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**Prospective study of pregnancy outcome in antenatal mothers & new-born in patients of gestational diabetes mellitus at tertiary care center**

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This prospective study aimed to estimate the prevalence of gestational diabetes mellitus(GDM) among antenatal mothers and assess its impact on maternal and neonatal outcomes within the context of a tertiary care center. A total of 420 pregnant women were included in the analysis, with the majority falling within the 21 to 29.9 years age group. The study found, overall prevalence of GDM in 39 out of 420 pregnant women(9.3%). The prevalence of GDM was significantly associated with maternal age, with the highest amongst 30-34 years age group, suggesting that older maternal age is a crucial risk factor for development of GDM. None of the participants within normal BMI range(18.5 – 22.9 kg/m<sup>2</sup>) developed GDM in contrast, the prevalence was significantly higher among overweight(14.2%) and obese(20.8%) participants, underscoring strong association between maternal weight & increased risk of developing GDM. Amongst the participants multigravida had a significantly higher prevalence of GDM(12.6%) compared to primigravida(6.1%). The most common maternal complications included a significantly higher rate of cesarean delivery(62.5%) & elevated incidence of polyhydramnios(18.4%), highlighting increased risks of

major obstetric complications associated. Infants born to mothers with GDM had a significantly higher rate of preterm birth(26.3%) and neonatal hypoglycemia(32.1%). The study findings indicate that gestational diabetes mellitus is a substantial public health concern, particularly among older, multiparous, and overweight/obese pregnant women with several neonatal complications emphasizing the significance of early identification and management. Strategies focused on monitoring and controlling risk factors, such as body mass index and maternal age, are crucial for mitigating the incidence of GDM and enhancing pregnancy outcomes.

**Biography**

Prarthana Mahale, hailing from a small town in India, she completed her MBBS in 2024-25. As one of the first female doctors in her family, she aspires to provide affordable, high-quality healthcare to people from lower socioeconomic backgrounds, guiding her patients toward better health facilities and proper treatment. Her research on People Living with HIV (PLHIV) and antiretroviral therapy was selected under the Indian Council of Medical Research (ICMR) STS-2022 program. This work was published in Cureus in 2023 and presented at the Royal College of Surgeons, London (2023).