

Prevalence, Risk Factors and Perinatal Outcomes of Gestational Diabetes Mellitus Among High-Risk Pregnant Women in West Bengal: Reg ID: 436

Tila Khan, Ipsita Bhattacharjee, Shishir Biswas, Sreeparna Ghosh Mukherjee
Child In Need Institute

CORRESPONDING AUTHOR

Dr Tila Khan, Child In Need Institute

Email: tila@cinindia.org

CITATION

Khan Tila, Bhattacharjee Ipsita, BiswasShishir, Ghosh Mukherjee Sreeparna. Prevalence, Risk Factors and Perinatal Outcomes of Gestational Diabetes Mellitus Among High-Risk Pregnant Women in West Bengal: Reg ID: 436. Journal of the Epidemiology Foundation of India. 2025;3(2Suppl):30.

DOI: <https://doi.org/10.56450/JEFI.2025.v3i2Suppl.030>

ARTICLE CYCLE

Received: 10/11/2025; Accepted: 20/12/2026; Published: 31/12/2025

This work is licensed under a Creative Commons Attribution 4.0 International License.

©The Author(s). 2026 Open Access

ABSTRACT

Background: Gestational Diabetes Mellitus (GDM), characterized by insulin resistance and hyperglycemia (≥ 140 mg/dl) during pregnancy, increases the risk of adverse outcomes. Data on GDM from hard-to-reach regions of West Bengal remain limited. The Child in Need Institute (CINI) implements the "CINI Method," integrating case management, community mobilization, and system strengthening approach to improve health outcomes. **Aims & objectives:** This study aims to explore the GDM prevalence, associated factors, and perinatal outcomes among pregnant women from northern and southern districts of state. **Methodology:** From September 2023 to July 2025, a prospective cohort study was conducted among high-risk pregnant women (N=3026) in remote blocks: Gosaba (n=1419) in South 24 Parganas (south), two blocks in Kalimpong (n=1105) and one (n=502) in Darjeeling district (north). The intervention included system strengthening, community mobilization, behaviour change, early risk prevention, nutritional counselling, IFA supplementation, gestational weight tracking and birth preparedness. Blood sugars levels were extracted from Mother and Child Protection Card. **Results:** Overweight and obesity (body mass index ≥ 25 kg/m²) was observed in 25% of women, predominantly from northern districts (75%) and in those aged ≥ 20 years (91.3%). GDM prevalence was 17% (421/2452), higher in northern districts (56%) and Hindus (68.4%). GDM was associated with higher median maternal age (26 vs. 24 years, $p < 0.001$), higher BMI (30% vs. 23.5%; Odds Ratio 1.4; 95% CI: 1.12-1.78, $p = 0.004$) and multiparity, (>2 deliveries, 13.3% vs. 6.8%, $p < 0.001$), but not education, caste or income. GDM increased the risk of premature births (OR 1.41; 1.11-1.78, $p = 0.004$) and caesarean deliveries (57.7% vs 51.9%, $p = 0.038$). Nutritional counselling reduced junk food intake (49% $\rightarrow$ 9.4%, $p < 0.001$) and improved dietary diversity (87% $\rightarrow$ 99.4%, $p < 0.001$) between 3rd to 9th months. **Conclusion:** High GDM prevalence especially among older and overweight women from northern districts of West Bengal, was linked to adverse perinatal outcomes, highlighting the need of strengthened community-based screening and management.

KEYWORDS