

# Knowledge, Attitude and Practice Study on Antenatal Women with Gestational Diabetes Mellitus

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## ABSTRACT

Gestational diabetes is type of diabetes that can develop during pregnancy in women who have had no history of diabetes in the past. GDM is generally observed in women during the second or third trimester of their pregnancy, it is known to be a subtype of Diabetes Mellitus that is known as the development or the recognition of glucose intolerance during pregnancy. The risk of developing type 2 diabetes mellitus is greater in mothers with GDM compared to the general population. This was a prospective observational study carried out in the Department of gynecology in ESI MC & PGIMSR, Rajajinagar, Bengaluru. A total of 100 samples were collected, of which 85 were selected for the study. Subjects for the study were identified by the investigator during ward rounds based on the inclusion and exclusion criteria. Relevant data collected were recorded on the Self-designed data collection form. All recorded data were entered using Microsoft excel software for determining the statistical significance. The results it was found that most of the antenatal women are of age group 26-30 years, home maker, secondary school, Primi gravida, diagnosed in 3<sup>rd</sup> trimester, with no family history of gestational diabetes mellitus, low-income status and urban population. The knowledge, attitude and practice about gestational diabetes mellitus was assed. In the present study, we have concluded that good knowledge about the disease among the subjects also had good attitude and practice towards the disease. Improving the knowledge regarding the disease resulted in better health outcome among pregnant women.

**Keywords:** Gestational diabetes mellitus; Knowledge; Antenatal patients; Attitude; Practice.

## INTRODUCTION

Gestational diabetes mellitus (GDM) is a condition that may occur in the second half of pregnancy when blood glucose control is more difficult to achieve, leading to hyperglycemia (abnormally high concentration of glucose in the blood) that may affect the woman and her baby. The World Health Organization (WHO) defines GDM as "Carbohydrate intolerance resulting in hyperglycemia or any degree of glucose intolerance with onset or first recognition during pregnancy usually from 24 weeks' gestation onwards" and resolves following the birth of the baby. <sup>[1]</sup> Diabetes complicates between 1

and 20% of all pregnancies worldwide, including pregestational diabetes mellitus (PGDM) and gestational diabetes mellitus (GDM). With an estimated 50.8 million diabetics, India has the world's largest diabetes population and the highly questionable distinction of being the diabetes capital of the world. [2,3] GDM is associated with an increased risk of pre-eclampsia in mothers during pregnancy, as well as an increased risk of macrosomia, hypoglycemia, jaundice, respiratory distress syndrome, polycythemia, and hypocalcemia in infants. Though glucose levels return to normal after delivery, the mother is at a higher risk for Type 2 diabetes, and the child of a woman with GDM is at a higher risk for metabolic syndrome. Gestational diabetes etiology is apparently related to 1) the pancreatic beta-cell dysfunction or the delayed response of the beta cells to the glycemic levels, and 2) the marked insulin resistance secondary to placental hormonal release. [4,5] The human placental lactogen is the main hormone related to increased insulin resistance in GDM. Other hormones related to the development of this disease are growth hormone, prolactin, corticotropin-releasing hormone, and progesterone, these hormones contribute to the stimulation of insulin resistance and hyperglycemia in the pregnancy. The risk of GDM should be assessed at the first prenatal visit. Women with clinical characteristics suggestive of a high risk of GDM (marked obesity, personal history of GDM, glycosuria, or a strong family history of diabetes) should undergo glucose testing as soon as possible. If they are found to be GDM-free at the initial screening, they should be tested again between 24 and 28 weeks of pregnancy. [6,7] Women of average risk should be tested between 24-28 weeks of pregnancy. One-step approach. Perform a diagnostic oral glucose tolerance test [OGTT] without first screening plasma or serum glucose levels. In high-risk patients or populations, the one-step approach may be cost-effective. Two-step approach. Perform an initial screening by measuring plasma or serum glucose concentrations 1 hour after a 50-g oral glucose load (glucose challenge test [GCT]), and then perform a diagnostic OGTT on the subset of women who exceed the GCT glucose threshold value. A glucose threshold value of >140 mg/dl (7.8 mmol/l) identifies 80% of women with GDM when the two-step approach is used.

## MATERIALS AND METHODS

This was a prospective observational study carried out over a period of 6 months in the Department of Gynecology ESI MC & PGIMS, Rajajinagar, Bengaluru. Subjects for the study were identified by the investigator during ward rounds based on the inclusion and exclusion criteria. A total of 100 samples were collected, of which 85 were selected for the study. Relevant data collected were recorded on the Self-designed data collection form. The data thus obtained was entered into a Microsoft Excel sheet and analyzed appropriately. The study was approved in accordance with the guidelines issued by ICMR the Institutional Ethics Committee has issued ethical clearance to carry on the work.

### Inclusion Criteria:

- a) Pregnant women
- b) willing to participate was approached by the investigator.
- c) Women diagnosed with diabetes mellitus during pregnancy.
- d) Pregnant women above the age of 18 years.

### Exclusion Criteria:

- a) Women with past history of diabetes mellitus.
- b) Women who are not willing to Participate in the study.

**Statistical Analysis:**

All recorded data were entered and analyzed using MS Excel. Descriptive statistics were computed for quantitative variables. Frequencies and percentages were calculated for categorical values. Column charts, pie-charts, bar graphs were applied to find the nature of data distribution.

**RESULTS & DISCUSSION**

The study was conducted in the day care ward of the Gynecology department of ESI MC & PGIMSR, Rajajinagar, Bengaluru. A total of 100 samples were collected. Of these, 15 samples were dropped out due to insufficient data, so the overall sample size was 85.

**Distribution Of Subjects According to Age**

Out of 85 subjects responded, 1(1.20%) was of age  $\leq 20$  years, 27(31.80%) were of age 21-25 years, 39(45.90%) were of age 26-30 years, 18(21.20%) were of age 31-35 years, and 0(0%) were of age  $> 35$  years as shown in the table below.

AGE	NUMBER OF PATIENTS	PERCENTAGE
$\leq 20$	1	1.20%
<b>21-25</b>	27	31.80%
<b>26-30</b>	39	45.90%
<b>31-35</b>	18	21.20%
<b>&gt;35</b>	0	0%
<b>TOTAL</b>	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO OCCUPATION**

Out of 85 subjects responded, 57 (67.10%) were home maker, 13 (15.30%) were professional, 3 (3.50%) were health care worker, 3 (3.50%) were farmer and 9 (10.60%) were laborer as shown in the table below.

OCCUPATION	NUMBER OF PATIENTS	PERCENTAGE
HOME MAKER	57	67.10%
PROFESSIONAL	13	15.30%
HEALTHCARE WORKER	3	3.50%
FARMER	3	3.50%
LABOROR	9	10.60%
TOTAL	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO EDUCATIONAL STATUS**

Out of 85 subjects responded, 1 (1.20%) were illiterate, 5 (5.90%) were just literate, 31 (36.50%) were secondary school, 26 (30.60%) were higher secondary school, 21 (24.70) were graduate and 1 (1.20%) were post graduate as shown in the table below.

EDUCATIONAL STATUS	NUMBER OF PATIENTS	PERCENTAGE
ILLITERATE	1	1.20%
JUST LITERATE	5	5.90%
SECONDARY SCHOOL	31	36.50%
HIGHER SECONDARY SCHOOL	26	30.60%
GRADUATE	21	24.70%
POST GRADUATE	1	1.20%
TOTAL	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO RESIDENCE**

Out of 85 subjects responded, 23 (27.40%) were rural and 62 (72.60) were urban as shown in table below.

RESIDENCE	NUMBER OF PATIENTS	PERCENTAGE
RURAL	23	27.40%
URBAN	62	72.60%
TOTAL	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO GRAVIDA**

Out of 85 subjects responded, 44 (51.80%) were primi, 37 (43.50%) were secondary, 4 (4.70%) were tertiary and 0 (0%) were multi as shown in table below.

GRAVIDA	NUMBER OF PATIENTS	PERCENTAGE
PRIMI	44	51.80%
SECONDARY	37	43.50%
TERTIARY	4	4.70%
MULTI	0	0%
TOTAL	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO DIAGNOSED WITH GDM**

Out of 85 subjects responded, 14 (16.50%) were diagnosed with GDM in first trimester, 16 (18.80%) were diagnosed with GDM in second trimester and 55 (64.70%) were diagnosed with GDM in third trimester as shown in the table below.

DIAGNOSED WITH GDM	NUMBER OF PATIENTS	PERCENTAGE
1st TRIMESTER	14	16.50%
2nd TRIMESTER	16	18.80%
3rd TRIMESTER	55	64.70%
TOTAL	85	100%

**DISTRIBUTION OF SUBJECTS ACCORDING TO FAMILY HISTORY OF GDM**

Out of 85 subjects responded, 2 (2.40%) were having family history of GDM and 83 (97.60%) were not having family history of GDM as shown in the table below.

FAMILY HISTORY OF GDM	NUMBER OF PATIENTS	PERCENTAGE
YES	2	2.40%
NO	83	97.60%
TOTAL	85	100%

### DISTRIBUTION OF RESPONSES RECEIVED TO KAP QUESTIONNAIRE

Respondents were interviewed using a self-designed questionnaire about their knowledge, attitude and practice related to gestational diabetes mellitus. The KAP questionnaire consisted of 24 questions divided into three domains – Knowledge, Attitude and Practice. The knowledge domain consisted of 11 questions, Attitude domain consisted of 5 questions and practice domain had 8 questions.

There were 5 multiple choice questions and 6 yes or no type questions in knowledge domain. The respondent’s knowledge about GDM was assessed.

The attitude domain consisted of 5 yes or no type questions. It had 2 questions was regarding assessing awareness about diet during GDM and 3 questions was regarding assessing awareness of complications during GDM.

There were 2 multiple choice questions and 5 yes or no type questions in practice domain. 3 questions to assess about the diet, 5 questions to assess about the management of GDM.

### ASSESSMENT OF KNOWLEDGE TOWARDS GESTATIONAL DIABETES MELLITUS;

**Question K1;** Do you know about diabetes?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	84	95%
NO	1	5%

**Question K1** was related to the respondent’s knowledge about the diabetes. To this question out of 85 respondents, 84 (95%) responded that they were aware of the diabetes and 1 (5%) responded that they were not aware of diabetes. The graphical representation as shown in *figure9* indicates that study population’s knowledge regarding the diabetes.

**Question K2;** Do you know about Gestational diabetes mellitus?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	47	55.29%
NO	38	44.71%

**Question K2** was related to the respondent’s knowledge about the gestational diabetes mellitus (GDM). To this question out of 85 respondents, 47 (55.29%) responded that they were aware of gestational diabetes mellitus and 38 (44.71%) respondents responded that they were not aware of gestational diabetes mellitus (GDM). The graphical representation as shown in *figure10* indicates that study population’s knowledge regarding the gestational diabetes mellitus (GDM).

**Question K3:** Do you have history of Gestational diabetes mellitus in previous pregnancies?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	6	15%

<b>NO</b>	<b>35</b>	<b>85%</b>
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**Question K3** was to assess the knowledge regarding the information about any history of gestational diabetes mellitus during previous pregnancy. Out of 85 pregnant women, 44 were primi which was excluded since the question is not applicable. Hence among 41 respondents (35 were in secondary gravida and 6 were in tertiary gravida), among which 6 (15%) were having history of GDM during their previous pregnancy and 35 (85%) were not having history of GDM during previous pregnancy). The graphical representation as shown in *figure11* indicates that study population’s knowledge regarding the history of gestational diabetes mellitus.

**Question K4:** What do you think is the risk factors of GDM?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
<b>YES</b>	<b>57</b>	<b>67.06%</b>
<b>NO</b>	<b>28</b>	<b>32.94%</b>

**Question K4** was to assess the knowledge regarding risk factors of GDM. Out of 85 respondents, 57 (67.70%) responded yes about the risk factors of GDM and 28 (32.94%) responded no about the risk factors of GDM. The graphical representation as shown in *figure12* indicates the knowledge regarding the risk factors of GDM. Here the possible risk factors like Older maternal age, Family history of Diabetes mellitus, History of GDM in previous pregnancy, delivery of baby with big size, Obesity were considered as single answer yes and don’t know was considered as no.

**Question K5:** Do you think special dietary care is needed during your pregnancy?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
<b>YES</b>	<b>55</b>	<b>64.70%</b>
<b>NO</b>	<b>30</b>	<b>35.30%</b>

**Question K5** was related to the respondent’s knowledge regarding the special dietary care needed during pregnancy. To this question out of 84 respondents, 55 (64.70%) responded yes for the need of special dietary care during pregnancy and 30 (35.30%) responded no for the need of special dietary care during pregnancy. The graphical representation as shown in *figure13* indicates that knowledge regarding the knowledge about special dietary care needed during pregnancy were considered as single answer yes and don’t know was considered as no.

**Question K6:** What are the common problems of new born of a GDM mother?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
<b>YES</b>	<b>36</b>	<b>42.35%</b>
<b>NO</b>	<b>49</b>	<b>57.65%</b>

**Question K6** was related to respondent’s knowledge regarding the common problem of new born of a GDM mother. Out of 85 respondents, 36 (42.35%) responded yes about the common problem of a GDM and 49 (57.65%) responded no about the common problem of a GDM mother. The graphical representation as shown in *figure14* indicates knowledge of respondents regarding the common problem

of new born of a GDM mother. Here the possible common problem like Big baby, Birth trauma, Respiratory distress syndrome, Preterm delivery, Congenital anomalies were considered as single answer yes and don't know was considered as no.

**Question K7:** How is GDM diagnosed?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	75	88%
NO	10	12%

**Question K7** was related to the respondent's knowledge regarding the diagnosis of GDM. To this question out of 85 respondents, 75 (88%) responded yes about the knowledge regarding the diagnosis of GDM and 10 (12%) responded no about the knowledge regarding the diagnosis of GDM. The graphical representation as shown in *figure15* indicates the knowledge regarding the diagnosis of GDM. Here the possible diagnosis like Urine test, Blood test after glucose ingestion (OGTT), Fasting blood sugar test / Sugar test after meals (FBS/PPBS) were considered as single answer yes and don't know was considered as no.

**Question K8:** Do you know insulin controls blood sugar?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	43	50.58%
NO	42	49.42%

**Question K8** was to assess the respondent's knowledge regarding the use of insulin in controlling blood sugar. Out of 85 respondents, 43 (51%) responded yes about the knowledge regarding the use of insulin in controlling blood sugar and 42 (49%) responded no about the knowledge regarding the use of insulin in controlling blood sugar. The table representation as shown in the knowledge regarding the use of insulin in controlling blood sugar.

**Question K9:** Do you know how many hours of fasting are recommended before testing fasting blood sugar?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	71	83.53%
NO	14	16.47%

**Question K9** was related to the respondent's knowledge regarding the how many hours fasting is required before testing fasting blood sugar. Out of 85 respondents, 71 (83.53%) responded yes regarding correct knowledge about fasting hours before testing blood glucose and 14 (16.47%) responded no regarding correct knowledge about fasting hours before testing blood glucose. The table representation as shown in indicates the knowledge regarding the how many hours fasting is required before testing fasting blood sugar. Here the possible correct answers are like 6 hours before test, 12 hours before test, 8 hours before test, 16 hours before test. were considered as single answer yes and don't know was considered as no.

**Question K10:** Do you know about OGTT test?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	58	68.24%
NO	27	31.76%

**Question K10** was to assess the respondent’s knowledge regarding the OGTT (oral glucose tolerance test). To this question out of 85 respondents, 58(68.24%) responded yes were knowledgeable regarding the OGTT and 27(31.76%) responded no were not knowledgeable regarding the OGTT. The table representation as shown in indicates the knowledge of respondent’s regarding the OGTT.

**Question K11:** Who is responsible for your diabetes care?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	85	100%
NO	0	0%

**Question K11** was about the respondent’s knowledge regarding the responsibility of diabetic care. Out of 85 respondents, 85(100%) responded yes. Here yes is for possible correct answers like pregnant women, family, doctor and all of the above are responsible for the diabetic care during GDM. 0(0%) responded no, indicating none are responsible for diabetic care during GDM. The graphical representation as shown in *figure19* indicates that the knowledge of respondents regarding the responsibility of diabetic care.

**ASSESSMENT OF ATTITUDE TOWARDS GESTATIONAL DIABETES MELLITUS (GDM):**

The attitude of the respondents towards the gestational diabetes mellitus (GDM) was assessed by using self-designed questionnaire.

**Question A1:** Gestational diabetes causes complications in pregnancy.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	41	48.24%
NO	44	51.76%

Out of 85 subjects, 41 (48.24%) agreed that gestational diabetes mellitus caused complications during pregnancy and 44 (51.76%) disagreed that gestational diabetes mellitus caused complications during pregnancy. The table representation shown above specifies the attitude of pregnancy women towards gestational diabetes mellitus caused complications during pregnancy.

**Question A2:** Early diagnosis is crucial for preventing complication.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	64	75.30%
NO	21	24.70%

Out of 85 subjects, 64 (75.30%) agreed that early diagnosis is crucial for preventing complications during pregnancy and 21(24.70%) disagreed that early diagnosis is crucial for preventing complications during pregnancy. The table representation shown above specifies the attitude of pregnancy complications towards importance of early diagnosis for preventing complications during pregnancy.



**Question A3:** All pregnancies should be screened routinely for GDM.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	77	90.58%
NO	8	9.42%

Out of 85 subjects, 77 (90.58%) agreed that all pregnancies should be screened routinely for gestational diabetes mellitus (GDM) and 8 (9.42%) disagreed that all pregnancies should be screened routinely for gestational diabetes mellitus (GDM). The table representation shown above specifies the attitude of pregnancy women towards importance of screening all pregnancies routinely for gestational diabetes mellitus (GDM).

**Question A4:** Should one eat more fresh fruits and vegetables during pregnancy.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	75	88.24%
NO	10	11.76%

Out of 85 subjects, 75 (88.24%) agreed that one should eat more fruits and vegetables during pregnancy and 10 (11.76%) disagreed that one should eat more fruits and vegetables during pregnancy. The table representation shown above specifies the attitude of pregnancy women about eating more fruits and vegetables during pregnancy.

**Question A5:** Is concept of eating for two (more food for the baby’s growth) always correct.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	81	95.30%
NO	4	4.70%

Out of 85 subjects, 81 (95.30%) agreed about concept of eating for two (more food for the baby’s growth) always correct and 4 (4.70%) disagreed about concept of eating for two (more food for the baby’s growth) always correct. The table representation shown above specifies the attitude of pregnancy women about concept of eating for two (more food for the baby’s growth) always correct.

**ASSESSMENT OF PRACTICE TOWARDS GESTATIONAL DIABETES MELLITUS**

The practice of the subjects towards the gestational diabetes mellitus was assessed by using self-designed questionnaire.

**Question P1:** Do you eat three or more meals every day.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	78	91.76%
NO	7	8.24%

Out of 85 subjects, 78 (91.76%) subjects responded yes had a practice of eat three or more meals every day and 7 (8.24%) subjects responded no had a practice of eat three or more meals every day. The table representation from above figure indicates about practice of having balanced meals in a day.

**Question P2:** Do you have a control from eating junk foods.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
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<b>YES</b>	<b>77</b>	<b>90.58%</b>
<b>NO</b>	<b>8</b>	<b>9.42%</b>

Out of 85 subjects, 77 (90.58%) subjects responded yes had a control from eating junk foods and 8 (9.42%) subjects responded no didn't had a control from eating junk foods. The table representation from above figure indicates about practice of having a control from eating junk foods.

**Question P3:** Do you follow up weight during pregnancy?

<b>RESPONSES</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>YES</b>	<b>79</b>	<b>92.94%</b>
<b>NO</b>	<b>6</b>	<b>7.06%</b>

Out of 85 subjects, 79 (92.94%) subjects responded yes had followed a weight check-up during pregnancy and 6 (7.06%) subjects responded no didn't followed a weight check-up during pregnancy. The table representation from above figure indicates practice of body weight check-up during pregnancy.

**Question P4:** Do you visit the doctor regularly during pregnancy?

<b>RESPONSES</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>YES</b>	<b>84</b>	<b>98.83%</b>
<b>NO</b>	<b>1</b>	<b>1.17%</b>

Out of 85 subjects, 84 (98.83%) subjects responded yes had a practice of visiting doctor during pregnancy and 1 (1.17%) subjects responded no didn't having a practice of visiting doctor during pregnancy.. The table representation from above figure indicates about practice of visiting doctor during pregnancy.

**Question P5:** Do you check your blood sugar during pregnancy?

<b>RESPONSES</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>YES</b>	<b>83</b>	<b>97.65%</b>
<b>NO</b>	<b>2</b>	<b>2.35%</b>

Out of 85 subjects, 83 (97.65%) subjects responded yes had a practice of screening for blood sugar during sugar and 2 (2.35%) subjects responded no didn't having a practice of screening for blood sugar during sugar. The table representation from above figure indicates about practice of pregnant women about screening for blood sugar during sugar.

**Question P6:** How often do you visit hospital for fasting and post meal blood sugar testing.

<b>RESPONSES</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>YES</b>	<b>84</b>	<b>98.83%</b>
<b>NO</b>	<b>1</b>	<b>1.17%</b>

Out of 85 subjects, 84 (98.83%) subjects responded yes had a practice of visiting hospital for fasting and post meal blood sugar testing and 1 (1.17%) Subjects responded no didn't having a practice of visiting hospital for fasting and post meal blood sugar testing. The table representation from above figure indicates about practice of pregnant women about visiting hospital for fasting and post meal blood sugar testing. Here the possible correct answers are like Once every week, once every two weeks, once a month as single answer yes and don't know was considered as no.

**Question P7:** What practice will you follow to control if you are diagnosed with gestational diabetes mellitus?

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	85	100%
NO	0	0%

Out of 85 subjects, 85 (100%) subjects responded yes had a good practice to control gestational diabetes mellitus (GDM) and 0 (0%) subjects responded no didn't having a practice to control gestational diabetes mellitus (GDM). The table representation from above figure indicates a practice in pregnant women about management regarding gestational diabetes mellitus (GDM). Here the possible correct answers are like Balanced diet, Regular antenatal check-up, Moderate exercise, Medication, All of above as single answer yes and don't know was considered as no.

**Question P8:** Do you eat more vegetables than meat in order to control blood glucose.

RESPONSES	NUMBER OF PATIENTS	PERCENTAGE
YES	78	91.76%
NO	7	8.24%

Out of 85 subjects, 78 (91.76%) subjects responded yes had a practice of consuming more vegetables than meat and 7 (8.24%) subjects responded no didn't having a practice of consuming more vegetables than meat. The table representation from above figure indicates practice of consuming of vegetables and meat during pregnancy.

## DISCUSSION

An observational study was performed in the outpatient OBG department of ESIC hospital, Rajajinagar in Bengaluru district by enrolling 85 study subjects conducted for a period of 6 months.

Out of 85 subjects included in the study, 45.90% of subjects were of the age group 26-30, 31.80% of subjects were of the age group 21-25, 21.20% of subjects were of age group 31- 35, 1.20% of subjects were of age group  $\leq 20$  and 0% of subjects were of age group  $> 35$ .

Out of 85 subjects included in the study, 67.10% of subjects were home makers, 15.30% of subjects were professionals, 10.60% of subjects were laborers, 3.50% of subjects were farmers and 3.50% of subjects were health care workers.

Out of 85 subjects included in the study, 36.50% of subjects were secondary school, 30.60% of subjects were higher secondary school, 24.70% of subjects were graduate, 5.90% of subjects were just literate, 1.20% of subjects were illiterate and 1.20% of subjects were post graduate.

Out of 85 subjects included in the study, 72.60% of subjects were urban and 27.40% of subjects were rural.

Out of 85 subjects included in the study, 51.80% of subjects were Primi gravida, 43.50% of subjects were secondary gravida, 4.70% of subjects were tertiary gravida and 0% of subjects were multi gravida.

Out of 85 subjects included in the study, 64.70% of subjects were 3<sup>rd</sup> trimester, 18.80% of subjects were 2<sup>nd</sup> trimester, 16.50% of subjects were 1<sup>st</sup> trimester.

In this study the assessment of knowledge regarding is as follows:

Out of 85 subjects included in the study,

**Question K1** was related to the respondent's knowledge about the diabetes. To this question out of 85 respondents, 95% responded were aware of the diabetes.

**Question K2** was related to the respondent's knowledge about the gestational diabetes mellitus (GDM). To this question out of 85 respondents, 55.29% responded were aware of gestational diabetes mellitus.

**Question K3** was to assess the knowledge regarding the information about any history of gestational diabetes mellitus during previous pregnancy. Out of 85 pregnant women, among which 15% were having history of GDM during their previous pregnancy.

**Question K4** was to assess the knowledge regarding risk factors of GDM. Out of 85 respondents, 67.70% responded yes about the risk factors of GDM.

**Question K5** was related to the respondent's knowledge regarding the special dietary care needed during pregnancy. To this question out of 84 respondents, 64.70% responded yes for the need of special dietary care during pregnancy.

**Question K6** was related to respondent's knowledge regarding the common problem of new born of a GDM mother. Out of 85 respondents, 42.35% responded yes about the common problem of a GDM.

**Question K7** was related to the respondent's knowledge regarding the diagnosis of GDM. To this question out of 85 respondents, 88% responded yes about the knowledge regarding the diagnosis of GDM.

**Question K8** was to assess the respondent's knowledge regarding the use of insulin in controlling blood sugar. Out of 85 respondents, 51% responded yes about the knowledge regarding the use of insulin in controlling blood sugar.

**Question K9** was related to the respondent's knowledge regarding the how many hours fasting is required before testing fasting blood sugar. Out of 85 respondents, 83.53% responded yes regarding correct knowledge about fasting hours before testing blood glucose.

**Question K10** was to assess the respondent's knowledge regarding the OGTT (oral glucose tolerance test). To this question out of 85 respondents, 68.24% responded yes were knowledgeable regarding the OGTT.

**Question K11** was about the respondent's knowledge regarding the responsibility of diabetic care. Out of 85 respondents, 100% responded yes.

In this study the assessment of Attitude regarding is as follows:

Out of 85 subjects included in the study,

Out of 85 subjects, 48.24% agreed that gestational diabetes mellitus caused complications during pregnancy.

Out of 85 subjects, 75.30% agreed that early diagnosis is crucial for preventing complications during pregnancy.

Out of 85 subjects, 90.58% agreed that all pregnancies should be screened routinely for gestational diabetes mellitus (GDM).

Out of 85 subjects, 88.24% agreed that one should eat more fruits and vegetables during pregnancy.

Out of 85 subjects, 95.30% agreed about concept of eating for two (more food for the baby's growth) always correct.

In this study the assessment of Practice regarding is as follows:

Out of 85 subjects included in the study,

Out of 85 subjects, 91.76% subjects responded yes had a practice of eat three or more meals every day.

Out of 85 subjects, 90.58% subjects responded yes had a control from eating junk foods.

Out of 85 subjects, 92.94% subjects responded yes had followed a weight check-up during pregnancy.

Out of 85 subjects, 98.83% subjects responded yes had a practice of visiting doctor during pregnancy. Out of 85 subjects, 97.65% subjects responded yes had a practice of screening for blood sugar during sugar.

Out of 85 subjects, 98.83% subjects responded yes had a practice of visiting hospital for fasting and post meal blood sugar testing.

Out of 85 subjects, 100% subjects responded yes had a good practice to control gestational diabetes mellitus (GDM).

Out of 85 subjects, 91.76% subjects responded yes had a practice of consuming more vegetables than meat.

### **CONCLUSION:**

Gestational diabetes mellitus is a condition in pregnancy which can cause foetal and maternal complications. After delivery the new born may have life threatening metabolic complications and later in life may suffer from obesity, glucose intolerance and Diabetes in early adulthood. The mother might also be at the risk of developing type-2 diabetes mellitus. So, the knowledge among the antenatal women will result in disease prevention and early detection. In this study about the status of knowledge, attitude and practices towards GDM was revealed knowledge was insufficient among the participants. This might have an adverse effect on maternal and foetal wellbeing. Education of antenatal women supporting the welfare of baby and the mother should be provided at all levels of Reproductive Health Program. There is a need to improve the antenatal patient's knowledge on GDM. If knowledge about GDM increases among pregnant women they may be motivated to have an attitudinal change resulting in better practices like compliance for management protocols including dietary modifications, not defaulting on medications and getting regular follow-up. This may result in improved pregnancy outcomes. In this study, it was found that significant factors like being male, having higher income, high socio-economic levels, following diabetic diet, maintaining physical activity on a regular basis, good knowledge about the disease and having stronger beliefs about medicines and their use were highly adherent to anti-diabetic medications indicating high medication adherence levels. Subjects with high levels of medication adherence had a good glycemic control. Subjects having good knowledge about the disease had better medication adherence and was associated with better glycemic control. Beliefs about medicines was suboptimal, with subjects having stronger beliefs towards use of medicine were comparatively highly adherent to medicines than those who had negative beliefs about medicines. Subjects' knowledge and beliefs about medicine are crucial factors that are significantly associated with medication adherence. By improving and educating patients knowledge regarding the disease and medications may have a good impact on medication compliance and management of the disease. Counselling the subjects regarding the importance of self-care behavior, following a diabetic diet and being physical active in addition to medication compliance ensuring a strategic diabetic management and therapeutic outcome.

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