



Original Article

Prevalence of GDM diagnosed by DIPSI Guidelines

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ABSTRACT

Background: the prevalence of diabetes mellitus is increasing worldwide and more in developing countries including India. The increasing prevalence in developing countries is related to increasing urbanization, decreasing levels of physical activity, changes in dietary patterns and increasing prevalence of obesity. **Objective:** this prospective study was carried out to determine the prevalence of GDM in women attending antenatal clinic in ESI medical college and hospital, Bangalore. **Methods:** this study was conducted in pregnant women attending antenatal clinic between 24 to 28 weeks in ESI medical college and hospital, Bangalore. Detailed history like age, gravidity, period of gestation, associated risk factors and obstetric examination, were noted. After informed consent, all participating women were given 75 g of oral glucose, OGTT T test was done as per DIPSI guidelines. **Results:** a total of 300 women participated in the study and GDM was diagnosed in 46 patients (15.3%)... Most women were between age 25 -30 years (n=32, 69.5%), followed by 30-35 years (n=16, 34.7%) when compared to 20-25 years (n=14, 30.4%). women between 35-40 years were 7 (15.2%) and 16 -20 years were 3 (6.5%). GDM was diagnosed in 24 multigravida (52.1%) when compared to primigravida (n=19, 41.3%) Mean age was 27.6 years. mean BMI was 25.5. the prevalence of GDM was more in the age group of 25-30 years (n=32, 69.5%). the prevalence of GDM was more in upper middle class category (n=22, 47.8%) followed by lower middle class (n=9, 19.5%) GDM prevalence was more in intermediate/high /middle school group (n= 28, 60.8%). positive family history of diabetes was found in (n=16, 34.7%). **Interpretation:** The prevalence of GDM was found to be 15.3% at ESI medical college and hospital, Bangalore. GDM being the most common metabolic disorder, early screening and diagnosis through appropriate screening method is very important to prevent complications.

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1. INTRODUCTION

Gestational diabetes mellitus (GDM) is carbohydrate intolerance with recognition or onset first time during pregnancy. ¹ Prevalence of gestational diabetes mellitus

varies widely depending on ethnic and racial characteristics. Depending on the population studied and diagnostic test employed, prevalence may range from 2.4 to 21%.^{2, 3} In the Indian context, there is 11 fold increased risk of developing GDM when compared to caucasians.⁴ GDM causes various maternal and fetal complications like preeclampsia, polyhydramnios, overt diabetes in future, fetal complication like macrosomia, birth trauma, neonatal metabolic complications, childhood obesity and diabetes. Hence this study was undertaken to study the prevalence of GDM so that complications could be avoided by adopting appropriate screening technique.

Aims & Objectives

To screen for GDM as early as possible and to detect the prevalence of GDM

2. MATERIAL & METHODS STUDY DESIGN

This study is a prospective Longitudinal time bound Observational hospital based study done from January 2015 to June 2015 done at Dept. of ObG, ESIC, BANGALORE. The study was approved by institutional ethics committee. Pregnant Women attending antenatal OPD clinic were selected. Women were explained about the method of study, purpose, benefits and complications of the study. Women who consented for the study after ensuring inclusion and exclusion criteria were selected.

Women with Singleton pregnancies, Patients willing to comply and Patients willing to deliver at ESIC were included. Women with multiple pregnancies, History of previous GDM or prepregnancy diabetes mellitus or any chronic prepregnancy medical disorders, those not willing for any intervention and Patients not willing to deliver at ESIC were excluded.

Demographic data, Medical, Obstetric & Surgical history, antepartum data were collected. The study was done between 24 to 28 weeks of gestation. Consented

women were given 75 gm of oral glucose irrespective of fasting status and OGTT value detected by venous sample after 2 hours. (DIPSI). value >140 was taken as GDM. Analysis was done regarding number of patients with GDM, distribution according to age, parity and associated medical complications. Prevalence of GDM was presented as percentage. Contributing medical complications were expressed in percentage.

3. RESULTS

A total of 300 women were enrolled during the study period. The baseline characteristics are shown in table 1

Table 1:

Age(years)	Number of women	Percentage
16-20	20	6.7%
20-25	110	36.7%
25-30	125	41.2%
30-35	30	10%
35-40	15	5

The mean age of participants was 27+/-6 years.

Table 2:

BMI	NUMBER	PERCENTAGE
<18.5	48	16
18.5 -24.9	201	67
25 -30	51	17

The mean BMI was 25.5

Table 3:

Education	Number	Percentage
professional,PG,graduate	18	6
Intermediate,high,middle school	125	41.6
primary	113	37.6
illiterate	44	14.7

Table 4:

Socio economic status	Number	Percentage
Upper	20	6.7
Upper middle	108	36
Lower middle	83	27.7
Upper lower	39	13
Lower	50	16.7

Table 5:

Parity	number	Percentage
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Primi	138	46
One child	83	27.7
Two children	24	7.7
Three	17	5.7
Abortions and IUD	38	13

Among 300 women, GDM was diagnosed in 46 women (15.3%) as per DIPSI criteria. Most women were between age 25 -30 years (n=32, 69.5%), followed by 30-35 years (n=16, 34.7%) when compared to 20-25 years (n=14, 30.4%). Women between 35-40 years were 7 (15.2%) and 16-20 years were 3 (6.5%).

Table 6: Shows Parity Distribution.

Abortions	N=4	8.7%
1 child	13	28.2
2 children	2	4.34
3 children	1	2.1
Iud	4	8.7

GDM was diagnosed in 24 multigravida (52.1%) when compared to primigravida (n=19, 41.3%)

Mean age was 27.6 years. Mean BMI was 25.5. The prevalence of GDM was more in the age group of 25-30 years (n=32, 69.5%). The prevalence of GDM was more in upper middle class category (n=22, 47.8%) followed by lower middle class (n=9, 19.5%). GDM prevalence was more in intermediate/high /middle school group (n= 28, 60.8%). Positive family history of diabetes was found in (n=16, 34.7%).

4. DISCUSSION

In spite of GDM being a common metabolic disorder in pregnancy, controversies remain regarding screening and diagnostic criteria. Zargar et al found the prevalence of GDM to be 3.8% in Kashmiri women.⁴

The prevalence of GDM in our study was 15.3% which correlates with study done by Sheshiah et al between 2002-2003. This study reported the prevalence of GDM of 16.2% in Chennai, 15% in Thiruvananthapuram, 21% in Alwaye, 12% in Bangalore, 18.8% in Erode and 17.5% in Ludhiana. An overall prevalence of 16.55% was observed.⁵ In

another study done in Tamil Nadu (2005-2007), a total of 4151, 3960, 3945 women were screened in urban, semiurban, and rural areas respectively. GDM was detected in 17.8%, 13.8%, 9.9% respectively.³

Brazilian gestational diabetes study evaluated the ADA and WHO criteria against pregnancy outcomes in 5000 women. Incidence of GDM as per ADA criteria was 2.4% and WHO was 7.2%.

GDM showed an association with increasing age, higher parity, higher prepregnancy weight and BMI, and positive family history of diabetes 3-10. In our study GDM was found to be associated with increasing age, higher education level, higher socioeconomic status, higher prepregnancy BMI, positive family history. Prevalence of age increased with increasing age in earlier studies also.^{4, 10, 11}

Higher prevalence of GDM was seen with increasing educational level as contrary to Innes et al which showed inverse relation.¹² Prevalence of GDM was more in higher socioeconomic status as evidenced by Keshavarz et al.¹³ Higher parity is associated with increasing prevalence as evidenced by Jang et al.¹⁴

GDM was more in women with higher BMI.^{5, 11}

Positive family history was seen in GDM women.^{5, 11}

5. CONCLUSION

The prevalence of GDM was found to be 15.3% at ESI medical college and hospital, Bangalore. GDM being the most common metabolic disorder, early screening and diagnosis through appropriate screening method is very important to prevent complications.

6. REFERENCES

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