients. This audit highlights the need to improve access to a continuity of care model to our Type 2 diabetic mothers. The next focus of this research is a health economic analysis to evaluate the benefits of extending a continuity of care model to our Type 2 diabetic patients with the overall aim to reduce maternal and fetal morbidity while improving engagement with the healthcare system.