



**Research Article**

**POPULARITY OF GESTATIONAL DIABETES MELLITUS AT SPECIAL CARE UNIT**

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**ABSTRACT**

Gestational diabetes mellitus (GDM) is explained as carbohydrate bigotry of different degree of harness with expedition or early validity during pregnancy. Women with gestational diabetes mellitus (GDM) and their kids are at maximum hazards of upcoming diabetes mellitus and metabolic deformity. Early detection and accurate management of GDM, as well as, postpartum up gradation and special standard care is conventional to decrease this hazard, Moreover, no huge range anticipated research have been done consequently from the advancing world on current aspect. Significantly in the advancing world with India and other neighboring countries, providing a important part of the maximizing over trouble. A serious concern is that India is displayed to have the maximum population of people with diabetes in world by 2030. The pick in popularity is presented to aged population, urbanization, upcoming obesity, unhealthy diets and physical inactivity, in addition to the genetic predisposition of developed countries to diabetes. The current study was conducted at Kancheepuram district, at dept. of obstetrics and gynaecology, Ponnaiyan Ramajayam Institute of Medical Sciences.

The aim and objective of current research is to investigate out popularity of GOM in public. The experiment has following material and procedure in a research sample of pregnant women (n = 232) of 24-28 weeks gestational age Companionating Obstetrics and Gynaecology OPD in 2016 followed the conducted the 75 gm oral glucose tolerance test unconnected of their fasting phase. Women with a medical history of diabetes were not considered in current research. Blood samples were collected at 2 hr., for calculating plasma glucose level. The plasma glucose was reported by GOD-POD procedure and the predominance of GOM was esteemed on DIPSI strategies. The result for the current research is as mention Among the 232 women observed 32 (13.79%) had GDM and between hazard components, maximum BMI was considerably connected with GOM. There was no analytical significant difference between age, gestational weeks and gravitas of the women in the general glucose tolerant and GDM samples group. The last stage of the research is the conclusion of the study is as follows the reasons to high popularity, checking is important for all Indian pregnant women even in non-high hazard group. A short phase concern care provides a long term rates off in the initial redressed of obesity, IGT and diabetes in the next generation and supports to avoid prospective diabetes and cardiovascular disease in women.

**KEYWORDS:** Tangle, Glucose dispute test, Gestational diabetes mellitus, Oral glucose tolerance test, Pregnancy.

**INTRODUCTION**

Gestational Diabetes Mellitus (GDM) is explained as carbohydrate bigotry of different degree of rigidity with start-up or initial compliance during pregnancy, unconnected of the nursing cure with diet or insulin. The popularity of diabetes is maximizing universally and these numbers involve women with GDM. The crucial of GDM is that couple of generations is at hazard of advancing diabetes in the future prospective. Women with a medical history of GDM are at maximum hazard of advance future diabetes, essentially type 2 diabetes and cardiovascular

diseases and their children have maximum risk for obesity and diabetes.

This reality should warn the physicians about the requisite to accomplish special focus to this fragment of population in particular in advancing nations. A random investigation was conducted for the first time in 2009 to identify the popularity of GDM in our nation... of the total number of pregnant women (n=3674) examined, 16.65% were observed to have GDM. So we admitted a hospital depends on

investigate to secure the popularity of GDM in our population in 2016.

### OBJECTIVES OF STUDY

The following are the objective of the study.

- To investigate out popularity of GDM in population.
- To pledge every pregnant woman unconnected to their fasting phase.
- To avoid advance confusion.

### Need For the Study

High prevalence of DM and genetic predisposition to metabolic syndrome among Asians, particularly in Indian women, predisposes women to develop GDM and its complications. So, there is a need for cost-effective universal screening and diagnostic method. Unfortunately there is no international consensus on the screening and diagnostic criteria for GDM. The rationale of this review is to provide recent undated and to discuss the controversies of screening and diagnosis of GDM. It affects 7% of all pregnancies worldwide and in India it ranges from 6 to 9% in rural and 12 to 21% in urban area<sup>[4]</sup>. The high rate implies that Indian population has a higher incidence of DM and impaired glucose tolerance and is at a greater risk of developing GDM. It is diagnosed at 16.3% in <16 weeks of gestation, 22.4% between 17-23 weeks and 61.3% after 23 weeks of gestation<sup>[5]</sup>. The HAPO study demonstrate that maternal hyperglycaemia even at a level below that diagnostic of DM is associated with increased birth weight and microsomal. An increase in morbidity during pregnancy with a likelihood of developing diabetes in future is associated with maternal hyperglycaemia. This also has a direct impact on the developing fetal pancreas and remains a risk factor for developing DM in future.<sup>[6]</sup>

### METHODOLOGY

We lead an eventual checking for GDM in all pregnant women of 24-28 gestational weeks who are conducting their antenatal department hospital Ahmedabad during September 2016 to December

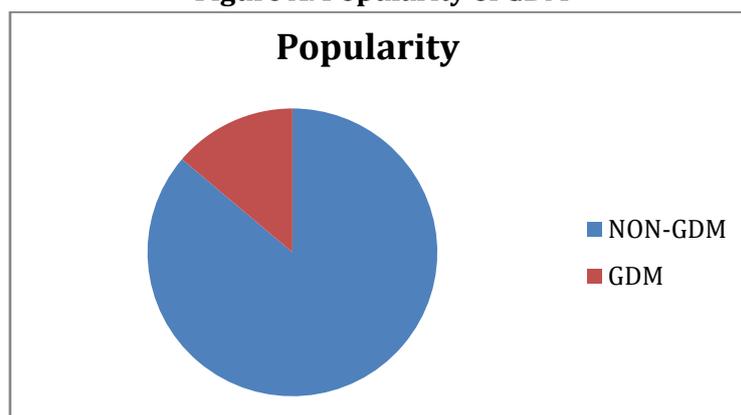
(n=232). They endure 75gm oral glucose tolerance test (OGTT) unconnected of fasting phase. Women with a medical history of diabetes were forbidden. Blood samples were collected at 2 hr. for calculating plasma glucose. Glucose was calculated by glucose oxidase peroxidise (GOD-POD) procedure in the central workshop and diagnosis of GDM was based on diabetes in pregnancy study group India (DIPSI) strategy. DIPSI suggested 2 - hr.glucose  $\geq$  140 mg/dl with 75 gm oral glucose upgraded to diagnose GDM. Of diabetes and history of initial pregnancies were studied. The body mass index (BMI) of the subjects was pre- arranged by calculated from the weight before pregnancy and converted in kg/m<sup>2</sup>. Mentioned agreement was conducted from all the patients. To correlate the mean figures of GDM and non-GDM groups, z test was utilized and two tailed p value<0.05 was conceived mathematically significant.

**Screening and diagnostic Criteria:** In 1960, O'Sullivan et al., proposed that screening, diagnosis and treatment of hyperglycaemia in women who are not a known DM improve outcomes. They proposed diagnostic criteria for GDM based on 3-hour 100g glucose OGTT and then they validated these criteria for the development of future DM in the mother [10]. There is no consensus regarding screening and diagnostic methods for GDM. Screening and diagnostic methods can be universal or 30kg/m<sup>2</sup>, previous macrocosmic baby weighting 4.5kg or above, previous GDM, family history of DM (first degree relative with DM), ethnic family origin with a high prevalence of DM, clinical conditions associated with insulin resistance like PCOD, acanthuses Nigerians, history of hypertension or hypercholesterolemia.

### FINDINGS

Out of 232 women examined at antenatal approach, 32 were examined with GDM and popularity of GDM was 13.79% (figure A), with their mean, standard deviation (3D) Z - test and P-value are given in Table 1.

Figure A. Popularity of GDM



**Table 1 Diagnosis of GDM with a 100g (standard) oral glucose intake**

	Mg/dl	Mmol/l
Fasting	96	5.4
1h	182	10.2
2h	157	8.9
3h	142	7.9

More than two or two venous liquid concentrations must be correlate or exceeded for a positive diagnosis. The evaluation should be made in the morning followed to an overnight fast off by 8 and 14 hrs. And next to at least 3 days of unrestricted diet ( $\geq 150$ gm carbohydrate per day) and unlimited physical functions. The sample should remain at particular place and should not smoke during the test is conducted.

**Table 2 Diagnosis of GDM with a 75gm oral glucose intake**

	Mg/dl	Mmol/l
Fasting	96	5.4
1 hr	182	10.2
2 hr	157	8.9

More than two or two venous liquid concentrations must be correlate or exceeded for a positive diagnosis. The evaluation should be made in the morning followed to an overnight fast of by 8 and 14 hrs. And next to at least 3 days of unrestricted diet ( $\geq 15$ gm carbohydrate per day) and unlimited physical functions. The sample should remain at particular place and should smoke during the test is conducted. The no difference has been observed by the 100gm or 75gm intake of oral glucose.

**Table 3: Features of women with mean SD, Z-test value and P value**

Parameter	GDM		Non - GDM		Z test Value	P value
	N= 32		N=200			
	Mean	+/- sd	Mean	+/- sd		
Gestational Weeks	28.5	+/- 1.87	27	+/- 1358	1.61	0.13
Age (year)	25.37	+/- 2.54	25.96	+/- 3.04	1.32	0.23
Gravida	2.72	+/- 1.07	2.7	+/- 1.07	0.09	0.93
BMI (kg / m <sup>2</sup> )	24.64	+/- 2.61	20.36	+/- 3.77	8.60	< 0.0001

In our study for BMI in GDM and non - GDM groups P-value is <0.005 which is mathematically significant which is indicator of higher popularity of GDM in women with maximum BMI than in non - GDM group.

For gestational weeks, age and gravida P-Value is not <0.05, so mathematically there is no significant variation among two groups and their features.

### INTERPRETATION AND DISCUSSION

GDM happen when body cannot produce adequate insulin to complete the upgrading contents that woman requirement during pregnancy or body cannot use the insulin efficiently. It develops when the woman's beta cell function is not able to prevail the hostility produced by the anti - insulin hormones of pregnancy and the extension fuel utilization appropriate to produce for the enlarging fetomaternal unit. In this research, researcher elected to adhere general examining as discriminating

correlated on hazard components graded poorly in anticipating GDM. Universal examining for GDM catch-up more cases and rectify motherly and child diagnosis correlated to discriminative examining. It develop to be the most credible and wanted procedure for the excogitation of GDM, specifically in those populations with high risk for GDM, for general examining, the test should be simple and cost concrete.

The two phase method of examining with 50gm glucose dispute test and the evaluating GDM related on oral glucose Tolerance Test (OGTT) is not credible in our nation, due to pregnant women may have to go for medical check-up at antenatal clinic couple of time in a week, and at least 3 - 6 blood samples have to be collected Initial step examining by DIPS strategy is simple to adhere also in actual it is economical. Established risk component for GDM are improved motherly age, obesity and family medical history for diabetes. In our research, information

authentic that maximizes BMI is a risk component for GDM. Of the entire individual hazard component for GDM, BMI evolved as a flexible hazard component. They are the unique group to be focused for lifestyle alteration or pharmacologic interference in order to deferment or postpone the start-up of overt diabetes. Hence a crucial public health preference in the redresser of diabetes is to address motherly health both during ante and post-partum phase. GDM produce a exclusive model in which treatment for a medical condition. (GDM) acts as avoiding for another situation (advance diabetes in the mother) and also acts as prevention for term in alternate person (future diabetes in a new born child). Lifestyle modifies, food modifies and physical function focuses to complaisant weight transformation and abatement popularity of GDM. Small phase can decrease diabetes risk and the chance of getting and profitable pregnancy is about the equal as a non – diabetic woman when blood sugars are kept at the normal level.

## CONCLUSION

GDM can unfavorably assumable both the mother and the baby and should be taken gravely. Because of the maximum popularity, examining must be done for all Indian pregnant women even in non-high risk group.

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### Cite this article as:

Sasikalai Kumari. Popularity of Gestational Diabetes Mellitus at Special Care Unit. International Journal of Ayurveda and Pharma Research. 2018;6(5):72-75.

**Source of support: Nil, Conflict of interest: None Declared**

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