

**Title:** In women diagnosed with Gestational Diabetes Mellitus to determine association of gestational weight gain with adverse pregnancy outcomes



**Introduction :** Gestational diabetes mellitus (GDM) is a condition of elevated blood sugar first detected during pregnancy. Rising obesity rates have increased GDM cases, leading to various pregnancy complications. The prevalence of GDM varies globally, with significant rates in India. The HAPO study linked hyperglycemia to adverse pregnancy outcomes. Maintaining a healthy weight before and during pregnancy is crucial, as pre-pregnancy underweight and overweight/obesity are associated with different risks.

**Objectives :** In women diagnosed with Gestational Diabetes Mellitus to determine association of gestational weight gain with adverse pregnancy outcomes

**Materials and methods :** This Analytical Cross-sectional study was conducted in JIPMER Obstetrics and Gynecology department from January 2022 to January 2024 after ethics committee approval. Women >37 weeks pregnant were recruited through convenient sampling. Informed consent was obtained in English or Tamil. Data collected included socio-demographics, pre-pregnancy weight, gestational age, blood pressure, OGTT values, thyroid function tests, diet, exercise, drug details, and side effects if any. Weight gain was calculated from pre-pregnancy/ first trimester to delivery weight. Women were categorized by weight gain per IOM 2009 recommendations.

**Results :** 44% of the study subjects had Adequate GWG, 38.5% belonged to the Inadequate weight gain category and 17.5% belonged to Excessive category. There were only 8 participants in the underweight category hence they have been excluded from the comparison. When compared to normal BMI category there was significant odds of adverse maternal outcomes in overweight and obese group of patients.

**Conclusions :** Excessive GWG was linked to higher rates of gestational hypertension, LSCS, and macrosomia. Inadequate GWG increased IUGR and pre-eclampsia, though not significantly. Stillbirths occurred in both inadequate and excessive GWG groups. Instrumental delivery rates were lower but not significantly different. No association was found between GWG and PROM, NICU admission, or neonatal RDS.

**References :** ACOG Practice bulletin no:190 GDM, HAPO study, Li M et.al Effects of pre-pregnancy BMI and gestational weight gain on adverse pregnancy outcomes and complications of GDM. Journal of Obstetrics and Gynecology

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