



"Evaluation of Random Plasma Glucose Versus Oral Glucose Challenge Test (Ogct) with 50gm Glucose as a Screening Test for Gestational Diabetes Mellitus Followed by Confirmation with Oral Glucose Tolerance Test in Screen Positive Patients"

KEYWORDS

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ABSTRACT Background: Diabetes is estimated to complicate 2-5% of all pregnancies. 90% of those are detected during pregnancy i.e. Gestational Diabetes Mellitus (GDM) and the rest are overt or pregestational i.e. either type I or type II. Increased awareness and availability of many screening methods detected Gestational Diabetes Mellitus early and controlled further effects on the mother or fetus and also prevented long term complications to both mother and fetus. In this study we have evaluated the efficacy of RBS and GCT as screening test for GDM.

Aims of the Study

To evaluate the predictive value of Glucose Challenge Test and Random Blood Sugar as a screening test in pregnant women between 24-28 weeks in Low risk group and in High risk group at the first antenatal visit, if negative at 24-28 weeks and, if negative at 32-36 weeks of GA.

To evaluate the preference of two screening tests RBS and OGCT for GDM

Materials and methods

The prospective clinical study is done at GGH, Kakinada, over a study period of 1½ year. 200 Antenatal women between the gestational ages 24-28 weeks were screened for oral glucose challenge test (OGCT) Vs random blood sugar (RBS). The study group was divided into high risk and low risk group. All the women are subjected to both OGCT and RBS. Antenatal women were divided into low risk and high risk group according to inclusion and exclusion criteria. Women with the values above the cut off values were subjected to glucose tolerance test (GTT) for confirmation of diabetes.

Results:

In high risk group of 75 (100% antenatal women, 27 (36%) were screened positive by OGCT and 6 (22.22%) were diagnosed GDM by OGTT. Of them 3 were diagnosed GDM at 32-36 weeks, 2 were diagnosed GDM at 24-28 weeks and one was diagnosed GDM at First AN visit. In OGCT screen positive patients of high risk group- 4(6.55%) were in the age group between 26-30 years among 61, one (9.09%) was in the age group between 31-35 years among 11 and one (33.33%) was in the age group >35 years among 3 diagnosed as GDM.

In the low risk group of 125(100%) antenatal women, 7(5.6%) women were screened positive with OGCT and 2 (28.57) were diagnosed GDM by OGTT. In OGCT screen positive of low risk group- One (3.70%) was in the age group <20 years among 27 and one (1.02%) was in the age group of 21-25 years among 98 was diagnosed as GDM.

In high risk group of 75 (100%) antenatal women 31 (41.33%) were screened positive by RBS and 3 (9.67%) per diagnosed as GDM by OGTT. Of them 2 were diagnosed GDM at 32-36 weeks, one was diagnosed between 24-28 weeks and none was diagnosed GDM at First AN

visit. One (1.63%) was in the age group of 26-30 years among 61, One (9.09%) was in the age group 31-35 years among 11 and one (33.33%) was in the age group of >35 years among 3.

In the low risk group of 125 (100%) antenatal women, 5(4%) women were screened positive with RBS. In RBS screen positive of low risk group none was in the age group <20 years and 1(1.02%) in the age group between 21-25 years among 98 diagnosed as GDM. Out of 200 AN cases, 85 were primigravida of which one was diagnosed as GDM. 73 were second gravida of which 1 was diagnosed as GDM. 30 were third gravida of which 3 were diagnosed as GDM. 10 were fourth gravida of which 2 were diagnosed as GDM. 2 were fifth gravida of which 1 was diagnosed as GDM.

The sensitivity was 100% in both high risk and low groups screened with OGCT and RBS. Specificity was 69% for high risk OGCT group, 61% for the high risk RBS group, 96% for low risk OGCT group, 96.7% for low risk RBS group.

Conclusion:

- OGCT could diagnose GDM more accurately than RBS, the same is confirmed by OGTT.
- Positive member of women Screened by RBS were more but when OGCT was done in RBS Positive cases, Positive GDM cases are low. This indicates RBS evaluation gave rise to more number of false Positive cases. So when we compare the efficacy of RBS and OGCT, OGCT is better screening test.
- As the parity and age of the antenatal women increases number of Gestational Diabetes Mellitus increases.

Until superior alternatives become available the 50gm glucose challenge test should be preferred screening test for GDM. GCT is a better investigation for the screening of gestational diabetes than random blood glucose.

Universal screening for gestational diabetes mellitus should be mandatory irrespective of presence or absence of risk factors because it is definite disease entity associated with significant maternal and perinatal complications.

Materials and methods

- The prospective clinical study is done at GGH, Kakinada, over a study period of 1½ year.
- 200 Antenatal women between the gestational ages 24-28 weeks were screened for oral glucose challenge test (OGCT) Vs random blood sugar (RBS). The study group was divided into high risk and low risk group. All the women are subjected to both OGCT and RBS.
- Cut off value for OGCT was taken as 140 mg/dl.
- Cut off value for RBS was taken as 100 mg/dl.
- Antenatal women were divided into low risk and high risk group according to inclusion and exclusion criteria.
- Women with the values above the cut off values were subjected to glucose tolerance test (GTT) for confirmation of diabetes.

INCLUSION CRITERIA

High Risk Group:

- Age > 25 years
- Family history of diabetes in first degree relative
- Marked obesity-BMI >2 Kg/m² or >120% ideal body weight
- Previous abnormal glucose tolerance test
- Previous large baby > 4Kg
- Persistent glycosuria
- Previous bad obstetric history- unexplained still birth or congenital malformed babies, unexplained perinatal loss, intrauterine death, Preterm delivery.
- Polyhydramnios
- Previous h/o of preeclampsia
- Previous h/o of GDM

Low risk group:

- Age < 25 years
- No known diabetes in first degree relatives
- Weight normal before pregnancy
- Weight normal at birth
- No history of abnormal glucose metabolism
- No previous history of adverse obstetrical outcome usually associated with gestational diabetes [macrosomia, neonatal hypoglycemia]

EXCLUSION CRITERIA

- Women with known preexisting diabetes (overt)

METHOD OF PERFORMING OGCT

- Fasting was not a prerequisite.
- Irrespective of the time of last meal, 50gms of glucose was dissolved in 200ml of water and asked to drink within 5 min.
- Exactly after 1 hour, venepuncture was made and blood obtained for the study
- Plasma glucose was estimated with glucose oxidase or Hexokinase reagent test
- If result >140mg/dl, then women was subjected to three hour OGTT with 100gm of glucose.

METHOD OF PERFORMING RBS

- Fasting was not a prerequisite
- Venepuncture was made and blood obtained for the study
- Plasma glucose was estimated with glucose oxidase or Hexokinase reagent test
- If the result was >100mg/dl, then the women underwent three hour OGTT with 100gm of glucose.

METHOD OF PERFORMING OGTT

- For at least three days prior to the test, women were

asked to consume their normal unrestricted diet containing a minimum of 150gm of carbohydrate.

- After an overnight fast of 8 hours, a fasting blood sample is drawn; following which she drank a solution of 100gm of glucose dissolved in 300ml of water within 5 minutes.
- First hour, second hour and third hour samples were collected by venepuncture.
- Plasma glucose estimated with glucose oxidase or Hexokinase reagent.
- Values of four plasma glucose obtained are compared with values done for 100gm OGTT of carpenter and coustan criteria.
- If 2 values were greater than the values of carpenter and coustan criteria, woman was labeled as GDM.

Timing of plasma glucose collection	Carpenter and coustan criteria
Fasting	95 mg/dl
1 hour	180 mg/dl
2 hour	155 mg/dl
3 hour	140 mg/dl

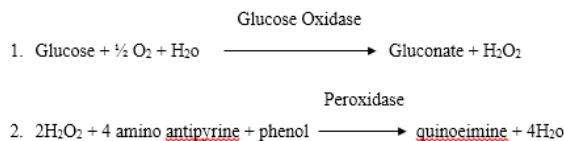
SCREENING OF BLOOD SUGARS VALUES TESTING METHOD

Sample collection and processor:

- Intravenous blood of 2ml is collected after taking oral glucose 50gm or 100gm according to the test – 50 gm OGCT and 100gm OGTT.
- Intravenous blood of 2ml is collected irrespective of glucose intake i.e. Random Blood Sugar.
- After separation of serum from sample, it is centrifuged at rate of 3000 rpm for 5min.
- After 5min the test sample is kept in auto analyzer (Glucose Oxidase or Glucose Hexokinase for recording of blood sugar values and results are taken accordingly).

Principle:

The reaction sequence employed in the assay of glucose is as follows:



Glucose is oxidized by glucose oxidase and produces gluconate and hydrogen peroxide. The hydrogen peroxide is then oxidatively coupled with 4 – aminoantipyrine and phenol. The amount of coloured complex (quinoneimine) is proportional to glucose concentration in sample that can be measured photometrically.

STATISTICAL METHODS

The Diagnostic values were computed for OGCT and RBS with respect to the final diagnosis.

TEST	GDM	NOT GDM	TOTAL
ABNORMAL	a	b	a + b
NORMAL	c	d	c + d

TOTAL	a + c	b + d	n
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Sensitivity= $a / (a + c)$

Specificity= $d / (b + d)$

PPV = $a / (a + b)$

NPV = $d / (c + d)$

Statistical Software: Microsoft word and Excel have been used to generate graphs, tables etc

Observations and results

TABLE 1: OGCT SCREENING IN HIGH RISK GROUP

SCREENING	GDM (OGTT)	NO GDM	TOTAL n=75(100%)
POSITIVE	6 (22.2%)	21 (77.77%)	27 (36%)
NEGATIVE	0	48 (100%)	48 (64%)

The table shows the number of women who underwent OGCT in the high risk group and number of patients who were diagnosed to be GDM.

Total number of high risk cases is 75. Out of them 27 (36%) antenatal women were OGCT screen positive. These 27 cases underwent OGTT, of them 6 (22.22%) were diagnosed to be GDM and remaining 21 (77.77%) were negative - no Gestational Diabetes Mellitus.

Out of 75 antenatal cases, 48 antenatal women (64%) who were OGCT negative did not undergo OGTT and were considered as having no GDM.

TABLE 2: OGCT SCREENING IN LOW RISK GROUP

SCREENING	GDM (OGTT)	NO GDM	TOTAL n= 125(100%)
POSITIVE	2 (28.57%)	5 (71.42%)	7 (5.6%)
NEGATIVE	0	118 (100%)	118 (94.4%)

Table 2 shows the number of woman who underwent OGCT in the low risk group and number of patients who were diagnosed to be GDM.

Total number of low risk cases is 125. Out of them 7 (5.6%) antenatal women were OGCT positive. These 7 cases underwent OGTT, of them 2 (28.57%) were diagnosed to be GDM and remaining 5 (71.42%) were negative- no GDM.

Out of 125 antenatal cases, 118 women (94.4%) were OGCT negative and did not undergo OGTT and considered them as having no GDM.

TABLE 3: RBS SCREENING IN HIGH RISK GROUP

SCREENING	GDM (OGTT)	NO GDM	TOTAL n=75(100%)
POSITIVE	3 (9.67%)	28 (90.32%)	31 (41.33%)
NEGATIVE	0	44 (100%)	44 (58.67%)

Table 3 shows the number of woman who underwent RBS in the high risk group and number of patients who were

diagnosed to be GDM.

Total number of high risk cases is 75. Out of them 31 (41.33%) antenatal women were OGCT positive. These 31 cases underwent OGTT, of them 3 (9.67%) were diagnosed to be GDM and remaining 28 (90.32%) were negative - no GDM.

Out of 75 cases, 44 antenatal women (58.67%) who were OGCT negative did not undergo OGTT and considered them as having no GDM.

TABLE 4: RBS SCREENING IN LOW RISK GROUP

SCREENING	GDM (OGTT)	NO GDM	TOTAL n= 125(100%)
POSITIVE	1 (20%)	4 (80%)	5 (4%)
NEGATIVE	0	120 (100%)	120 (96%)

Table 4 shows the number of woman who underwent RBS in the low risk group and number of patients who were diagnosed to be GDM.

Total number of low risk cases is 125. Out of them 5 (4%) were OGCT positive. These 5 cases underwent OGTT, of them 1 (20%) were diagnosed to be GDM and remaining 4 (80%) were negative - no GDM.

Out of 125 antenatal women, 120 women (96%) who were OGCT negative did not undergo OGTT and considered them as having no GDM.

TABLE 5: ASSOCIATION OF GDM WITH GESTATIONAL AGE IN OGCT OF HIGH RISK GROUP

Visit	OGCT	OGTT (No. AN cases)		OGTT %	
		Positive	Negative	Positive	Negative
At First AN Visit	8 (10.66%)	1	7	12.5%	87.5%
At Second AN Visit (24-28 weeks)	9 (13.4%)	2	7	22.22%	77.7%
At Third AN Visit (32.36 weeks)	10 (17.24%)	3	7	30%	70%

At first antenatal visit, out of 75 antenatal women 8 i.e. 10.66% women were screened positive by OGCT. These 8 women were subjected to OGTT, of them 1 (12.5%) was diagnosed to be diabetic and 7 (87.5%) had no gestational diabetes mellitus. Remaining 67 women in high risk group who were OGCT negative at first antenatal visit were subjected to OGCT at 24-28 weeks; of them 9 (13.4%) women were screened positive by OGCT. These 9 antenatal women were subjected to OGTT, of them 2 (22.22%) diagnosed to be diabetic and 7 (7.77%) had no gestational diabetes mellitus.

Remaining 58 women in high risk group who were OGCT negative at 24 – 28 weeks were subjected to OGCT at 32 – 36 weeks, of them 10 (17.24%) women were screened positive by OGCT. These 10 antenatal women were subjected to OGTT, of them 3 (30%) diagnosed to be diabetic

and 7 (70%) had no gestational diabetes mellitus.

TABLE 6: ASSOCIATION OF GDM WITH GESTATIONAL AGE IN RBS OF HIGH RISK GROUP

Visit	RBS	OGTT (No. AN cases)		OGTT%	
	Positive	Positive	Negative	Positive	Negative
At First AN Visit	11 (14.66%)	0	11	0%	100%
At Second AN Visit (24-28 weeks)	11 (17.18%)	1	10	9.09%	90.9%
At Third AN Visit (32.36 weeks)	9 (16.98%)	2	7	22.2%	77.7%

At first antenatal visit, out of 75 antenatal women 11 (14.66%) women were screened positive by RBS. These 11 women were subjected to OGTT, and all of them had no gestational diabetes mellitus. Remaining 64 women in high risk group who were RBS negative at first antenatal visit were subjected to RBS at 24-28 weeks; of them 11(17.18%) women were screened positive by RBS. These 11 antenatal women were subjected to OGTT, of them 1 (9.09%) diagnosed to be diabetic and 10 (90.9%) had no gestational diabetes mellitus.

Remaining 53 women in high risk group who were RBS negative at 24 – 28 weeks were subjected to RBS at 32 – 36 weeks; of them 9 (16.98%) women were screened positive by RBS. These 9 antenatal women were subjected to OGTT, of them 2 (22.22%) diagnosed to be diabetic and 7 (77.77%) had no gestational diabetes mellitus.

TABLE 7: COMPARISON OF LOW RISK AND HIGH RISK GROUP

Screening Test	HIGH RISK n=75		LOW RISK n=125	
	Total (Screen Positive)	GDM (OGTT)	Total (Screen Positive)	GDM (OGTT)
OGCT	27 (36%)	6 (22.2%)	7 (5.6%)	2 (28.57%)
RBS	31 (41.33 %)	3 (9.67%)	5 (4%)	1 (20%)

Shows the number of women screened and diagnosed GDM in each group.

In the OGCT high risk group, 27 (36%) antenatal women of 75 were OGCT screen positive. These 27 antenatal women underwent OGTT and of them 6 (22.2%) were found to be diabetic.

In the RBS of high risk group, 31 (41.33%) antenatal women of 75 were RBS screen positive. These 31 antenatal women underwent OGTT and 3 (9.67%) were found to be diabetic.

In the OGCT low risk group, 7 (5.6%) antenatal women of 125 were OGCT screen positive. These 7 antenatal women underwent OGTT and 2 (28.57%) were found to be diabetic.

In the RBS low risk group 5 (4%) antenatal women of 125 were RBS screen positive. These 5 antenatal women un-

derwent OGTT and 1 (20%) was found to be diabetic.

TABLE 8: SCREENING WITH OGCT (High Risk + Low Risk)

SCREENING (OGCT)	TOTAL n=200 (100%)	NO GDM	GDM (OGTT)
POSITIVE	34 (17%)	26 (76.47%)	8 (23.52%)
NEGATIVE	166 (83%)	166 (100%)	0

Table 8 shows the number of patients who underwent screening in the OGCT group including both high risk and low risk factors. Total of 34 out of 200 antenatal women (17%) were OGCT screen positive. These 34 antenatal women underwent OGTT of whom 8 (23.52%) were diagnosed to have GDM and 26 (76.47%) did not have GDM. Remaining 166 i.e. 83% women did not undergo OGTT and considered them as having no GDM.

TABLE 9: SCREENING WITH RBS (High Risk + Low Risk)

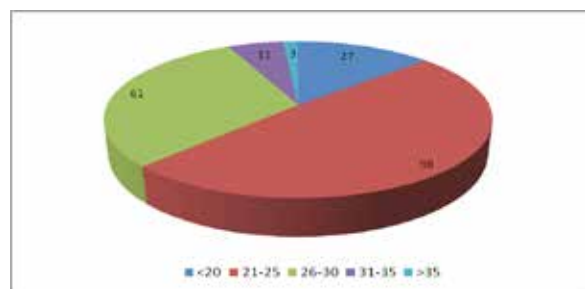
SCREENING (RBS)	TOTAL n=200	NO GDM	GDM (OGTT)
POSITIVE	36 (18%)	32 (88.88%)	4 (11.11%)
NEGATIVE	164 (82%)	164 (100%)	0

Table 9 shows the number of patients who underwent screening in the RBS group including both high risk and low risk factors. Total of 36 out of 200 antenatal women (18%) were RBS screen positive. These 36 antenatal women underwent OGTT of whom 4 (11.11%) were diagnosed to have GDM and 32 (88.88%) did not have GDM. Remaining 164 i.e. 82% women did not undergo OGTT and considered them as having no GDM.

TABLE 10: TOTAL NUMBER OF ANTENATAL WOMEN ACCORDING TO AGE GROUPS

AGE GROUP	No. of Antenatal women (n=200)
<20	27 (13.5%)
21-25	98 (44%)
26-30	61 (30.5%)
31-35	11 (5.5%)
>35	3 (1.5%)

Figure – 1



Most of the women in the study group were between 21-25 (49%) years of age. There were 98 women screened for OGCT and RBS belonging to this group. Women between 26-30 years were 61 (30.5%). 27 (13.5%) women screened for OGCT and RBS who were less than 20 years of age. In age group of 31-35 years there were 11 (5.5%) patients and in the age group of >35 years there were 3(1.5%) antenatal women who were screened for both GCT and RBS.

TABLE 11: COMPARISON OF OGCT AND RBS SCREENING FOR GDM ACCORDING TO AGE GROUPS AND NUMBER OF ANTENATAL CASES

AGE (YEARS)	TOTAL NO. OF ANTENATAL CASES	OGCT (GDM)	RBS (GDM)
<20	27	1 (3.70%)	0
21-25	98	1 (1.02%)	1 (1.02%)
26-30	61	4 (6.55%)	1 (1.63%)
31-35	11	1 (9.09%)	1 (9.09%)
>35	3	1 (33.33%)	1 (33.33%)

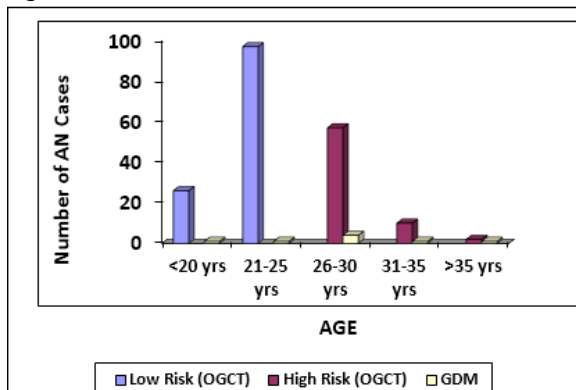
TABLE 12: OGCT SCREENING IN HIGH RISK ACCORDING TO AGE GROUPS FOR GDM

HIGH-RISK	26-30 YEARS		31-35 YEARS		>35 YEARS	
	Positive	Negative	Positive	Negative	Positive	Negative
TOTAL n = 75	61		11		3	
GDM (OGTT)	4 (6.55%)	57 (93.44%)	1 (9.09%)	10 (90.9%)	1 (33.33%)	2 (66.66%)

TABLE 13: OGCT SCREENING IN LOW RISK ACCORDING TO AGE GROUPS FOR GDM

LOWRISK	<20 YEARS		21-25 YEARS	
	Positive	Negative	Positive	Negative
TOTAL n = 75	27		98	
GDM (OGTT)	1 (3.70%)	26 (96.3%)	1 (1.02%)	97 (98.98%)

Figure - 2



In the high risk group, out of 75 women screened by OGCT, 61 (30.5%) women were in the age group of 26-30 years, 4 (6.55%) patients were diagnosed as GDM by

OGTT. Out of 11 (5.5%) women in the age group 31-35years, 1 (9.09%) patient was diagnosed as GDM by OGTT. Out of 3 (1.5%) women in the age group >35 years, 1 (33.33%) patient was diagnosed as GDM by OGTT. In the low risk group, out of 125 women screened by OGCT, 27 (13.5%) women in age group of less than 20years, 1(3.7%) patient was diagnosed as GDM by OGTT. Out of 98 (49%) women in the age group of 21-25 years, 1 (1.02%) patients was diagnosed as GDM by OGTT.

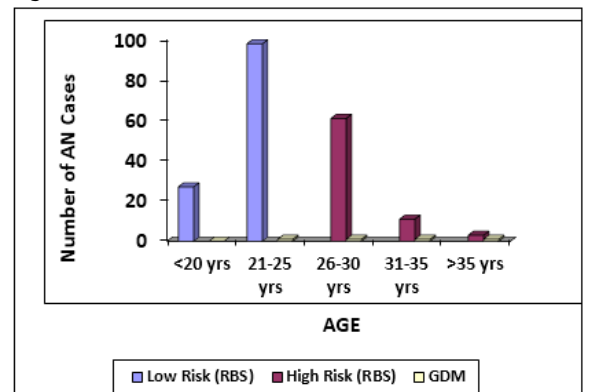
TABLE 14: RBS SCREENING IN HIGH RISK ACCORDING TO AGE GROUPS FOR GDM

HIGH-RISK	26-30 YEARS		31-35 YEARS		>35 YEARS	
	Positive	Negative	Positive	Negative	Positive	Negative
TOTAL n = 75	61		11		3	
GDM (OGTT)	1 (1.63%)	60 (98.37%)	1 (9.9%)	10 (90.9%)	1 (33.33%)	2 (66.66%)

TABLE 15: RBS SCREENING IN LOW RISK ACCORDING TO AGE GROUPS FOR GDM

LOWRISK	<20 YEARS		21-25 YEARS	
	Positive	Negative	Positive	Negative
TOTAL n = 75	27		98	
GDM (OGTT)	0	27 (100%)	1 (1.02%)	97 (98.98%)

Figure - 3



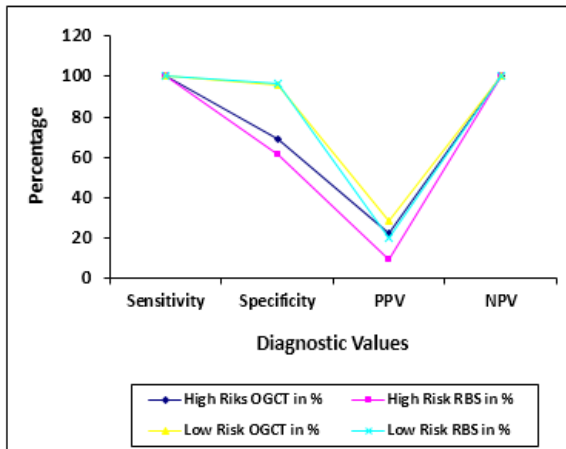
In the high risk group, out of 75 women screened by RBS, 61 (30.5%) women were in age group of 26-30 years, 1 (1.63%) patient was diagnosed to have GDM by OGTT. Out of 11 (5.5%)women in the age group 31 -35 years, 1(9.09%) patient was diagnosed to have GDM by OGTT. Out of 3 (1.5%) women in the age group 35years, 1(33.33%) patient was diagnosed to have GDM by OGTT.

In the low risk group out of 125 women screened by RBS, 27(13.5%) women were in the age group < 25years, out of which no one had GDM by OGTT. Out of 98 (49%) women in age group of 21-25 years, 1 (1.02%) patient was diagnosed to have GDM by OGTT.

TABLE 16: COMPARISON OF DIAGNOSTIC VALUES OF OGCT AND RBS AS PER RISK GROUP.

	High Risk OGCT in %	High Risk RBS in %	Low Risk OGCT in %	Low Risk RBS in %
Sensitivity	100	100	100	100
Specificity	69	61	95.9	96.7
PPV	22	9.6	28	20
NPV	100	100	100	100

Figure - 4



The table shows comparison of diagnostic values of OGCT and RBS on high and low risk group. The sensitivity is 100% in all 4 groups with variations in the specificity. RBS Low risk group had high specificity of 96.7%, with OGCT low risk group had 95.9% and OGCT high risk group 69%, RBS high risk group 61%.

OGCT low risk group had high PPV 28%, RBS 20% and OGCT high risk group had 22%, RBS 9.6% and NPV has 100% in all the four groups.

TABLE 17: PARITY DISTRIBUTION IN THE STUDY GROUP

GRAVIDA	TOTAL NO. OF ANTENATAL CASES N = 200	GDM in total number of cases as per Gravida	Percentage GDM per Gravida in total GDM cases
Primi	85 (42.5%)	1 (1.17%)	12.5%
2 nd Gravida	73 (36.5%)	1 (1.36%)	12.5%
3 rd Gravida	30 (15%)	3 (10%)	7.5%
4 th Gravida	10 (5%)	2 (20%)	25%
5 th Gravida	2 (1%)	1 (50%)	12.5%

Primigravidas were more in the study group. 85 (42.5%) women were primigravidas of which 1 (1.17%) woman was diagnosed to have GDM by OGTT. 73 (36.5%) women were 2nd gravida of which 1 (1.36%) woman was diagnosed to have GDM by OGTT. 30 (15%) women were 3rd gravida of which 3 (10%) women were diagnosed to have GDM by OGTT. 10 (5%) women were 4th gravida of which 2 (20%) women were diagnosed as GDM. 2 (1%) women were 5th

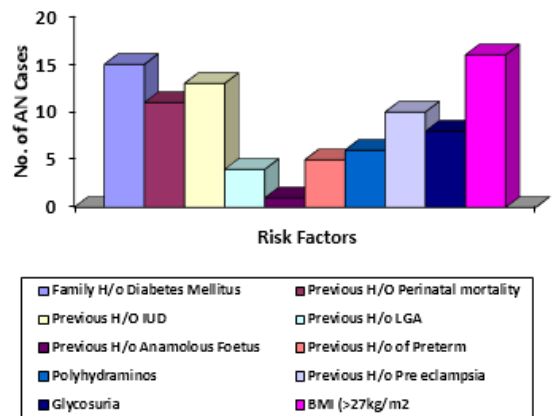
gravida of which 1 (50%) woman was diagnosed to have GDM by OGTT.

Among 8 GDM cases diagnosed 1 case was primi gravida (12.5%), 1 case was 2nd gravida, 3 cases (37.5%) were 3rd gravida, 2 cases (25%) were 4th gravida and 1 case (50%) was 5th gravida.

TABLE 18: COMPARISON OF RISK FACTORS

Risk Factors	No of Antenatal Women
Family H/O Diabetes Mellitus	15 (20%)
Previous H/O Perinatal Mortality	11 (14.66%)
Previous H/O IUD	13 (17.33%)
Previous H/O LGA	4 (5.33%)
Previous H/O Anamolous Foetus	1 (1.33%)
Previous H/O of Preterm	5 (6.66%)
Polyhydramnios	6 (8%)
Previous H/O Pre Eclampsia	10 (13.3%)
Glucosuria	8 (10.66%)
BMI (>27 kg/m ²)	16 (21.32%)

Figure - 5



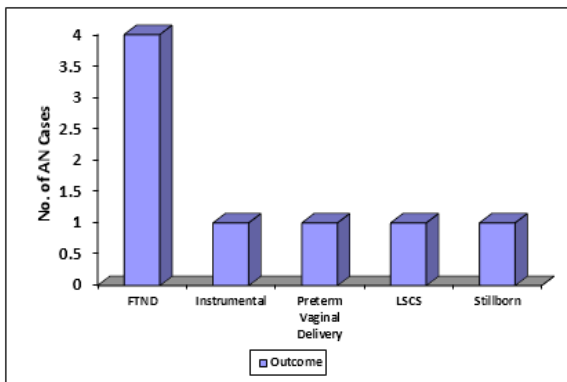
In high risk group there were 15 (20%) with family H/o. of diabetes mellitus, 11 cases (14.66%) with previous H/o. of perinatal mortality, 13 cases (17.33%) with previous H/o. of IUD, 4 cases (5.33%) with previous H/o. of LGA, 1 case (1.33%) with previous H/o. of Anomolous foetus, 5 cases (6.66%) with previous H/o. preterm, 6 cases (8%) with polyhydramnios, 10 cases (13.3%) with previous H/o. of Eclampsia, 8 cases (10.66%) with Glucosuria, 16 cases (21.32%) with BMI >27 kg/m². **More than One risk factor is present in some cases.**

TABLE 19: ASSOCIATION OF OUTCOME IN GDM PATIENTS

	OUTCOME		Number
	Live	Dead	
FTND	4	-	4
Instrumental	1	-	1
Preterm Vaginal Delivery	1	-	1
LSCS	1	-	1
Still Born	1	1	1

There were 4 FTND, INSTRUMENTAL deliveries were 1, 2 patients underwent LSCS, 1 STILL BIRTH with GDM.

Figure - 6



Conclusion

India has become diabetic epidemic due to its fast urbanization, life style changes and genetic make up of Indians. Diabetic mellitus is estimated to complicate 2-5% of all pregnancies. 90% of those cases are detected during pregnancy—called as Gestational Diabetes Mellitus. Approximately 7% of all pregnancies are complicated by Gestational Diabetes Mellitus resulting in greater than 2 lakh cases per annum. To forecast Gestational Diabetes Mellitus, we need to have a strong screening test. Such available screening tests are:

- Glycosuria
- Blood glucose estimation
- RBS
- FBS
- PPBS
- Mixed nutrient meal
- Oral glucose challenge test
- Glycosylated hemoglobin (HbA1c) estimation
- Spot test
- Glucose polymer challenge test
- Fructosamine estimation

We need to have fast, simple, reliable, relatively inexpensive tests. Such two tests are RBS and OGCT.

In this study we have evaluated the efficacy of RBS and GCT as screening test for GDM.

OGCT could diagnose GDM more accurately than RBS, the same is confirmed by OGTT.

Positive member of women Screened by RBS were more but when OGCT was done in RBS Positive cases, Positive GDM cases are low. This indicates RBS evaluation gave rise to more number of false Positive cases. So when we compare the efficacy of RBS and OGCT, OGCT is better screening test.

As the parity and age of the antenatal women increases number of Gestational Diabetes Mellitus increases.

Until superior alternatives become available the 50gm glucose challenge test should be preferred screening test for GDM. GCT is a better investigation for the screening of gestational diabetes than random blood glucose.

Universal screening for gestational diabetes mellitus should

be mandatory irrespective of presence or absence of risk factors because it is definite disease entity associated with significant maternal and perinatal complications.

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