EFICON 2025

Sociodemographic, clinical and dietary determinants of Gestational diabetes mellitus: A Case-control Study.: Reg No: 388

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CITATION
Shafiq Shafia. Sociodemographic, clinical and dietary determinants of Gestational diabetes mellitus: A Case-control Study.: Reg No: 388. Journal of the Epidemiology Foundation of India. 2025;3(2Suppl):90.
DOI: https://doi.org/10.56450/JEFI.2025.v3i2Suppl.090
ARTICLE CYCLE
Received: 10/11/2025; Accepted: 20/12/2026; Published: 31/12/2025

ABSTRACT

Title: Sociodemographic, clinical and dietary determinants of Gestational diabetes mellitus: A Case-control Study. **Introduction:** Gestational diabetes mellitus (GDM) is a common metabolic complication of pregnancy contributing to adverse maternal and neonatal outcomes. Its growing prevalence in India is linked to rising maternal age, overweight, and changing dietary habits. Identifying modifiable determinants, especially nutritional factors, is essential for prevention and early intervention. **Methods:** A case-control study was conducted among 100 pregnant women (50 newly diagnosed GDM cases and 50 controls) attending the antenatal clinic of Department of Obstetrics and Gynecology, JNMCH, AMU, Aligarh. Sociodemographic data was collected. Dietary intake and dietary diversity score (DDS) were assessed using 24-hour recall. Chi-square, independent t-test, and Fisher's exact tests were applied using IBM SPSS version 20. **Results:** Socio-demographic factors were not found to be associated with GDM. Mean pre-pregnancy BMI was significantly higher among GDM cases than controls (26.07 ± 3.86 kg/m² vs 23.21 ± 3.35 kg/m²; $p < 0.001$). Poor dietary diversity (DDS<5) was higher in GDM cases than controls (40% vs 24%, p=0.06) though not statistically significant. Previous history of GDM was found in 12% cases vs 2% controls. Mean calorie, fat, carbohydrate and dietary fibers intakes were higher, and protein intake was lower among cases than controls although differences were not statistically significant. **Conclusion:** Higher pre-pregnancy BMI is a key modifiable risk factor for GDM. Promoting optimal weight attainment before planning pregnancy, taking fiber-rich diets, and improved dietary diversity among women of reproductive age women can reduce metabolic susceptibility and mitigate GDM risk.

KEYWORDS

Gestational Diabetes MellitusDeterminants, Pre-pregnancy BMI