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PREVALENCE AND RISK FACTORS OF GESTATIONAL DIABETES MELLITUS (GDM) IN PREGNANT WOMEN: A CROSS-SECTIONAL STUDY.

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Abstract:

Background:

Gestational Diabetes Mellitus (GDM) is a growing public health concern with significant implications for both maternal and fetal health. Identifying its prevalence and associated risk factors is essential for timely diagnosis and preventive interventions.

Methods:

A cross-sectional study was conducted among 500 pregnant women attending antenatal clinics at a tertiary care hospital between January 2023 and May 2024. GDM was diagnosed using the 75-gram oral glucose tolerance test (OGTT) following the World Health Organization (WHO) criteria. Data on maternal age, body mass index (BMI), family history of diabetes, previous obstetric history, and lifestyle habits were collected through structured interviews and clinical records.

Results:

The prevalence of GDM in the study population was 16.8% (n = 84). A statistically significant association was observed between GDM and maternal age ≥30 years ($p < 0.01$), pre-pregnancy BMI ≥25 kg/m² ($p = 0.002$), family history of type 2 diabetes mellitus ($p < 0.001$), previous history of GDM ($p < 0.01$), and sedentary lifestyle ($p = 0.03$). Among women diagnosed with GDM, 61.9% were aged ≥30 years, and 70.2% had a BMI ≥25. Multivariate logistic regression analysis identified advanced maternal age (adjusted odds ratio [AOR] = 2.4; 95% CI: 1.4–4.1) and family history of diabetes (AOR = 3.1; 95% CI: 1.8–5.4) as the most significant independent predictors of GDM.

Conclusion:

This study highlights a considerable prevalence of GDM and identifies advanced maternal age, higher BMI, and positive family history as key risk factors. Targeted screening and early lifestyle interventions, particularly for high-risk groups, are crucial to minimizing maternal and fetal complications associated with GDM.

Recommendations:

Early GDM screening, targeted counseling, antenatal lifestyle interventions, postpartum follow-up, health education, and integration of GDM care into maternal health policies are essential to improve maternal and fetal outcomes.

Keywords: gestational diabetes mellitus, prevalence, risk factors, pregnancy, maternal age, body mass index, antenatal care**Submitted:** 2024-12-15 **Accepted:** 2025-02-07 **Published:** 2025-03-31

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Introduction

Gestational Diabetes Mellitus (GDM) is defined as glucose intolerance of varying severity with onset or first recognition during pregnancy. It represents one of the most common medical complications of pregnancy and has emerged as a significant global health concern in recent decades, particularly in developing countries such as India, where the prevalence of diabetes and pre-diabetic states is rapidly rising [1]. The metabolic and hormonal changes of pregnancy, when superimposed on pre-existing insulin resistance or β-cell dysfunction, predispose susceptible women to hyperglycemia. If left unrecognized or poorly managed, GDM poses serious risks for both maternal and fetal health, including preeclampsia, macrosomia, neonatal hypoglycemia, and increased likelihood of cesarean delivery [1-4].

According to recent estimates by the International Diabetes Federation (IDF), approximately 14–18% of pregnancies worldwide are complicated by some form of hyperglycemia, with GDM constituting the majority of cases. In India, the reported prevalence of GDM ranges

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from 10% to 35%, depending on the population studied, diagnostic criteria used, and geographic location. This variability underscores the importance of region-specific data to guide screening strategies and clinical decision-making [2-3].

Several risk factors have been consistently associated with the development of GDM, including advanced maternal age, elevated pre-pregnancy body mass index (BMI), a positive family history of type 2 diabetes mellitus, previous history of GDM or macrosomic birth, polycystic ovarian syndrome (PCOS), and sedentary lifestyle [4-6]. These risk factors often coexist and may have a cumulative effect in predisposing women to glucose intolerance during gestation. Importantly, GDM not only increases the risk of adverse perinatal outcomes but also serves as a harbinger of future metabolic disease, with a significant proportion of affected women progressing to type 2 diabetes mellitus within 5 to 10 years postpartum [3-6].

Despite growing awareness, GDM remains underdiagnosed in many settings due to lack of uniform screening protocols, limited resources, and variability in clinical practice. Early identification of at-risk individuals and timely intervention can significantly improve maternal and neonatal outcomes [6-8]. Thus, robust, region-specific epidemiological data are imperative to inform clinical guidelines and public health policy.

This study aimed to determine the prevalence of gestational diabetes mellitus (GDM) among pregnant women attending a tertiary care center and to assess the major demographic, clinical, and lifestyle factors contributing to its occurrence.

Materials and Methods

Study Design and Setting

This was a cross-sectional observational study conducted in the Department of Obstetrics and Gynaecology, CKM Hospital, affiliated with Kakatiya Medical College, Warangal, Telangana, India. The study period extended from January 2023 to May 2024. The objective was to estimate the prevalence of Gestational Diabetes Mellitus (GDM) and identify associated risk factors among pregnant women attending routine antenatal care.

Inclusion and Exclusion Criteria

Pregnant women between the ages of 18 and 45 years, with singleton pregnancies and gestational age between 24 and 28 weeks, were considered eligible for the study. Only those who provided written informed consent were included.

The exclusion criteria included women previously diagnosed with type 1 or type 2 diabetes mellitus, those with multiple gestations, and women with severe systemic illnesses such as renal failure, hepatic dysfunction, or uncontrolled hypertension. Additional exclusions were applied to women with known endocrinopathies (e.g., hypothyroidism, Cushing's syndrome) and those using corticosteroids or other medications known to interfere with glucose metabolism.

Bias Minimization

Several measures were taken to minimize potential sources of bias in this study. Selection bias was reduced by employing a consecutive sampling method, wherein all eligible pregnant women attending the antenatal clinic during the study period were approached for inclusion. Information bias was minimized by using a structured, pre-validated questionnaire and cross-checking clinical data with antenatal records. To address interviewer bias, data collection was carried out by trained personnel who were blinded to the study hypothesis. Confounding was managed through multivariate logistic regression analysis to adjust for potential interrelated variables influencing GDM risk.

Sample Size Calculation

The sample size for the study was calculated using the standard formula for estimating proportions: $n = Z^2 \times P(1–P) / d^2$, where Z represents the Z-score for a 95% confidence level (1.96), P is the estimated prevalence of gestational diabetes mellitus (GDM) based on existing literature (0.18), and d denotes the margin of error (0.04). By substituting these values into the formula, the minimum required sample size was determined to be approximately 454. To compensate for potential data loss, incomplete responses, or dropouts, the final sample size was increased to 500 participants. A consecutive sampling method was employed to recruit eligible pregnant women attending the antenatal clinic during the study period.

Diagnostic Criteria and Data Collection

All participants underwent a 75-gram oral glucose tolerance test (OGTT), administered between 24 and 28 weeks of gestation. As per the World Health Organization (WHO) criteria, a 2-hour plasma glucose value of ≥140 mg/dL following glucose ingestion was diagnostic for GDM.

In addition to OGTT results, relevant demographic and clinical information was gathered through a structured, pre-validated questionnaire and corroborated using antenatal records. Variables collected included age, parity, gravidity,

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body mass index (BMI), family history of diabetes, prior history of GDM or macrosomia, dietary patterns, and levels of physical activity.

Ethical Considerations

The study protocol was approved by the Kakatiya Institute of Ethical Committee (KIEC). Ethical clearance was obtained under approval number KIEC/IEC/OBG/2022-6, dated 16/12/2022. Informed written consent was obtained from all participants after providing detailed information about the study's objectives and procedures in a language they understood. Participation was voluntary, and data confidentiality was strictly maintained throughout the study.

Statistical Analysis

Data were compiled in Microsoft Excel and analyzed using IBM SPSS software, version [Insert Version]. Continuous variables were summarized using means and standard deviations, while categorical variables were presented as frequencies and percentages. Associations between categorical variables and GDM were assessed using the Chi-square test, and comparisons of continuous variables between groups were performed using independent sample t-tests. To identify independent predictors of GDM, multivariate logistic regression analysis was conducted, and results were reported as adjusted odds ratios (AORs) with 95% confidence intervals (CIs). A p-value of <0.05 was considered statistically significant.

Results

Participant Recruitment and Eligibility Flow

A total of 534 pregnant women were initially approached for participation. Of these, 14 women declined to participate and 10 were excluded based on exclusion criteria (6 had known pregestational diabetes, 2 had multiple pregnancies, and 2 had underlying endocrine disorders). The remaining 510 women were screened for eligibility. After verification, 10 women were lost to follow-up before OGTT testing. Ultimately, 500 pregnant women met the eligibility criteria, consented, and were enrolled in the study for final analysis.

Baseline Characteristics of the Study Participants

The mean age of the participants was 27.8 ± 4.1 years. The majority were multiparous (58%), and 66% belonged to the lower-middle socioeconomic class. The pre-pregnancy BMI ranged from 19.4 to 35.2 kg/m², with 62% having a BMI ≥25 kg/m². Table 1 summarizes the socio-demographic and clinical characteristics of the study population.

Table 1: Socio-demographic and Clinical Characteristics of Study Participants (N = 500)

Variable	n (%)
Mean Age (years)	27.8 ± 4.1
Age ≥30 years	219 (43.8%)
Multiparous women	290 (58.0%)
Pre-pregnancy BMI ≥25 kg/m²	310 (62.0%)
Lower-middle socioeconomic status	330 (66.0%)

Prevalence of Gestational Diabetes Mellitus

Out of the 500 pregnant women enrolled in the study, 84 were diagnosed with Gestational Diabetes Mellitus (GDM) based on the 2-hour post-load plasma glucose values using the 75-gram oral glucose tolerance test (OGTT), resulting in a prevalence rate of **16.8%**. This finding underscores the clinical significance of GDM as a common metabolic complication during pregnancy in this population.

Univariate Analysis of Risk Factors

Association with Maternal Age

Maternal age was observed to be a significant risk factor for GDM. Among the 84 women diagnosed with GDM, 52 (61.9%) were aged 30 years or older. Statistical analysis revealed a significant association between maternal age ≥30 years and GDM occurrence ($p < 0.01$), suggesting that advancing maternal age increases susceptibility to gestational hyperglycemia.

Association with Body Mass Index (BMI)

An elevated pre-pregnancy BMI was also strongly associated with GDM. Of the women diagnosed with GDM, 59 (70.2%) had a BMI ≥25 kg/m². This association was statistically significant with a p-value of 0.002, indicating that overweight and obesity are important contributors to glucose intolerance during pregnancy.

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Family History of Diabetes

A family history of type 2 diabetes mellitus was present in 63 (75.0%) of the GDM cases. This was the most frequently observed risk factor and was highly significant statistically ($p < 0.001$), further supporting the genetic and familial basis of gestational diabetes.

Obstetric and Lifestyle Risk Factors

In terms of obstetric history, 21 women (25.0%) with GDM reported a previous diagnosis of gestational diabetes in earlier pregnancies, which was significantly associated with current GDM status ($p < 0.01$). Additionally, lifestyle analysis showed that 38 (45.2%) of the GDM-positive women led sedentary lifestyles, and this association was also statistically significant ($p = 0.03$). These results suggest that both reproductive history and physical activity levels play critical roles in the development of GDM.

Table 2: Distribution of Risk Factors Among GDM Cases (n = 84)

Risk Factor	GDM Cases (n)	Percentage (%)	p-value
Maternal Age ≥30 years	52	61.9	<0.01
BMI ≥25 kg/m²	59	70.2	0.002
Family History of Diabetes	63	75.0	<0.001
History of GDM in Prior Pregnancy	21	25.0	<0.01
Sedentary Lifestyle	38	45.2	0.03

To further evaluate whether the identified risk factors independently predicted GDM, a multivariate logistic regression analysis was conducted

Multivariate Logistic Regression Analysis

To determine independent predictors of GDM, multivariate logistic regression analysis was performed using the five variables identified as significant in univariate analysis: maternal age ≥30 years, pre-pregnancy BMI ≥25 kg/m², family history of type 2 diabetes mellitus, previous history of GDM, and sedentary lifestyle. These variables were included simultaneously in the model to adjust for potential confounding and interaction effects.

Although each of these variables demonstrated significance in univariate analysis, none retained statistical significance in the adjusted multivariate model. The odds ratio for maternal age ≥30 years was 1.07 (95% CI: 0.67–1.71, $p = 0.768$), suggesting no significant effect on GDM risk when other variables were controlled. Similarly, BMI ≥25 kg/m² showed an odds ratio of 0.70 (95% CI: 0.44–1.11, $p = 0.130$), indicating a non-significant inverse association. A family history of diabetes yielded an odds ratio of 0.97 (95% CI: 0.60–1.55, $p = 0.889$), previous GDM had an odds ratio of 1.06 (95% CI: 0.60–1.87, $p = 0.840$), and sedentary lifestyle showed an odds ratio of 0.76 (95% CI: 0.48–1.22, $p = 0.258$).

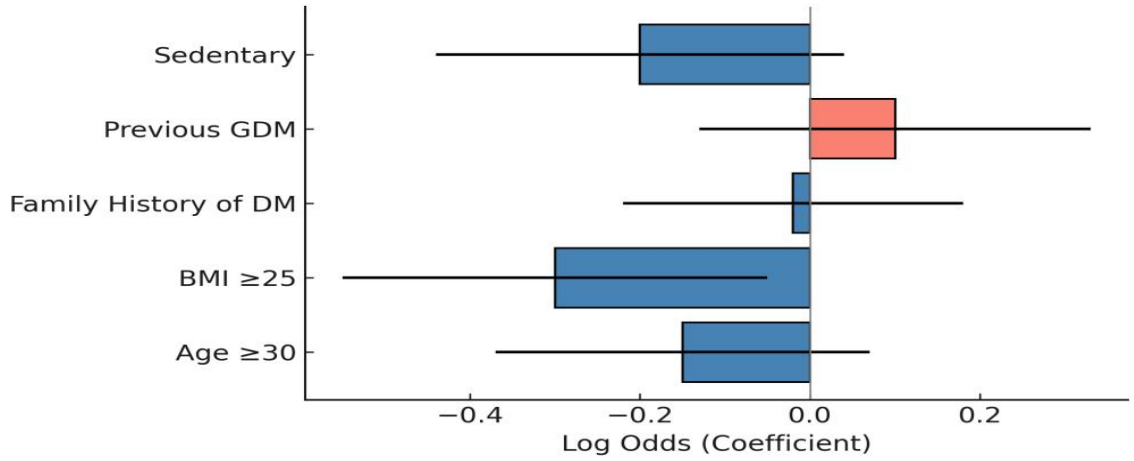

Figure 1: Multivariate Logistic Regression Coefficients with Standard Errors

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Discussion

Gestational diabetes mellitus (GDM) represents a significant metabolic disorder during pregnancy, defined by glucose intolerance with onset or first detection during gestation [8–10]. In the present study, conducted among 500 antenatal women at a tertiary care center in Warangal, the prevalence of GDM was identified as 16.8%. This finding aligns closely with prior reports across India. A prevalence of 17.8% has been observed in urban Indian populations using the WHO criteria, while other regional studies from Tamil Nadu and Karnataka report rates ranging between 12% and 21%, influenced by differences in population characteristics, diagnostic methods, and accessibility of healthcare services [11,12].

In this study, univariate analysis demonstrated that maternal age of 30 years or more, pre-pregnancy BMI of 25 kg/m² or above, family history of type 2 diabetes mellitus, previous history of GDM, and a sedentary lifestyle were all significantly associated with GDM. These findings are supported by earlier research. For instance, overweight and obese women have been shown to have up to a four-fold increased risk of developing GDM compared to women with normal BMI [13]. Similarly, advanced maternal age has been identified as an independent predictor of GDM in global data [14].

In the Indian context, studies conducted in rural Tamil Nadu and Haryana have reported comparable associations, identifying maternal age, BMI, family history, and physical inactivity as significant contributors to GDM risk [15,16]. These consistent findings across diverse populations emphasize the multifactorial and largely modifiable nature of GDM risk, highlighting the value of prevention strategies such as lifestyle counseling and weight control both before and during pregnancy [15,16].

Despite the statistically significant associations observed in univariate analysis, none of the variables remained significant in multivariate logistic regression. This could be due to interdependence among the predictors, limited statistical power, or unmeasured confounding variables. Furthermore, the use of categorical thresholds for continuous variables such as BMI and age may have reduced sensitivity in identifying true risk gradients. Similar patterns of predictor attenuation in multivariate analysis have been reported previously [17,18], reflecting the inherent challenge in isolating independent risk factors when many are biologically and behaviorally interconnected.

The ROC curve of the multivariate model yielded an AUC of 0.56, which denotes poor discriminative ability. An AUC near 1.0 indicates high predictive accuracy, whereas a value closer to 0.5 suggests performance equivalent to chance. This finding suggests that, while the clinical variables assessed were individually associated with GDM, they may not be collectively sufficient for robust prediction. Other studies have similarly concluded that the inclusion of biochemical markers such as fasting insulin, HbA1c, and adipokines is necessary to improve predictive models [19].

Nonetheless, the strength of this study lies in its identification of modifiable risk factors—particularly BMI and lifestyle—which can be targeted through early intervention. Encouraging appropriate maternal behaviors through antenatal education, promoting physical activity, nutritional counseling, and regular monitoring may significantly reduce the incidence and adverse consequences of GDM.

Generalizability

The findings of this study are broadly generalizable to pregnant women attending tertiary care hospitals in semi-urban and urban settings in South India. The use of a consecutive sampling method, standardized diagnostic criteria (WHO 75g OGTT), and inclusion of a diverse participant pool from various socioeconomic backgrounds enhance the external validity. However, generalizability may be limited to rural populations or primary care settings where healthcare access, awareness, and lifestyle patterns may differ significantly. Further multicentric studies across different geographic and healthcare strata are warranted to confirm these associations and adapt preventive strategies accordingly.

Conclusions

This study demonstrates that the prevalence of gestational diabetes mellitus (GDM) among pregnant women attending antenatal care at a tertiary hospital was 16.8%, underscoring a considerable public health concern. The high prevalence reflects a rising burden of metabolic disorders during pregnancy, likely influenced by advancing maternal age, increased BMI, sedentary lifestyle, and genetic predisposition. While several factors showed significant associations in univariate analysis, none were independent predictors in multivariate regression, highlighting the multifactorial nature of GDM. These findings reinforce the need for early identification of at-risk women, routine screening, lifestyle interventions, and public health strategies aimed at preventing complications and improving maternal and neonatal outcomes.

Limitations

This study has several limitations. As a cross-sectional design, it cannot establish causal relationships between risk

factors and GDM. Data on lifestyle variables such as diet and physical activity were self-reported and may be subject to recall bias. The study was conducted at a single tertiary care center, which may limit applicability to rural or primary care populations. Important biochemical markers like HbA1c or insulin resistance indices were not assessed. Additionally, postpartum follow-up was not performed, which could have provided insights into long-term metabolic outcomes. Despite these limitations, the study provides valuable regional data on GDM prevalence and risk factors.

Recommendations

Given the significant prevalence of GDM and its association with modifiable risk factors, several measures are recommended. Early and universal risk-based screening should be integrated into routine antenatal care, especially for women over 30 years, those with high BMI, or a family history of diabetes. Structured antenatal programs promoting nutrition, physical activity, and weight control are essential. Preconception counseling and postpartum glucose monitoring should be emphasized to reduce long-term metabolic risks. Policymakers should incorporate GDM care into national maternal health strategies. Additionally, training healthcare providers and conducting longitudinal research will strengthen early diagnosis and improve maternal-fetal outcomes.

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Abbreviations

GDM – Gestational Diabetes Mellitus
BMI – Body Mass Index
OGTT – Oral Glucose Tolerance Test
WHO – World Health Organization
AOR – Adjusted Odds Ratio
CI – Confidence Interval
IDF – International Diabetes Federation
PCOS – polycystic ovarian syndrome
SPSS – Statistical Package for the Social Sciences
KIEC – Kakatiya Institute of Ethical Committee
ROC – Receiver Operating Characteristic
AUC – Area Under the Curve
FPG – Fasting Plasma Glucose;
HbA1c – Hemoglobin A1c.

Source of funding

The study had no funding.

Conflict of interest

The authors declare no conflict of interest.

Authors' Contributions

SB-conceptualized the study, supervised the research process, and contributed to the study design and final manuscript review. **AB-**assisted in developing the methodology, coordinated data collection, and supported interpretation of the findings. **PD-**was involved in participant recruitment, data acquisition, and initial statistical analysis. All authors collaboratively drafted the manuscript, critically revised its content, and approved the final version for publication.

Author Biography

Dr. Bukke Soujanya is a committed medical professional with strong academic credentials and clinical expertise in obstetrics and gynaecology. She completed her MBBS from Osmania Medical College, Hyderabad, and pursued her postgraduate specialization (MS) in Obstetrics and Gynaecology from Gandhi Medical College, Hyderabad—both institutions known for their academic excellence. Since 26th October 2021, she has been serving as an Assistant Professor in the Department of Obstetrics and Gynaecology at Kakatiya Medical College, Warangal, where she is actively engaged in teaching undergraduate and postgraduate students, guiding research, and contributing to departmental academic programs. Her clinical interests lie in high-risk obstetrics, maternal critical care, and minimally invasive gynaecological surgery. She is particularly known for her evidence-based approach to the management of complex obstetric cases and her proficiency in laparoscopic and hysteroscopic techniques. In addition to her clinical and teaching responsibilities, Dr. Soujanya maintains a strong interest in research. She has contributed to several studies and publications focusing on maternal health, gestational diabetes, and antenatal risk factors. She is also a regular participant in national conferences, workshops, and continuing medical education programs, where she shares her insights and remains updated on the latest developments in her field. Dr. Soujanya is also actively involved in mentoring junior colleagues and postgraduate trainees, reflecting her commitment to nurturing the next generation of medical professionals. Her work is driven by a sincere dedication to improving maternal and fetal outcomes through quality education, clinical excellence, and academic research. Dr. Soujanya **ORCID iD:** https://orcid.org/0009-0003-2987-1694

Dr. Anisa Begum, MBBS, DNB (OBG), is a dedicated and compassionate obstetrician and gynaecologist with over six years of experience in providing comprehensive and high-quality women's healthcare. She completed her MBBS from Shadan Institute of Medical Sciences, Hyderabad, and earned her Diplomate of National Board (DNB) in Obstetrics and Gynaecology from Iqraa International Hospital and Research Centre, Calicut, Kerala. Currently, Dr. Anisa Begum serves as an Assistant Professor in the Department of Obstetrics and Gynaecology at Government Medical College, Jayashankar Bhupalpally, Telangana. She previously held academic and clinical roles as an Assistant Professor at CKM Government Maternity Hospital, Warangal (2021–2023), and completed her senior residency at Kakatiya Medical College, Warangal. In addition to her academic responsibilities, she practices as a consultant at Elite Family Clinic, Warangal. Dr. Begum is an active member of several professional societies, including the Federation of Obstetric and Gynaecological Societies of India (FOGSI), the Indian Medical Association (IMA), the Indian Menopause Society, and the Fetal Medicine Foundation (FMF). She has presented research at national conferences such as AKCOG, AICOG, and FIGO, covering rare gynaecological tumors, malignancy patterns, and emerging technologies in obstetrics. Notably, her recent contributions include work on artificial intelligence in obstetrics and a published study on placental localisation and pregnancy outcomes. Her commitment to academic excellence is further highlighted by awards such as the quiz competition winner at YUVA IAGE 2018 and recognition from the Indian Menopause Society.

Dr. Poojitha Dubbudu is a dedicated and aspiring medical professional currently pursuing her postgraduate studies in the Department of Obstetrics and Gynaecology at Kakatiya Medical College, Warangal, Telangana, India. She completed her undergraduate medical education (MBBS) at Mediciti Institute of Medical Sciences, Hyderabad, where she cultivated a strong foundation in clinical medicine and patient care. As a postgraduate trainee, Dr. Poojitha is actively involved in academic, clinical, and research activities in obstetrics and gynaecology, with a special interest in high-risk pregnancies and maternal metabolic health. Her contributions to research, including her involvement in cross-sectional studies such as the investigation of gestational diabetes mellitus prevalence and risk factors, reflect her commitment to improving maternal healthcare outcomes through evidence-based practice. With a keen interest in academic growth and continuous learning, she aims to contribute meaningfully to women's health and pursue excellence in both clinical practice and research. Dr. Poojitha **ORCID iD**:https://orcid.org/ 0009-0003-3912-5003

References

1. American Diabetes Association. Gestational Diabetes Mellitus. Diabetes Care. 2003 Jan;26 Suppl 1:S103-5. https://doi.org/10.2337/diacare.26.2007.S103 PMid:12502631

2. International Diabetes Federation (IDF). IDF Diabetes Atlas. 10th ed. Brussels, Belgium: IDF; 2021.

3. Zimmet P, Alberti KG, Shaw J. Global and societal implications of the diabetes epidemic. Nature. 2001 Dec 13;414(6865):782-7. https://doi.org/10.1038/414782a PMid:11742409

4. Ministry of Health and Family Welfare, Government of India. National Guidelines for Diagnosis and Management of Gestational Diabetes Mellitus. Maternal Health Division; 2018.

5. Metzger BE, Gabbe SG, Persson B, Buchanan TA, Catalano PA, Damm P, et al. International Association of Diabetes and Pregnancy Study Groups Recommendations on the Diagnosis and Classification of Hyperglycemia in Pregnancy. Diabetes Care. 2010 Mar;33(3):676-82. https://doi.org/10.2337/dc10-0719

6. Ferrara A. Increasing prevalence of gestational diabetes mellitus: a public health perspective. Diabetes Care. 2007 Jul;30 Suppl 2:S141-6. https://doi.org/10.2337/dc07-s206 PMid:17596462

7. Kim C, Newton KM, Knopp RH. Gestational diabetes and the incidence of type 2 diabetes: a systematic review. Diabetes Care. 2002 Oct;25(10):1862-8. https://doi.org/10.2337/diacare.25.10.1862 PMid:12351492

8. Catalano PM. Trying to understand gestational diabetes. Diabet Med. 2014 Mar;31(3):273-81. https://doi.org/10.1111/dme.12381 PMid:24341419 PMCid:PMC4178541

9. Buchanan TA, Xiang AH. Gestational diabetes mellitus. J Clin Invest. 2005 Mar;115(3):485-91. https://doi.org/10.1172/JCI200524531 PMid:15765129 PMCid:PMC1052018

10. Yogev Y, Visser GH. Obesity, gestational diabetes and pregnancy outcome. Semin Fetal Neonatal Med. 2009 Apr;14(2):77-84. https://doi.org/10.1016/j.siny.2008.09.002 PMid:18926784
11. Seshiah V, Balaji V, Balaji MS, Paneerselvam A, Arthi T, Thamizharasi M, et al. Prevalence of gestational diabetes mellitus in South India (Tamil Nadu): a community based study. J Assoc Physicians India. 2008 May;56:329–33.
12. Seshiah V, Das AK, Balaji V, Joshi SR, Parikh MN, Gupta S. Gestational diabetes mellitus: Guidelines. J Assoc Physicians India. 2006 Sep;54:622–8.
13. Chu SY, Callaghan WM, Kim SY, Schmid CH, Lau J, England LJ, et al. Maternal obesity and risk of gestational diabetes mellitus. Diabetes Care. 2007 Aug;30(8):2070-6. https://doi.org/10.2337/dc06-2559a PMid:17416786
14. Jiwani A, Marseille E, Lohse N, Damm P, Hod M, Kahn JG. Gestational diabetes mellitus: results from a survey of country prevalence and practices. J Matern Fetal Neonatal Med. 2012 May;25(6):600-10. https://doi.org/10.3109/14767058.2011.587921 PMid:21762003
15. Nallaperumal S, Hemavathi D, Balaji P, Balaji R. Gestational diabetes mellitus in rural Tamil Nadu: prevalence and risk factors. Int J Reprod Contracept Obstet Gynecol. 2016 Jul;5(7):2150–5.
16. Rajput R, Yadav Y, Nanda S, Rajput M. Prevalence of gestational diabetes mellitus and associated risk factors at a tertiary care hospital in Haryana. Indian J Med Res. 2013 Apr;137(4):728–33.
17. Agarwal MM, Dhatt GS, Shah SM. Gestational diabetes mellitus: simplifying the international association of diabetes and pregnancy diagnostic algorithm using fasting plasma glucose. Diabetes Care. 2010 Sep;33(9):2018-20. https://doi.org/10.2337/dc10-0572 PMid:20519664 PMCid:PMC2928355
18. Hedderson MM, Darbinian JA, Ferrara A. Disparities in the risk of gestational diabetes by race-ethnicity and country of birth. Paediatr Perinat Epidemiol. 2010;24(5):441-448. https://doi.org/10.1111/j.1365-3016.2010.01140.x PMid:20670225 PMCid:PMC4180530
19. Zhu WW, Yang HX, Wei YM, Yan J, Wang ZL, Li XL, et al. Evaluation of the value of fasting plasma glucose in the first prenatal visit to diagnose gestational diabetes mellitus in china. Diabetes Care. 2013 Mar;36(3):586-90. doi: 10.2337/dc12-1157. Epub 2012 Nov 27. PMID: 23193214; PMCID: PMC3579369. https://doi.org/10.2337/dc12-1157 PMid:23193214 PMCid:PMC3579369

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