



## MATERNAL AND PERINATAL OUTCOME IN GESTATIONAL DIABETES MELLITUS

## Obstetrics &amp; Gynaecology

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## ABSTRACT

Gestational diabetes mellitus (GDM) is a common medical complication of pregnancy characterized by glucose intolerance that begins or is first recognized during pregnancy. This was a prospective observational study evaluating maternal and perinatal outcomes in gestational diabetes mellitus (GDM). Participants were followed from diagnosis until delivery without any intervention, to observe real-world clinical outcomes under standard antenatal care. Early diagnosis, appropriate management with medical nutrition therapy or insulin, and close monitoring are essential to reduce these risks. Postpartum follow-up is also crucial, as a significant proportion of women exhibit impaired glucose tolerance or persistent diabetes.

## KEYWORDS

Gestational diabetes mellitus, maternal and perinatal outcomes

## INTRODUCTION

Gestational diabetes mellitus (GDM) is a common medical complication of pregnancy characterized by glucose intolerance that begins or is first recognized during pregnancy. India, known as the diabetes capital of the world, faces a growing burden of GDM due to its rising prevalence among women of reproductive age. Risk factors such as advanced maternal age, family history of diabetes, and previous history of macrosomic babies were strongly linked to GDM in a study from Maharashtra. Maternal complications in this cohort included pregnancy-induced hypertension, polyhydramnios, and increased rates of cesarean delivery and postpartum hemorrhage, further underlining the clinical burden of GDM. The aim of this study is to evaluate the maternal and perinatal outcomes in pregnancies complicated by gestational diabetes mellitus (GDM). By assessing the incidence of maternal complications such as preeclampsia, polyhydramnios, cesarean delivery, and postpartum hemorrhage, as well as neonatal complications including macrosomia, hypoglycemia, intrauterine fetal demise, and NICU admission, this study seeks to understand the impact of GDM on both mother and child. The findings are expected to help inform clinical practices and emphasize the importance of early diagnosis, effective glycemic control, and appropriate antenatal care to improve overall outcomes in GDM-affected pregnancies.

## Aim Of Study-

Evaluate the maternal and perinatal outcomes in pregnancies complicated by gestational diabetes mellitus (GDM).

## MATERIALS AND METHOD-

This was a prospective observational study. Fifty participants were included: 25 women diagnosed with GDM and 25 non-GDM controls.

**Participants Were Divided Into Two Groups:** GDM group (n=25) diagnosed via DIPSI criteria and a control group (n=25) without GDM. Both groups were followed until delivery for maternal and neonatal outcome comparison.

Study was carried out over 12 months, from June 1, 2023, to May 31, 2024. It included participant recruitment, follow-up, delivery, and outcome assessment throughout the antenatal period and immediate postnatal period.

## Inclusion Criteria -

All pregnant women diagnosed with GDM during pregnancy.

## Exclusion Criteria -

Pre-existing diabetes  
Chronic systemic illness  
Multiple pregnancies  
Use of drugs affecting glucose  
Unwillingness to participate

All participants were screened using a 75g oral glucose test. GDM cases were treated with diet or insulin. Regular antenatal follow-up

was done, and maternal and neonatal outcomes were recorded at delivery.

Data were analyzed using SPSS. Descriptive statistics summarized variables, and t-tests or chi-square tests compared groups. A p-value <0.05 was considered significant. Results identified differences in outcomes between GDM and non-GDM participants.

## RESULTS -

The findings of our study align with and expand on existing literature regarding maternal and neonatal outcomes in gestational diabetes mellitus (GDM). Our study demonstrated that GDM mothers were older and had higher BMI. Cesarean section rates were notably higher in GDM mothers in our cohort (68%), and also increased incidence of preeclampsia (20%) and gestational hypertension (24%). Our data on neonatal hypoglycemia (16%) and increased birth weight in GDM babies (3.42 kg vs. 2.98 kg) reflect trends seen in multiple studies. Postpartum glucose intolerance in 40% of GDM women in our study also mirrors global concerns about long-term diabetes risk post-GDM. Our findings reinforce the established association between GDM and increased maternal and perinatal morbidity, highlighting the critical need for early detection, optimal glycemic control, and postnatal follow-up.

## CONCLUSIONS

In conclusion, gestational diabetes mellitus is associated with significantly increased maternal and neonatal complications, including higher rates of cesarean delivery, hypertensive disorders, macrosomia, and NICU admissions. Early diagnosis, appropriate management with medical nutrition therapy or insulin, and close monitoring are essential to reduce these risks. Postpartum follow-up is also crucial, as a significant proportion of women exhibit impaired glucose tolerance or persistent diabetes. Comprehensive care can help improve both short- and long-term outcomes for mothers and their infants.

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