

Perinatal Outcomes in Secondary Care-Managed Pregnancies with Diabetes: A Literature Review

Marwah Al Shmanee ¹, Sofia Malik ², Laila Al Hubaishi ³

1 Obstetrics and Gynecology Resident, Latifa Hospital, Dubai Health, Dubai, United Arab Emirates
2 Senior Specialist Registrar in Obstetrics and Gynecology, Latifa Hospital, Adjunct Faculty of ObGyn, Dubai Medical College, Dubai Health, Dubai, United Arab Emirates
3 Consultant Obstetrics and Gynecology, Urogynecologist, Latifa hospital, Chairperson and Scientific Committee of ObGyn Emirati Board, Program director of ObGyn, MBRU, Dubai Health, Dubai, United Arab Emirates



Introduction

- Diabetes mellitus in pregnancy, including both gestational diabetes (GDM) and pregestational diabetes mellitus (PGDM), is associated with significant risks to maternal and neonatal health.
- Secondary care centers use intensive management protocols to reduce these risks by ensuring optimal glycemic control throughout pregnancy.
- This literature review explores how such protocols influence perinatal outcomes in pregnancies complicated by GDM and PGDM.

Method

Study Design	Narrative literature review of studies on secondary care management of diabetes in pregnancy
Target Population	Pregnant women with gestational (GDM) or pregestational (PGDM) diabetes
Setting	Secondary care centers providing structured antenatal diabetes management
Key Interventions	- Preconception counseling - Medical nutritional therapy (dietary adjustments) - Pharmacologic therapy (insulin/oral agents) - Frequent blood glucose monitoring
Outcomes Reviewed	Maternal: preeclampsia, stillbirth Neonatal: macrosomia, preterm birth, congenital anomalies, NICU admission, mortality

Results

- In GDM, intensive management consistently showed improved outcomes by lowering the risk of fetal macrosomia, preterm birth, and neonatal complications such as hypoglycemia, hyperbilirubinemia, and respiratory distress syndrome.
- In PGDM, strict glycemic control before conception (target HbA1c <6.5%) and continuous monitoring throughout pregnancy significantly reduced the incidence of congenital anomalies, preeclampsia, stillbirth, and neonatal mortality.
- Despite these improvements, PGDM pregnancies still showed higher NICU admission rates and neonatal morbidity, largely due to pre-existing hyperglycemia during organogenesis and more complex metabolic disturbances.

Discussion

- Both GDM and PGDM respond positively to structured, multidisciplinary care strategies in secondary care settings.
- While early identification and glycemic control in GDM greatly reduce short-term neonatal risks, PGDM requires more complex and pre-emptive management due to its chronic nature and early fetal exposure to hyperglycemia.
- The persistent elevation in neonatal complications in PGDM highlights the need for enhanced preconception care and individualized monitoring plans.

Conclusion

- Intensive management of diabetes in pregnancy through secondary care protocols significantly improves perinatal outcomes in both GDM and PGDM cases.
- GDM outcomes benefit from timely intervention, reducing neonatal morbidity and delivery-related complications, while PGDM outcomes improve with preconception glycemic control and continuous antenatal surveillance.
- Ongoing commitment to these protocols is essential for optimizing both maternal and neonatal health outcomes in diabetic pregnancies.

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