

IMPACT OF PATIENT COUNSELLING ON KNOWLEDGE, ATTITUDE AND PRACTICE IN GESTATIONAL DISEASES -A PROSPECTIVE STUDY

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Abstract

Introduction: Gestational complications are health problems that occur at any stage of pregnancy. One of the most effective measures to enhance knowledge and awareness of gestational complication is patient counselling.

Objective: The main objective of the study was to assess the impact of patient counselling on knowledge, attitude and practice of pregnant women towards gestational complications.

Methodology: A prospective study of 6 months duration was undertaken in Gynecology out-patient department of Jayanagar General Hospital, Bangalore, India in which a total number of 130 patients were enrolled in the study. Data was collected by using a structured pre-post questionnaire.

Results: In the present study, among 130 participants studied, 120 completed pre-post counselling survey. It was found that the occurrence of gestational complications were highest in the age group of 20-30 and the main cause of gestational complication was found to be anemia. On comparing the impact of counselling, KAP scores were found to be more in post counselling than in precounselling.

Conclusion: The study revealed that clinical pharmacist can play a major role in improving patient care by counselling.

Key Words: Patient counselling, knowledge, attitude, practice, gestational complications.

INTRODUCTION

Pregnancy is a time that every woman awaits in her lifetime and needs constant medical support and attention. A pregnancy is defined as "High risk" when there is a likelihood of an adverse outcome to the woman or to the baby that is greater than the incidence of that outcome in the general pregnant population.¹ Such patients require sophisticated maternal and foetal surveillance. List of conditions that makes pregnancy at high risk are anaemia, hypertension, diabetes, cardiac disease, multiple pregnancies, intra uterine growth retardation, ante partum haemorrhage, human immune deficiency virus infection, asthma.²

One of the most effective measures to enhance knowledge and awareness of gestational complications is patient counselling. All pregnant women should be counselled regarding the importance of a well balanced diet that includes meat, dairy products, fruits, vegetables, grains and the use of nutritional supplements. Higher or lower weight gain also has negative impact on mother and baby.³ Besides this, pregnant women should also be counselled about the gestational complications, impact or adverse effect of alcohol use, cigarette smoking and drug abuse.

GESTATIONAL COMPLICATIONS ANAEMIA

Anaemia is one of the major global health problems. It is common and serious problem in pregnancy and can affect the health of mother and foetus if proper care is not given. In pregnancy, approximately 75% of anaemia are diagnosed to be iron deficiency. Increased iron demands are seen in pregnancy and lactation. Anaemia ranges from mild, moderate to severe and WHO pegs the haemoglobin level for each of these types of anaemia in pregnancy as 10.0-10.9g/dl(mild anaemia), 7-9.9g/dl(moderate anaemia), and <7g/dl(severe anaemia).⁴ The World Health Organization (WHO) estimates that more than 40% and over 50% of pregnant women in developing countries are affected. According to the 2008 World Health Organization (WHO) report, anaemia affected 1.62 billion (24.8%) people globally.⁵ It had an estimated global prevalence of 42% in pregnant women and is a major cause of maternal mortality. As per NFHS-3 survey, the incidence of anaemia in Indian Women in the age group of 15-49 years is 55.3%.⁶ The prevalence of anaemia in pregnant women who are the most vulnerable group of the society was 58.7%. Another data showed that 87% of pregnant women in India were anaemic and anaemia contributed to 22,000 maternal deaths.⁷ Prophylactic doses of iron along with healthy varied diet can prevent depletion of iron stores. Total iron intake during pregnancy should not be less than 1000mg.⁸

GESTATIONAL DIABETES MELLITUS

Gestational diabetes mellitus (GDM) is defined as impaired glucose tolerance with onset or first recognition during pregnancy.⁹ In most cases, women with GDM will return to normal blood glucose level after delivery. If normal blood glucose level is not retained, they will be re-diagnosed with type 2 diabetes mellitus. The International Diabetes Federation [IDF] estimates that as of 2015, 16.2% of women with live births had some form of hyperglycaemia in pregnancy, 85% of which were due to gestational diabetes.¹⁰ Prevalence of GDM in UK was 5%. Moreover GDM complicated about 4-14% pregnancies in USA. Prevalence of GDM in Malaysia was 18.3%.¹¹ According to national obstetrics registry Malaysia report of 2009, prevalence of GDM is 11.1% in Malaysia.¹² GDM is a primary concern in India affecting approximately five million women each year. Existing literature indicate

that prediabetes and diabetes affect approximately six million births in India alone, of which 90% are due to GDM. It was estimated that the number of affected is expected to increase upto 552 million people by 2030.¹³ Women who had GDM have more than seven fold increased risk of developing type 2 diabetes mellitus 5 to 10 years after delivery.

THYROID DISORDERS

Thyroid dysfunctions are common among pregnant women. Early recognition, accurate diagnosis, and appropriate management of thyrotoxicosis are important to reduce risk of adverse maternal and foetal outcome. Thyroid disorders are estimated to be the second most common endocrinological disorders encountered during pregnancy, diabetes being the most common.¹⁴ In a study conducted in Asian-Indian women, the prevalence of Grave's disease, gestational transient thyrotoxicosis and thyroid autoimmunity (TAI) was estimated to be 4.8%, 0.6%, 6.4% and 12.4% respectively.¹⁵ Severe maternal hypothyroidism causes irreversible neurological deficits in offspring. Hyperthyroidism can result in miscarriage, stillbirth, preterm delivery, intrauterine growth retardation, preeclampsia. Hyperthyroidism occurs in 0.1-0.4% of pregnant women and is less common than hypothyroidism. About 2-3% of pregnant women are hypothyroid, of whom 0.3-0.5% have overt hypothyroidism and 2-2.5% present subclinical hypothyroidism.¹⁶ The prevalence of hypothyroidism in pregnancy is around 2.5% according to the western literature.¹⁷

HYPERTENSION

Hypertension is one among the most common medical disorders encountered during pregnancy. Hypertension in pregnancy is defined as a systolic of 140 mm or greater or a diastolic of 90 mm Hg or greater on two separate measurements at least 4-6 hours apart.¹⁸ It can contribute to maternal morbidity and mortality around the world. Preeclampsia is gestational hypertension along with proteinuria (>300 mg of protein in a 24 hr urine sample).¹⁹ Severe preeclampsia involves a blood pressure higher than 160-110 mm Hg. Hypertensive emergencies are the second leading cause of maternal mortality during pregnancy, affecting one out of ten pregnancies. In the United States, preeclampsia accounts for 15% to 17.6% of maternal deaths.²⁰ The incidence of pregnancy induced hypertension [PIH] in India ranges from 5-15%.²¹ It is estimated that PIH affects about 5-8% of all pregnant women worldwide. PIH accounts for 1.8% in the Middle East and 4.5% in the Americas region.²² Uncontrolled high blood pressure during pregnancy affects multiple organ systems and can be detrimental to both mother and foetus. Maternal complications of preeclampsia include seizure activity, placental abruption, stroke, HELLP syndrome (haemolysis, elevated liver enzymes and low platelets), liver haemorrhage, generalized oedema, blurred vision, headache, epigastric or right upper quadrant pain, oliguria, nausea, chest pain, shortness of breath, pulmonary oedema, acute renal failure and disseminated intravascular coagulation (DIC). Foetal complications are intrauterine growth restrictions, preterm birth, low birth weight, neonatal respiratory distress syndrome, foetal or neonatal death. Pregnancy is a normal physiological condition that may accompany with some common conditions due to the physiological changes like anaemia, pregnancy induced hypertension, gestational diabetes mellitus etc. If these conditions left untreated can lead to miscarriage, still birth, foetal death, premature or delayed birth, create perinatal problems or birth defects. Patient education helps to improve knowledge about common gestational complications.²³ This improves medication adherence and helps to avoid miscarriages, still birth, premature birth, birth defects, fetal deaths and other complications to a considerable extent. Our study is mainly focused on assessing the impact of patient counselling on knowledge, attitude and practice in gestational complications.

METHODOLOGY

Study design	Prospective observational study
Study location	The study was carried out in the gynecology department of Jayanagar General Hospital, Bangalore. It is a 400 bedded secondary care hospital.
Study population	Pregnant women coming to gynecology outpatient department who were presented with at least one newly diagnosed gestational complication.
Study period	06 months
Sample size	A total of 130 patients were enrolled in the study
Sources of data	Counselling Questionnaire, Case Record Form

Study criteria

Inclusion Criteria

- All pregnant women visiting OPD till delivery.

- All pregnant women of age 18 and above.
- Pregnant women with newly diagnosed gestational complication.

Exclusion Criteria

- Women who were previously diagnosed with diabetes, hyper or hypothyroidism, anemia, hypertension and hypotension prior to conception and on medication for these complications.
- Pregnant women who did not have any complications were excluded from the study.

Operational modality

CRF(Case record form) was designed in order to record the clinical profile and treatment pattern which contains patient demography, family history, past medication history, obstetric history and follow up. Informed consent form (ICF) was provided to obtain willingness of the participants to participate in the study. Knowledge, attitude and practice of pregnant women were assessed using a validated structured questionnaire. Patient information leaflet was designed to provide counselling.

Study procedure

The study was conducted by randomly selecting the pregnant patients who were visiting the gynecology OPD presented with at least one newly diagnosed gestational complication. Patient details were collected in a predesigned data collection form which includes demographic details, current complications, gravidity, past medical history, past medication history etc. KAP (knowledge, attitude and practice) was analyzed by using a structured pre-post questionnaire consisting of 17 questions subdivided into 9 for knowledge, 4 for attitude and 4 for practice section. For knowledge section, each question was provided with 5 alternatives and scores were given as 0=very little, 1=little, 2=neutral, 3=well and 4=very well. Five point likert scale was used for assessing attitude scores and scoring were given as strongly agree=5, agree=4, neutral=3, disagree=2 and strongly disagree=1. For practice section each question was provided with two alternatives and scores were given as 0=not following, 1=following, 0=not taking, 1=taking, etc. The pre-post questionnaire was developed with relevant literature reviews and expert consultation to match the scope of the study.²⁴ This questionnaire was validated by two nurses, two physician and two staffs. This questionnaire contains information regarding diet, medication and improvement in health outcome. The data was collected, documented and analyzed by using SPSS 18.0 and R environment ver.3.2.2 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc. Analysis of variance (ANOVA) was also used to assess the impact of counseling on knowledge, attitude and practice.

Ethical consideration

The study was approved by the ethics committee of Jayanagar General Hospital. Written informed consent was obtained from every patient participating in the study.

RESULT

Out of 130 participants studied, 120 completed pre-post counselling survey. Remaining 10 were lost to follow up due to unknown reasons. So, results have been presented with reference to the data of 120 participants who completed the study.

DEMOGRAPHIC DETAILS

AGE DISTRIBUTION

Table 1 and fig 1 shows the age distribution of patients with gestational complications. It was found out that the occurrence of gestational complications were highest in the age group of 20-30[90%] and showed least number in the age group of 31-40[0.8%].The mean age was found to be 60.91±3.48.

Table1: AGE DISTRIBUTION

SL.NO	AGE IN YEARS	NUMBER OF PATIENTS	PERCENTAGE
1	≤20	11	9.2
2	21-30	108	90
3	31-40	1	0.8
4	TOTAL	120	100

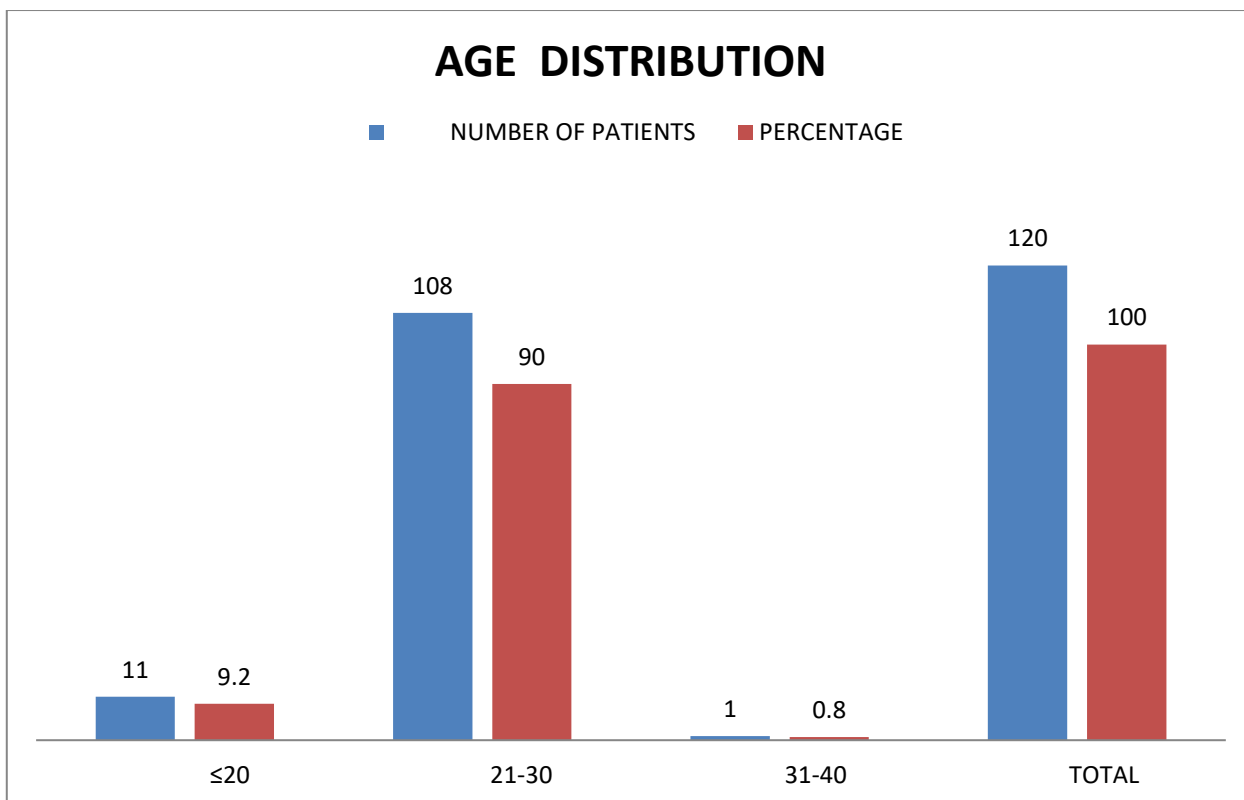


FIGURE 1: AGE DISTRIBUTION

WEIGHT OF THE PATIENTS

Table 2 and fig 2, illustrates the weight of the patients who participated in the study. In which [46.7%] patients were in the weight range of 51-60 followed by [25.8%] of 61-70, [12.5%] of 40-50, [11.7%] of 71-80, [3.3%] of 81-90 respectively. The mean weight range was showed as 60.91±9.18.

Table 2: WEIGHT OF THE PATIENTS

SL.NO	WEIGHT	NUMBER OF PATIENT	PERCENTAGE
1	40-50	15	12.5
2	51-60	56	46.7
3	61-70	31	25.8
4	71-81	14	11.7
5	81-90	4	3.3
6	TOTAL	120	100

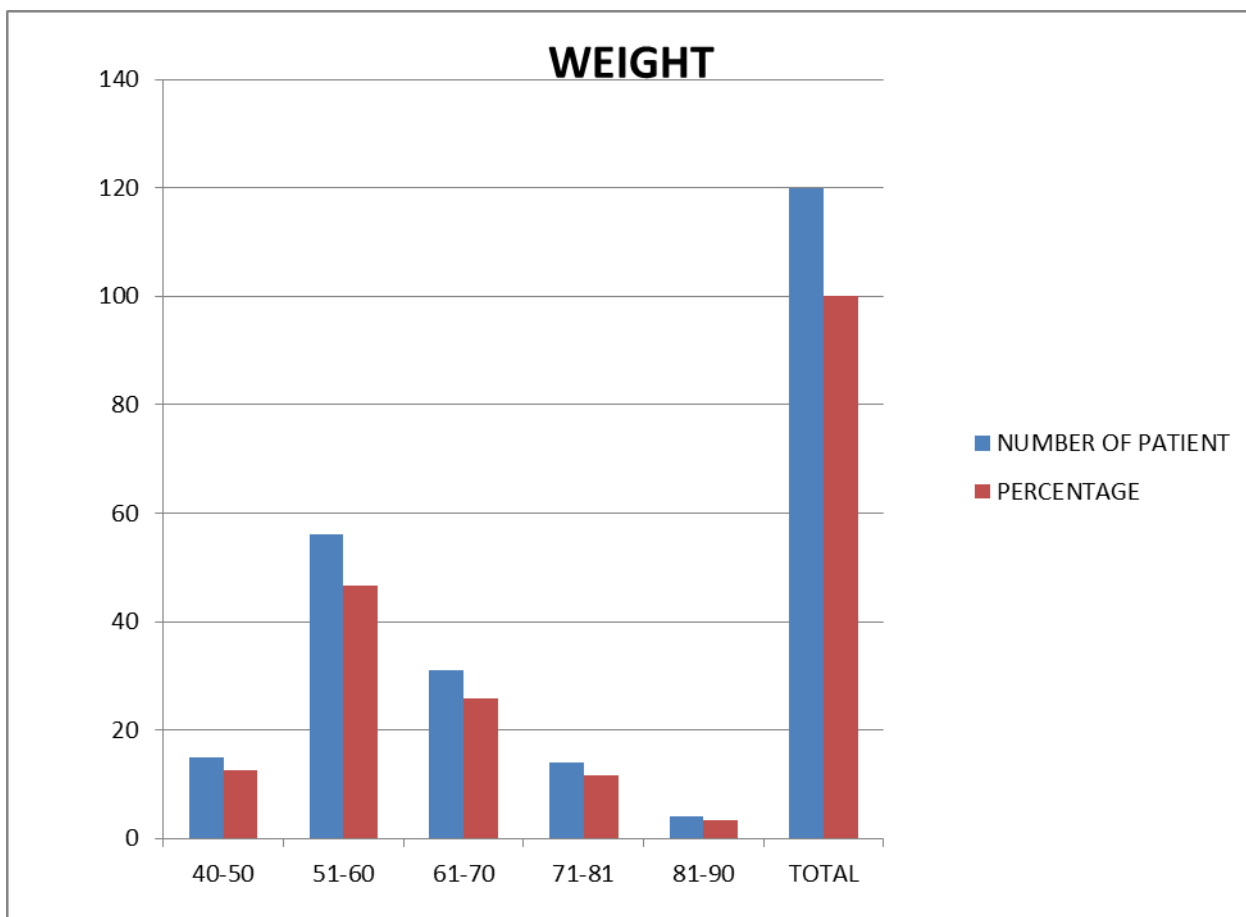


FIGURE 2: WEIGHT OF THE PATIENTS

PAST MEDICAL HISTORY

Out of 120 participants, 88 were not having any past medical history.,32 patients were having past medical history, among which typhoid[7.5%] was found to be the most common disease , followed by jaundice[5%],hypertension[4.2%],diabetes in first pregnancy[2.5%], chikungunya and cholera[1.7%], diabetes, gastritis, gastro esophageal reflux disease, hyperthyroidism, malaria [0..8%] were the least in number.

Table 3: PAST MEDICAL HISTORY

SL.NO	PAST MEDICAL HISTORY	NUMBER OF PATIENT	PERCENTAGE
1	Nil	88	73.3
2	Yes	32	26.7
2.1	Typhoid	9	7.5
2.2	Jaundice	6	5
2.3	Hypertension	5	4.2
2.4	Diabetes in first pregnancy	3	2.5
2.5	Chikungunya	2	1.7
2.6	Cholera	2	1.7
2.7	Diabetes	1	0.8
2.8	Gastritis	1	0.8
2.9	Gastro esophageal reflux disease	1	0.8
2.10	Hyperthyroidism	1	0.8
2.11	Malaria	1	0.8

PAST MEDICATION HISTORY

Out of 120 patients participated in the study, 110 [91.7%] patients were not taking any medications, and 10 [8.3%] were under medication. Among which 5 [4.2%] were taking Tab. Labet, 4 [3.3%] insulin and Tab. Levot 1 [0.8%].

Table 4: PAST MEDICATION HISTORY

SL.NO	PAST MEDICATION HISTORY	NUMBER OF PATIENT	PERCENTAGE
1	Nil	110	91.7
2	Yes	10	8.3

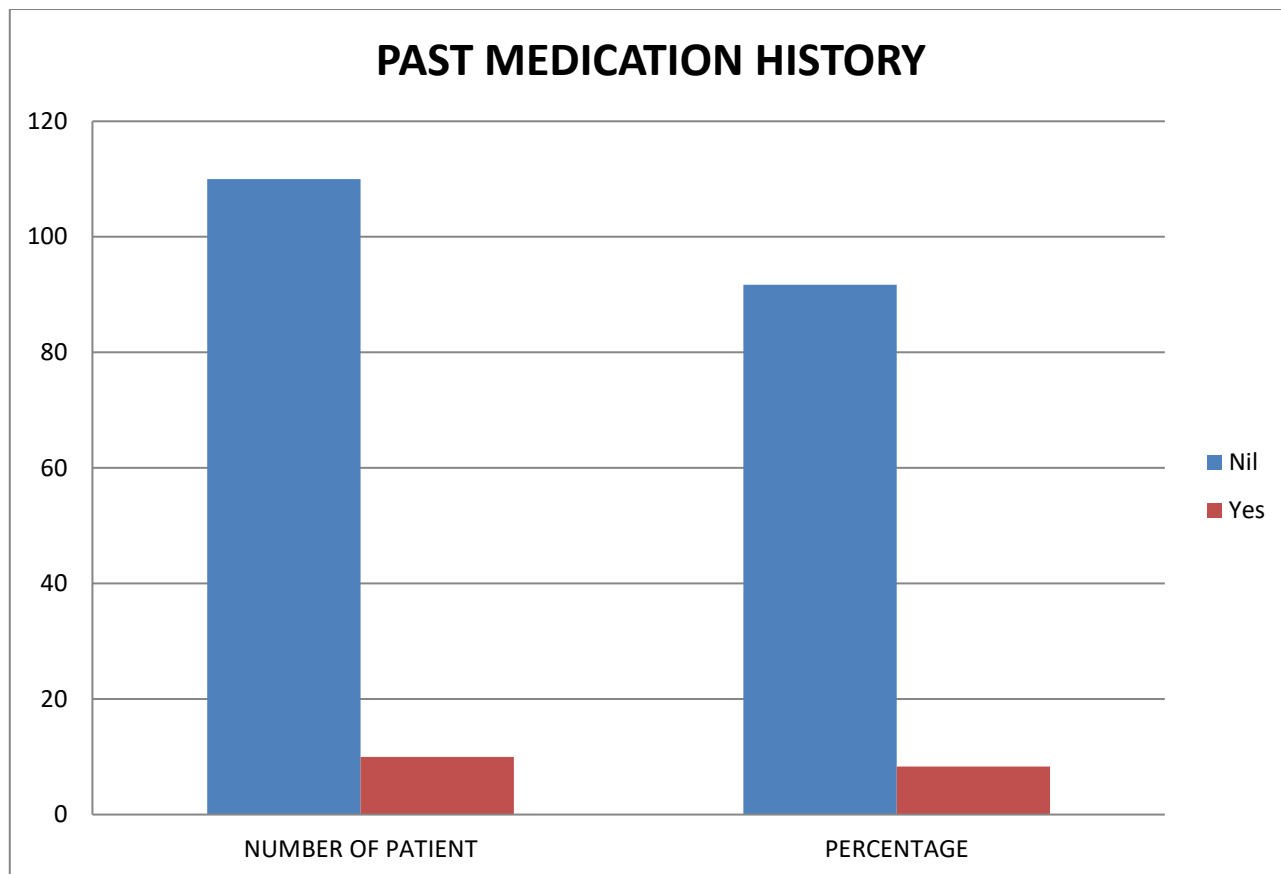


FIGURE 3: PAST MEDICATION HISTORY

OBSTETRIC HISTORY

Of the study population of 120, 109 [90.8%] were multigravida, and 11 [9.2%] were primigravida.

Table 5:OBSTETRIC HISTORY

SL.NO	OBSTETRIC HISTORY	NUMBER OF PATIENT	PERCENTAGE
1	Multi	109	90.8
2	Primi	11	9.2
3	Total	120	100

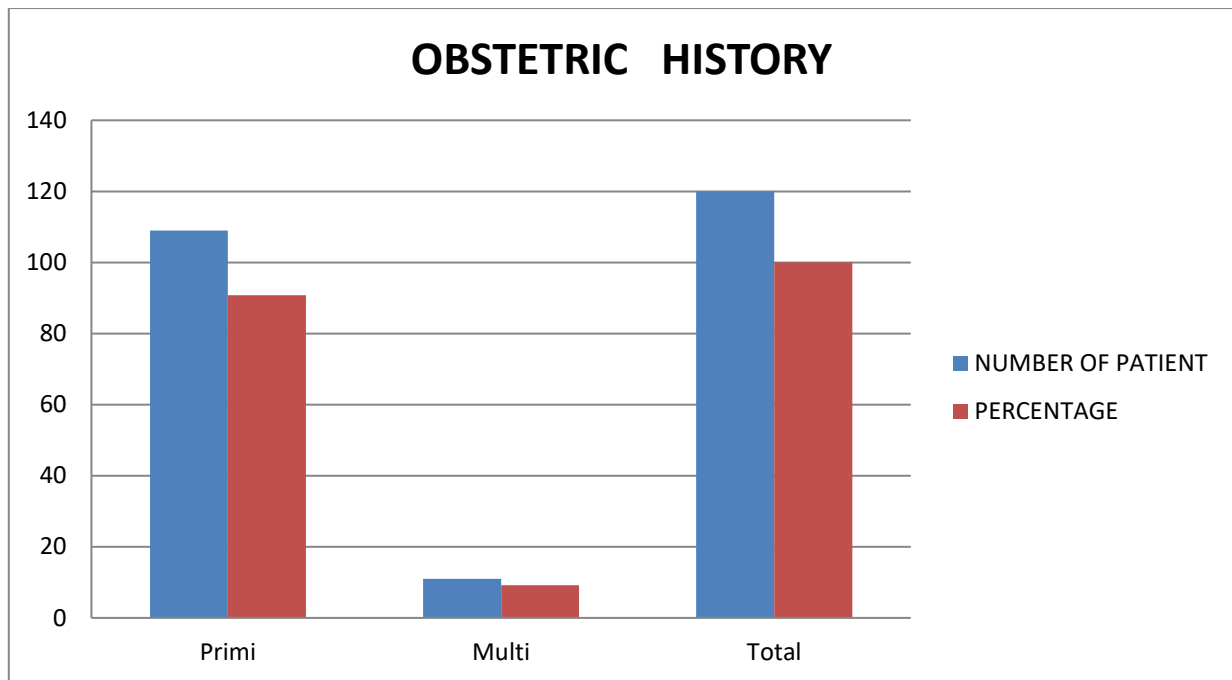


FIGURE 4: OBSTETRIC HISTORY

CAUSES OF GESTATIONAL COMPLICATIONS

Out of 120 patients studied, the main cause of gestational complication was found to be anemia 55[45.83%], followed by hypertension 22[18.33%], hypothyroidism 16[13.33%], hyperthyroidism 14[11.66%], gestational diabetes mellitus 13[10.83%] respectively.

Table 6: CAUSES OF GESTATIONAL COMPLICATIONS

SL.NO	CAUSES OF GESTATIONAL COMPLICATIONS	NUMBER OF PATIENT	PERCENTAGE
1	Anemia	55	45.83
2	Hypertension	22	18.33
3	Hypothyroidism	16	13.33
4	Hyperthyroidism	14	11.66
5	Gestational diabetes mellitus	13	10.83

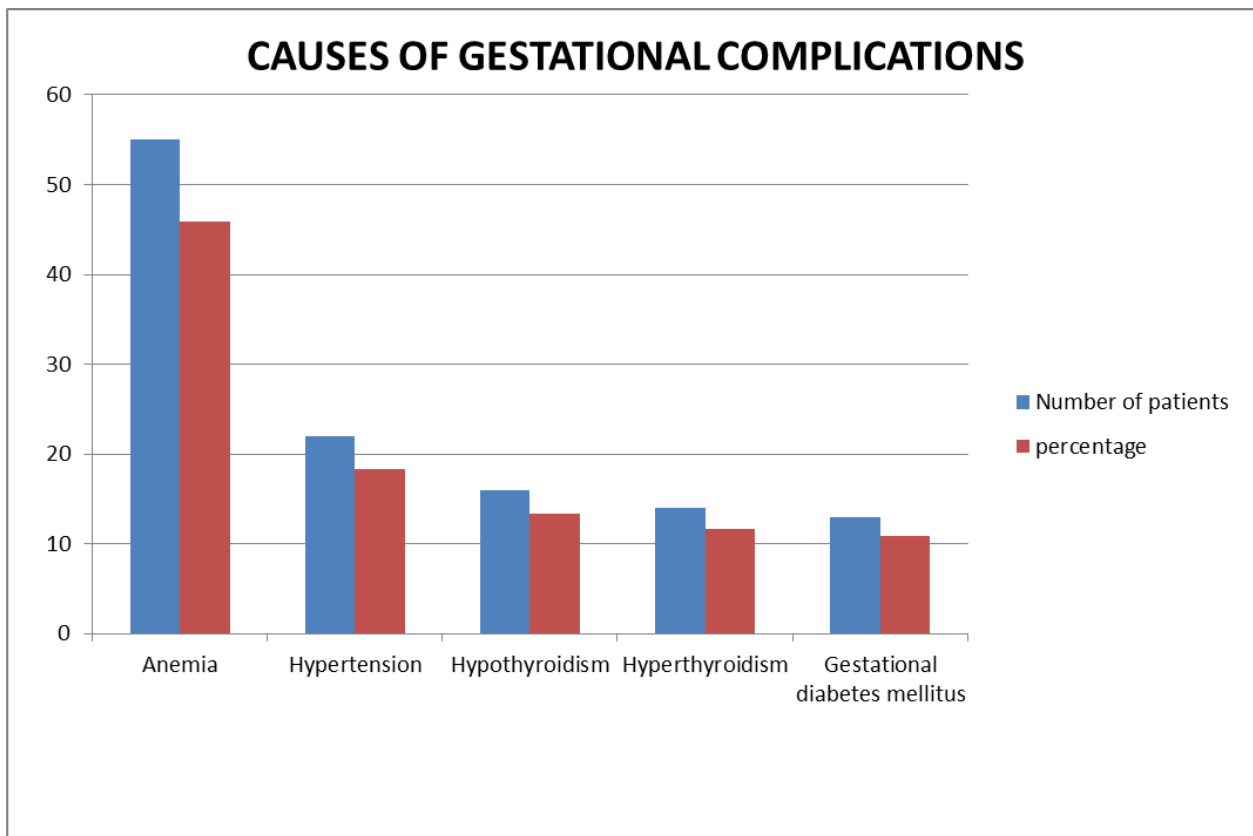


FIGURE 5: CAUSES OF GESTATIONAL COMPLICATIONS

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS PREGNANCY BEFORE COUSSELLING

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS ANEMIA KNOWLEDGE

Out of 120 participants studied, 55 participants had anemia in which 42[76.4%] of the participants had very little knowledge about the term anemia, 6[10.9%] had little knowledge, followed by 3[5.5%] neutral, 2[3.6%] well and 2[3.6%] very well. About complications of anemia, 38[69.1%] patients had very little knowledge, 7[12.7%] little knowledge, followed by 3[5.5%] neutral, 5[9.1%] well, 2[3.6%] very well. Knowledge about the importance to maintain the normal level of hemoglobin 40[72.7%] participants responded very little, 4[7.3%] little, 4[7.3%] neutral, 5[9.1%] well, 2[3.6%] very well. About the cause of anemia 32 [58.2%] had very little knowledge, 6[10.9%] little, 2[3.6%] neutral, 10[18.2%] well, and 5[9.1%] responded very well. About 2 participants [3.6%] responded very little about the importance to do mild exercise, 3[5.5%] little, 3[5.5%] neutral, 32[58.2%] well and 15[27.3%] very well. To maintain the body weight 8 participants [14.5%] had very little knowledge about the importance about it, 7[12.7%] reacted little, 2[3.6%] neutral, 28[50.9%] well and 10[18.2%] very well. About the food items to improve the blood level 3[5.5%] had very little knowledge, 4[7.3%] little, 3[5.5%] neutral, 30[54.5%] well, and 15[27.3%] very well. Most of the patients were aware of the side effects caused by the drugs they were taking 26[47.3%], followed by 3[5.5%] neutral, 10[18.2%] well, 16 [29.1%] very well. Query about dose and frequency of the medication about 3[5.5%] responded very little knowledge about it, followed by 5[9.1%] little, 2[3.6%] neutral, 20[36.4%] well, 25 [45.5%] very well. The mean knowledge, attitude and practice scores were found to be 19.24±4.36, 17.58 ±4.53 and 3.13 ±1.29 respectively.

Table 7: KNOWLEDGE TOWARDS ANEMIA

SL NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term anemia?		
	• Very Little	42	(76.4%)
	• Little	6	(10.9%)
	• Neutral	3	(5.5%)
	• Well	2	(3.6%)
	• Very Well	2	(3.6%)
2	Knowledge about complications of anemia?		
	• Very Little	38	(69.1%)
	• Little	7	(12.7%)
	• Neutral	3	(5.5%)
	• Well	5	(9.1%)
	• Very Well	2	(3.6%)
3	Do you know it is important to maintain normal level of hemoglobin?		
	• Very Little	40	(72.7%)
	• Little	4	(7.3%)
	• Neutral	4	(7.3%)
	• Well	5	(9.1%)
	• Very Well	2	(3.6%)
4	Do you know about the cause of anemia?		
	• Very Little	32	(58.2%)
	• Little	6	(10.9%)
	• Neutral	2	(3.6%)
	• Well	10	(18.2%)
	• Very Well	5	(9.1%)
5	Do you think it is important to do mild exercise?		
	• Very Little	2	(3.6%)
	• Little	3	(5.5%)
	• Neutral	3	(5.5%)
	• Well	32	(58.2%)
	• Very Well	15	(27.3%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	8	(14.5%)
	• Little	7	(12.7%)
	• Neutral	2	(3.6%)
	• Well	28	(50.9%)
	• Very Well	10	(18.2%)
7	Do you know about the food items that you can take to improve your blood level?		
	• Very Little	3	(5.5%)
	• Little	4	(7.3%)
	• Neutral	3	(5.5%)
	• Well	30	(54.5%)
	• Very Well	15	(27.3%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		

	• Very Little	0	(0%)
	• Little	26	(47.3%)
	• Neutral	3	(5.5%)
	• Well	10	(18.2%)
	• Very Well	16	(29.1%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	3	(5.5%)
	• Little	5	(9.1%)
	• Neutral	2	(3.6%)
	• Well	20	(36.4%)
	• Very Well	25	(45.5%)

ATTITUDE

The overall attitude towards antenatal checkup, 3[5.5%] disagreed, followed by neutral 5[9.1%], agree 20[36.4%], strongly agree 27[49.1%]. Towards special diet 15[27.3%] strongly disagreed, followed by 8[14.5%] disagree, neutral 15[27.3%], agree 10[18.2%], strongly agree 7[12.7%]. Regarding iron supplementation 4 responded[7.3%] strongly disagree, disagree 10[18.2%], neutral 26[47.3%], agree 10[18.2%], strongly agree 5[9.1%]. Query about attitude towards importance to do breast care 3[5.5%] reacted strongly disagree, 5[9.1%] disagree, 28[50.9%] neutral, 13[23.6%] agree, 6[10.9%] strongly agree.

Table 8: ATTITUDE TOWARDS ANEMIA

SL NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	3	(5.5%)
	• Neutral	5	(9.1%)
	• Agree	20	(36.4%)
	• Strongly Agree	27	(49.1%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	15	(27.3%)
	• Disagree	8	(14.5%)
	• Neutral	15	(27.3%)
	• Agree	10	(18.2%)
	• Strongly Agree	7	(12.7%)
3	Iron supplementation has positive impact on both mother and baby.		
	• Strongly Disagree	4	(7.3%)
	• Disagree	10	(18.2%)
	• Neutral	26	(47.3%)
	• Agree	10	(18.2%)
	• Strongly Agree	5	(9.1%)
4	It is important to do breast care.		
	• Strongly Disagree	3	(5.5%)
	• Disagree	5	(9.1%)
	• Neutral	28	(50.9%)
	• Agree	13	(23.6%)
	• Strongly Agree	6	(10.9%)

PRACTICE

Regarding practice 51[92.7%] were regularly following antenatal checkup and blood test while 4[7.3%] not following. About 38[69.1%] participants were on normal diet, and 17[30.9%] were on special diet during their pregnancy. 43 participants [78.2%] claimed that they were taking iron supplementation regularly, 12[21.8%] have not taken any iron supplementation. All the participants consume iron supplementation before food intake 55[100%].

Table 9: PRACTICE TOWARDS ANEMIA

SL NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	4	(7.3%)
	• Following	51	(92.7%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	50	(91%)
	• Special Diet	5	(10.4%)
3	Are you taking iron supplements during this pregnancy?		
	• Not Taking	12	(21.8%)
	• Taking	43	(78.2%)
4	Timing of iron consumption?		
	• Before Food	55	(100%)
	• After Food	0	(0%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPERTENSION

KNOWLEDGE

Out of 120 participants studied, 22 participants had hypertension in which 10[45.5%] of the participants had very little knowledge about the term hypertension, 2[9.1%] had little knowledge, followed by 6[27.3%] neutral, 3[13.6%] well and 1[4.5%] very well. About complications of hypertension, 8[36.4%] patients had very little knowledge, 5[22.7%] little knowledge, followed by 6[27.3%] neutral, 2[9.1%] well, 1[4.5%] very well. Knowledge about the importance to maintain normal level of blood pressure 10[45.5%] participants responded very little, 7[31.8%] little, 2[9.1%] well, 3[13.6%] very well. About the cause of hypertension 14[63.6%] had very little knowledge, 5[22.7%] little, 2[9.1%] well, [4.5%] responded very well. About 13 participants [59.1%] responded very little about the importance to do mild exercise, 5[22.7%] little, 3[13.6%] well and 1[4.5%] very well.

To maintain the body weight, 3 participants [13.6%] had very little knowledge about the importance, 3[13.6%] neutral, 5[22.7%] well and 11[50%] very well. About the food items to improve their condition 4[18.2%] had very little knowledge, 5[22.7%] little, 2[9.1%] neutral, 3[13.6%] well and 8[36.4%] very well. Most of the patients were not aware of the side effects caused by the drugs they were taking 2[9.1%] followed by 10[45.5%] little, 5[22.7%] neutral, 3[13.6%] well, 2[9.1%] very well. Query about dose and frequency of the medication about 6[27.3%] responded very little knowledge about it, followed by 8[36.4%] little, 3[13.6%] neutral, 4[18.2%] well, 1[4.5%] very well.

The mean knowledge, attitude and practice scores were found to be 16.36±6.15, 20.45±2.81 and 2.86±0.56 respectively.

Table 10: KNOWLEDGE TOWARDS HYPERTENSION

SL NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hypertension?		
	• Very Little	10	(45.5%)
	• Little	2	(9.1%)
	• Neutral	6	(27.3%)
	• Well	3	(13.6%)
	• Very Well	1	(4.5%)
2	Knowledge about complications of hypertension?		
	• Very Little	8	(36.4%)
	• Little	5	(22.7%)
	• Neutral	6	(27.3%)
	• Well	2	(9.1%)
	• Very Well	1	(4.5%)

3	Do you know it is important to maintain normal level of blood sugar?		
	• Very Little	10	(45.5%)
	• Little	7	(31.8%)
	• Neutral	0	(0%)
	• Well	2	(9.1%)
	• Very Well	3	(13.6%)
4	Do you know about the cause of hypertension?		
	• Very Little	14	(63.6%)
	• Little	5	(22.7%)
	• Neutral	0	(0%)
	• Well	2	(9.1%)
	• Very Well	1	(4.5%)
5	Do you think it is important to do mild exercise?		
	• Very Little	13	(59.1%)
	• Little	5	(22.7%)
	• Neutral	0	(0%)
	• Well	3	(13.6%)
	• Very Well	1	(4.5%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	3	(13.6%)
	• Neutral	3	(13.6%)
	• Well	5	(22.7%)
	• Very Well	11	(50%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	4	(18.2%)
	• Little	5	(22.7%)
	• Neutral	2	(9.1%)
	• Well	3	(13.6%)
	• Very Well	8	(36.4%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	2	(9.1%)
	• Little	10	(45.5%)
	• Neutral	5	(22.7%)
	• Well	3	(13.6%)
	• Very Well	2	(9.1%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	6	(27.3%)
	• Little	8	(36.4%)
	• Neutral	3	(13.6%)
	• Well	4	(18.2%)
	• Very Well	1	(4.5%)

ATTITUDE

The overall attitude towards antenatal checkup 4[18.2] % disagreed, followed by neutral 2[9.1%], agree 6[27.3%], strongly agree 10[45.5%]. Towards special diet 3[13.6%] disagreed, followed by 4[18.2%] neutral, 6[27.3%] agree, 9[40.9%] strongly agree. Regarding medication 3 responded [13.6%] neutral, 4[18.2%] agree, 15[68.2%] strongly agree. Query about attitude towards the importance to do breast care 3[13.6%] reacted disagree, 5[22.7%] neutral, 8[36.4%] agree, 6[27.3%] strongly agree.

Table 11: ATTITUDE TOWARDS HYPERTENSION

SL NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	4	(18.2%)
	• Neutral	2	(9.1%)
	• Agree	6	(27.3%)
	• Strongly Agree	10	(45.5%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	3	(13.6%)
	• Neutral	4	(18.2%)
	• Agree	6	(27.3%)
	• Strongly Agree	9	(40.9%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	3	(13.6%)
	• Agree	4	(18.2%)
	• Strongly Agree	15	(68.2%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	3	(13.6%)
	• Neutral	5	(22.7%)
	• Agree	8	(36.4%)
	• Strongly Agree	6	(27.3%)

PRACTICE

Regarding practice 19[86.4%] were regularly following the antenatal checkup and blood test while 3[13.6%] not following. 19 [86.6%] participants were on normal diet, and 3[13.6%] were on special diet during their pregnancy. All participants 22[100%] claimed that they were taking medication regularly and all consume medication after food intake 22[100%]

Table 12: PRACTICE TOWARDS HYPERTENSION

SL NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	3	(13.6%)
	• Following	19	(86.4%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	19	(86.4%)
	• Special Diet	3	(13.6%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	22	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	22	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPOTHYROIDISM KNOWLEDGE

Out of 120 participants studied, 16 participants had Hypothyroidism in which 4[25%] of the participants had very little knowledge about the term hypothyroidism, 5[31.3%] had little knowledge, followed by 2[12.5%] neutral, 3[18.8%] well and 2[12.5%] very well. About complications of hypothyroidism, 4[25%] patients had very little knowledge, 3[18.8%] little knowledge, followed by 4[25%] neutral, 4[25%] well, 1[6.3%] very well. Knowledge about the importance to maintain normal level of thyroid hormones, 5[31.3%] participants responded very little, 1[6.3%] little, 3[18.8%] neutral, 4[25%] well, 3[18.8%] very well. About the cause of hypothyroidism 2[12.5%] had very little knowledge, 2[12.5%] little, 4[25%] neutral, 6[37.5%] well, and 2[12.5%] responded very well. About 2 participants [12.5%] responded little about the importance to do mild exercise, 4[25%] neutral, 5[31.3%] well and 5[31.3%] very well. To maintain the body weight 2 participants [12.5%] had very little knowledge about the importance, 2[12.5%] reacted little, 5[31.3%] neutral, 6[37.5%] % well and 1[6.3%] very well. About the food items should be included 2[12.5%] had very little knowledge, 6[37.5%] little, 2[12.5%] neutral, 3[18.8%] well and 3[18.8%] very well. Most of the patients were not aware of the side effects caused by the drugs they were taking 3[18.8%] % followed by 6[37.5%] little, 2[12.5%] neutral, 3[18.8%] well, 2[12.5%] very well. Query about dose and frequency of the medication about 5[31.3%] responded very little knowledge about it, followed by 1[6.3%] little, 4[25%] neutral, 4[25%] well, 2[12.5%] very well. The mean knowledge, attitude and practice scores were found to be 20.69±8.26, 19.50 ±3.63 and 2.81 ±0.98 respectively.

Table 13: KNOWLEDGE TOWARDS HYPOTHYROIDISM

SL NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hypothyroidism?		
	• Very Little	4	(25%)
	• Little	5	(31.3%)
	• Neutral	2	(12.5%)
	• Well	3	(18.8%)
	• Very Well	2	(12.5%)
2	Knowledge about complications of hypothyroidism?		
	• Very Little	4	(25%)
	• Little	3	(18.8%)
	• Neutral	4	(25%)
	• Well	4	(25%)
	• Very Well	1	(6.3%)
3	Do you know it is important to maintain normal level of thyroid hormones?		
	• Very Little	5	(31.3%)
	• Little	1	(6.3%)
	• Neutral	3	(18.8%)
	• Well	4	(25%)
	• Very Well	3	(18.8%)
4	Do you know about the cause of hypothyroidism?		
	• Very Little	2	(12.5%)
	• Little	2	(12.5%)
	• Neutral	4	(25%)
	• Well	6	(37.5%)
	• Very Well	2	(12.5%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	2	(12.5%)
	• Neutral	4	(25%)
	• Well	5	(31.3%)
	• Very Well	5	(31.3%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	2	(12.5%)
	• Little	2	(12.5%)
	• Neutral	5	(31.3%)
	• Well	6	(37.5%)
	• Very Well	1	(6.3%)

7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	2	(12.5%)
	• Little	6	(37.5%)
	• Neutral	2	(12.5%)
	• Well	3	(18.8%)
	• Very Well	3	(18.8%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	3	(18.8%)
	• Little	6	(37.5%)
	• Neutral	2	(12.5%)
	• Well	3	(18.8%)
	• Very Well	2	(12.5%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	5	(31.3%)
	• Little	1	(6.3%)
	• Neutral	4	(25%)
	• Well	4	(25%)
	• Very Well	2	(12.5%)

ATTITUDE

The overall attitude towards antenatal checkup 3[18.8] % disagreed, followed by 4[25%]agree, 9[56.3%]strongly agree. Towards special diet 4[25%] disagreed, followed by 5[31.3%] neutral, 5[31.3%] agree, 2[12.5%] strongly agree. Regarding medication 4 responded [25%] neutral, 8[50%] agree, 4[25%] strongly agree. Query about attitude towards the importance to do breast care 2[12.5%] reacted disagree, 4[25%] neutral, 6[37.5%] agree, 4[25%] strongly agree.

Table 14: ATTITUDE TOWARDS HYPOTHYROIDISM

SL NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	3	(18.8%)
	• Neutral	0	(0%)
	• Agree	4	(25%)
	• Strongly Agree	9	(56.3%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	4	(25%)
	• Neutral	5	(31.3%)
	• Agree	5	(31.3%)
	• Strongly Agree	2	(12.5%)
3	Taking thyroid medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	4	(25%)
	• Agree	8	(50%)
	• Strongly Agree	4	(25%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(12.5%)
	• Neutral	4	(25%)
	• Agree	6	(37.5%)
	• Strongly Agree	4	(25%)

PRACTICE

Regarding practice 13[81.3%] were regularly following the antenatal checkup and blood test while 3[18.8%] were not following. 13 [81.3%] participants were on normal diet, and 3[18.8%] were on special diet during their pregnancy. All participants 16[100%] claimed that they were taking medication regularly and all consume medication after food intake 16[100%].

Table 15: PRACTICE TOWARDS HYPOTHYROIDISM

SL NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	3	(18.8%)
	• Following	13	(81.3%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	13	(81.3%)
	• Special Diet	3	(18.8%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	16	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	16	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPERTHYROIDISM KNOWLEDGE

Out of 120 participants studied, 14 patients had hyperthyroidism in which 3[21.4%] of the participants had very little knowledge about the term hyperthyroidism, 4[28.6%] had little knowledge, followed by 2[14.3%] neutral, 3[21.4%] well and 2[14.3%] very well. About complications of hyperthyroidism 4[28.6%] patients had very little knowledge 2[14.3%] little knowledge, followed by 3[21.4%] neutral, 4[28.6%] well, 1[7.1%] very well. Knowledge about the importance to maintain the normal level of thyroid hormones 4[28.6%] responded very little, 3[21.4%] neutral, 4[28.6%] well, 3[21.4%] very well. About the cause of hyperthyroidism 1[7.1%] had very little knowledge 2 [14.3%] little, 4[28.6%] neutral, 5[35.7%] well, and 2[14.3%] responded very well. About 3 participants [21.4%] responded neutral about the importance to do mild exercise, 6[42.9%] well and 5[35.7%] very well. To maintain the body weight 2 participants [14.3%] had very little knowledge about the importance, 5[35.7%] reacted neutral, 6[42.9%] well and 1[7.1%] very well. About the food items should be included 2[14.3%] had very little knowledge, 5[35.7%] little, 2[14.3%] neutral, 3[21.4%] well and 2[14.3%] very well. Most of the patients were not aware of the side effects caused by the drugs they were taking 2[14.3%] had very little knowledge, followed by 5[35.7%] little, 2[14.3%] neutral, 3[21.4%] well, 2[14.3%] very well. Query about dose and frequency of the medication about 3[21.4%] responded very little knowledge about it, followed by 2[14.3%] little, 4[28.6%] neutral, 4[28.6%] well, 1[7.1%] very well. The mean knowledge, attitude and practice scores were found to be 22.07±8.28, 20.36 ±1.15 and 3.14 ±0.53 respectively.

Table 16: KNOWLEDGE TOWARDS HYPERTHYROIDISM

SL NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hyperthyroidism?		
	• Very Little	3	(21.4%)
	• Little	4	(28.6%)
	• Neutral	2	(14.3%)
	• Well	3	(21.4%)
	• Very Well	2	(14.3%)
2	Knowledge about complications of hyperthyroidism?		
	• Very Little	4	(28.6%)
	• Little	2	(14.3%)
	• Neutral	3	(21.4%)
	• Well	4	(28.6%)
	• Very Well	1	(7.1%)
3	Do you know it is important to maintain normal level of thyroid hormones?		
	• Very Little	4	(28.6%)

	• Little	0	(0%)
	• Neutral	3	(21.4%)
	• Well	4	(28.6%)
	• Very Well	3	(21.4%)
4	Do you know about the cause of hyperthyroidism?		
	• Very Little	1	(7.1%)
	• Little	2	(14.3%)
	• Neutral	4	(28.6%)
	• Well	5	(35.7%)
	• Very Well	2	(14.3%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	3	(21.4%)
	• Well	6	(42.9%)
	• Very Well	5	(35.7%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	2	(14.3%)
	• Little	0	(0%)
	• Neutral	5	(35.7%)
	• Well	6	(42.9%)
	• Very Well	1	(7.1%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	2	(14.3%)
	• Little	5	(35.7%)
	• Neutral	2	(14.3%)
	• Well	3	(21.4%)
	• Very Well	2	(14.3%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	2	(14.3%)
	• Little	5	(35.7%)
	• Neutral	2	(14.3%)
	• Well	3	(21.4%)
	• Very Well	2	(14.3%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	3	(21.4%)
	• Little	2	(14.3%)
	• Neutral	4	(28.6%)
	• Well	4	(28.6%)
	• Very Well	1	(7.1%)

ATTITUDE

The overall attitude towards antenatal checkup 2[14.3] % disagreed, followed by 4[28.6%] agree, 8[57.1%] strongly agree. Towards special diet 2[14.3%] disagreed, followed by 4[28.6%] neutral, 5[35.7%] agree, 3[21.4%] strongly agree. Regarding medication 3 responded [21.4%] neutral, 7[50%] agree, 4[28.6%] strongly agree. Query about attitude towards the importance to do breast care 1[7.1%] reacted disagree, 3[21.4%] neutral, 6[42.9%] agree, 4[28.6%] strongly agree.

Table 17: ATTITUDE TOWARDS HYPERTHYROIDISM

SL NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(14.3%)

	• Neutral	0	(0%)
	• Agree	4	(28.6%)
	• Strongly Agree	8	(57.1%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(14.3%)
	• Neutral	4	(28.6%)
	• Agree	5	(35.7%)
	• Strongly Agree	3	(21.4%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	3	(21.4%)
	• Agree	7	(50%)
	• Strongly Agree	4	(28.6%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	1	(7.1%)
	• Neutral	3	(21.4%)
	• Agree	6	(42.9%)
	• Strongly Agree	4	(28.6%)

PRACTICE

Regarding practice 13[92.9%] were regularly following antenatal checkup and blood test while 1[7.1%] were not following. About 11 participants [78.6%] were on normal diet, and 3[21.4%] were on special diet during their pregnancy. All participants 14[100%] claimed that they were taking medication regularly and they consume medication after food intake 14[100%].

Table 18: PRACTICE TOWARDS HYPERTHYROIDISM

SL NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	1	(7.1%)
	• Following	13	(92.9%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	11	(78.6%)
	• Special Diet	3	(21.4%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	14	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	14	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS GESTATIONAL DIABETES MELLITUS

KNOWLEDGE

Out of 120 participants studied, 13 participants had Gestational diabetes mellitus in which 7[53.8%] of the participants had very little knowledge about the term gestational diabetes mellitus, 3[23.1%] had little knowledge, followed by 2[15.4%] well, 1[7.7%] very well. About the complications of gestational diabetes mellitus 5[38.5%] patients had very little knowledge followed by 4[30.8%] little knowledge, 1[7.7%] neutral, 2[15.4%] well, 1[7.7%] very well. Knowledge about the importance to maintain the normal level of blood sugar 2[15.4%] participants responded little, 4[30.8%] well, 7[53.8%] very well. About the cause of gestational diabetes mellitus 1[7.7%] had very little knowledge, followed by 1[7.7%] little, 2[15.4%] neutral, 6[46.2%] well, and 3[23.1%] responded very well. About 2 participants [15.4%] responded very little about the importance to do mild exercise, 5[38.5%] little, 3[23.1%] neutral, 2[15.4%] well and 1[7.7%] very well. To maintain the body weight 1 participant [7.7%] had little knowledge about the importance, 1[7.7%] reacted neutral, 3[23.1%] well and 8[61.5%] very well. About the food items should

be included to improve their condition 1[7.7%] had little knowledge, 1[7.7%] neutral, 3[23.1%] well and 8[61.5%] very well. Most of the patients were not aware of the side effects caused by the drugs they were taking 2[15.4%] had very little knowledge, followed by 4[30.8%] little, 1[7.7%] neutral, 4[30.8%] well, 2[15.4%] very well. Query about the dose and frequency of the medication they were taking about 2[15.4%] responded little knowledge about it, followed by 5[38.6%] well, 6[46.2%] very well. The mean knowledge, attitude and practice scores were found to be 23.92 ± 5.60 , 20.85 ± 2.70 and 4.00 ± 0.58 respectively.

Table 19: KNOWLEDGE TOWARDS GESTATIONAL DIABETES MELLITUS

SL NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term gestational diabetes mellitus?		
	• Very Little	7	(53.8%)
	• Little	3	(23.1%)
	• Neutral	0	(0%)
	• Well	2	(15.4%)
	• Very Well	1	(7.7%)
2	Knowledge about complications of gestational diabetes mellitus?		
	• Very Little	5	(38.5%)
	• Little	4	(30.8%)
	• Neutral	1	(7.7%)
	• Well	2	(15.4%)
	• Very Well	1	(7.7%)
3	Do you know it is important to maintain normal level of blood sugar?		
	• Very Little	0	(0%)
	• Little	2	(15.4%)
	• Neutral	0	(0%)
	• Well	4	(30.8%)
	• Very Well	7	(53.8%)
4	Do you know about the cause of gestational diabetes mellitus?		
	• Very Little	1	(7.7%)
	• Little	1	(7.7%)
	• Neutral	2	(15.4%)
	• Well	6	(46.2%)
	• Very Well	3	(23.1%)
5	Do you think it is important to do mild exercise?		
	• Very Little	2	(15.4%)
	• Little	5	(38.5%)
	• Neutral	3	(23.1%)
	• Well	2	(15.4%)
	• Very Well	1	(7.7%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	1	(7.7%)
	• Neutral	1	(7.7%)
	• Well	3	(23.1%)
	• Very Well	8	(61.5%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	0	(0%)
	• Little	1	(7.7%)
	• Neutral	1	(7.7%)
	• Well	3	(23.1%)
	• Very Well	8	(61.5%)

8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	2	(15.4%)
	• Little	4	(30.8%)
	• Neutral	1	(7.7%)
	• Well	4	(30.8%)
	• Very Well	2	(15.4%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	0	(0%)
	• Little	2	(15.4%)
	• Neutral	0	(0%)
	• Well	5	(38.5%)
	• Very Well	6	(46.2%)

ATTITUDE

The overall attitude towards antenatal checkup, 1[7.7%] responded neutral, followed by 2[15.4%] agree, 10[76.9%] strongly agree. Towards special diet 3[23.1%] disagree, 2[15.4%] neutral, 3[23.1%] agree, 5[38.5%] strongly agree. Regarding medication 1[7.7%] responded strongly disagree, 2[15.4%] disagree, 3[23.1%] neutral, 5[38.5%] agree, 2[15.4%] strongly agree. Query about importance to do breast care 3[23.1%] reacted neutral, 5[38.5%] agree, 5[38.5%] strongly agree.

Table 20: ATTITUDE TOWARDS GESTATIONAL DIABETES MELLITUS

SL NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	1	(7.7%)
	• Agree	2	(15.4%)
	• Strongly Agree	10	(76.9%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	3	(23.1%)
	• Neutral	2	(15.4%)
	• Agree	3	(23.1%)
	• Strongly Agree	5	(38.5%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	1	(7.7%)
	• Disagree	2	(15.4%)
	• Neutral	3	(23.1%)
	• Agree	5	(38.5%)
	• Strongly Agree	2	(15.4%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	3	(23.1%)
	• Agree	5	(38.5%)
	• Strongly Agree	5	(38.5%)

PRACTICE

Regarding practice 11[84.6%] were regularly following the antenatal checkup and blood test while 2[15.4%] were not following. About 9[69.2%] participants were on normal diet, and 4[30.8%] were on special diet during their pregnancy. All 13[100%] participants claimed that they were taking medication regularly and they consume medication 13[100%] before food.

Table 21: PRACTICE TOWARDS GESTATIONAL DIABETES MELLITUS

SL NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
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1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	2	(15.4%)
	• Following	11	(84.6%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	9	(69.2%)
	• Special Diet	4	(30.8%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	13	(100%)
4	Timing of medication consumption?		
	• Before Food	13	(100%)
	• After Food	0	(0%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS DURING PREGNANCY AFTER COUSELLING

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS ANEMIA

KNOWLEDGE

Out of 120 participants who, 55 participants had anemia in which 40[72.7%] of the participants had very well knowledge about the term anemia, 8[14.5%] well, followed by 2[3.6%] neutral, 3[5.5%] little and 2[3.6%] very little. About complications of anemia, 24[43.6%] patients had very well knowledge, followed by 16[29.1%] well, 4[7.3%] neutral, 6[10.9%] little, 5[9.1%] responded very little. Knowledge about the importance to maintain the normal level of hemoglobin 38[69.1%] participants responded very well, followed by 15[27.3%] well, 2[3.6%] neutral. About the cause of anemia 20[36.4%] had very well knowledge followed by 17[30.9%] well, 10[18.2%] neutral, 5[9.1%] little, and 3[5.5%] very little. About 40 participants [72.7%] responded very well about the importance to do mild exercise, 13[23.6%] well, 2[3.6%] neutral. To maintain the body weight 45[81.8%] participants had very well knowledge about the importance, 8[14.5%] well, 2[3.6%] little. About the food items to improve the blood level during pregnancy 11[20%] had very well knowledge, 41[74.5%] knew well, 2[3.6%] little and 1[1.8%] very little. Most of the patients were aware of the side effects caused by the drugs they were taking 9[16.4%] responded very well, followed by 26[47.3%] well, 2[3.6%] neutral, 13[23.6%] little, 5[9.1%] very little. Query about dose and frequency of the medication about 41[74.5%] responded very well knowledge about it, followed by 12[21.8%] well, 2[3.6%] little. The mean knowledge, attitude and practice scores were found to be 32.11 ± 7.97 , 22.33 ± 1.79 and 3.19 ± 0.49 respectively.

Table 22: KNOWLEDGE TOWARDS ANEMIA

SL.NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term anemia?		
	• Very Little	2	(3.6%)
	• Little	3	(5.5%)
	• Neutral	2	(3.6%)
	• Well	8	(14.5%)
	• Very Well	40	(72.7%)
2	Knowledge about complications of anemia?		
	• Very Little	5	(9.1%)
	• Little	6	(10.9%)
	• Neutral	4	(7.3%)
	• Well	16	(29.1%)
	• Very Well	24	(43.6%)
3	Do you know it is important to maintain normal level of hemoglobin?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(3.6%)
	• Well	15	(27.3%)
	• Very Well	38	(69.1%)
4	Do you know about the cause of anemia?		

	• Very Little	3	(5.5%)
	• Little	5	(9.1%)
	• Neutral	10	(18.2%)
	• Well	17	(30.9%)
	• Very Well	20	(36.4%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(3.6%)
	• Well	13	(23.6%)
	• Very Well	40	(72.7%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	2	(3.6%)
	• Neutral	0	(0%)
	• Well	8	(14.5%)
	• Very Well	45	(81.8%)
7	Do you know about the food items that you can take to improve your blood level?		
	• Very Little	1	(1.8%)
	• Little	2	(3.6%)
	• Neutral	0	(0%)
	• Well	41	(74.5%)
	• Very Well	11	(20%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	5	(9.1%)
	• Little	13	(23.6%)
	• Neutral	2	(3.6%)
	• Well	26	(47.3%)
	• Very Well	9	(16.4%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	0	(0%)
	• Little	2	(3.6%)
	• Neutral	0	(0%)
	• Well	12	(21.8%)
	• Very Well	41	(74.5%)

ATTITUDE

The overall attitude towards antenatal checkup was 11[20%] strongly agreed, followed by 42[76.4%] agree, 2[3.6%] neutral. Towards special diet 10[18.2%] strongly agreed, followed by 29[52.7%] agree, 7[12.7%] neutral, 3[5.5%] disagree, 6[10.9%] strongly disagree. Regarding iron supplementation 44[80%] responded strongly agree, 6[10.9%] agree, 5[9.1%] neutral. Query about attitude towards importance to do breast care 52[94.5%] reacted strongly agree and 3[5.5%] agree.

Table 23: ATTITUDE TOWARDS ANEMIA

SL.NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	2	(3.6%)
	• Agree	42	(76.4%)
	• Strongly Agree	11	(20%)

2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	6	(10.9%)
	• Disagree	3	(5.5%)
	• Neutral	7	(12.7%)
	• Agree	29	(52.7%)
	• Strongly Agree	10	(18.2%)
3	Iron supplementation has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	5	(9.1%)
	• Agree	6	(10.9%)
	• Strongly Agree	44	(80%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)
	• Agree	3	(5.5%)
	• Strongly Agree	52	(94.5%)

PRACTICE

Regarding practice 48[87.3%] were regularly following the antenatal checkup and blood test while 7[12.7%] not following.45[81.81%] participants were on normal diet, and 10[18.19%] were on special diet during their pregnancy.52 participants[94.54%] claimed that they were taking iron supplementation regularly, 3[5.46%] have not taken any iron supplementation. All the participants consume iron supplementation before food intake 55[100%].

Table 24: PRACTICE TOWARDS ANEMIA

SL.NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	2	(3.6%)
	• Following	53	(96.4%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	43	(78.18%)
	• Special Diet	12	(21.81%)
3	Are you taking iron supplements during this pregnancy?		
	• Not Taking	3	(5.46%)
	• Taking	52	(94.54%)
4	Timing of iron consumption?		
	• Before Food	55	(100%)
	• After Food	0	(0%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPERTENSION KNOWLEDGE

Out of 120 participants studied, 22 participants had Hypertension in which 6[27.3%] of the participants had very well knowledge about the term hypertension, 10[45.5%] had well knowledge, followed by 4[18.2%] neutral, 2[9.1%] little. About complications of hypertension, 5[22.7%] patients had very well knowledge followed by 12[54.5%] well, 2[9.1%] neutral, 3[13.6%] little. Knowledge about the importance to maintain the normal level of blood pressure 8[36.4%] participants responded very well followed by 11[50%] well, 1[4.5%] neutral, 2[9.1%] little. About the cause of hypertension 4[18.2%] had very well knowledge, 6[27.3%] well, 9[40.9%] neutral, 2[9.1%] little, and 1[4.5%] responded very little. About 5 participants [22.7%] responded very well about the importance to do mild exercise, 4[18.2%] well, 6[27.3%] neutral, 5[22.7%] little and 2[9.1%] very little. To maintain the body weight 14 participants [63.6%] had very well about the importance, 6[27.3%] reacted well, 2[9.1%] neutral. About the food items to improve their condition during pregnancy 10[45.5%] had very well knowledge, 10[45.5%] well, 2[9.1%] neutral. Most of the patients were aware of the side effects caused by the drugs they were taking 8[36.4%] had very well knowledge about it, followed by 9[40.9%]

well, 2[9.1% neutral,3[13.6%] little. Query about dose and frequency of the medication 4[18.2%] responded very well knowledge about it, followed by 8[36.4%] well, 6[27.3%] neutral,2[9.1%] little,[2[9.1%] very little. The mean knowledge, attitude and practice scores were found to be 29.45±6.03, 22.64 ±1.43 and 3.21 ±0.42 respectively

Table 25: KNOWLEDGE TOWARDS HYPERTENSION

SL.NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hypertension?		
	• Very Little	0	(0%)
	• Little	2	(9.1%)
	• Neutral	4	(18.2%)
	• Well	10	(45.5%)
	• Very Well	6	(27.3%)
2	Knowledge about complications of hypertension?		
	• Very Little	0	(0%)
	• Little	3	(13.6%)
	• Neutral	2	(9.1%)
	• Well	12	(54.5%)
	• Very Well	5	(22.7%)
3	Do you know it is important to maintain normal level of blood pressure?		
	• Very Little	0	(0%)
	• Little	2	(9.1%)
	• Neutral	1	(4.5%)
	• Well	11	(50%)
	• Very Well	8	(36.4%)
4	Do you know about the cause of hypertension?		
	• Very Little	1	(4.5%)
	• Little	2	(9.1%)
	• Neutral	9	(40.9%)
	• Well	6	(27.3%)
	• Very Well	4	(18.2%)
5	Do you think it is important to do mild exercise?		
	• Very Little	2	(9.1%)
	• Little	5	(22.7%)
	• Neutral	6	(27.3%)
	• Well	4	(18.2%)
	• Very Well	5	(22.7%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(9.1%)
	• Well	6	(27.3%)
	• Very Well	14	(63.6%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(9.1%)
	• Well	10	(45.5%)
	• Very Well	10	(45.5%)

8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	0	(0%)
	• Little	3	(13.6%)
	• Neutral	2	(9.1%)
	• Well	9	(40.9%)
	• Very Well	8	(36.4%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	2	(9.1%)
	• Little	2	(9.1%)
	• Neutral	6	(27.3%)
	• Well	8	(36.4%)
	• Very Well	4	(18.2%)

ATTITUDE

The overall attitude towards antenatal checkup 14[63.6%]strongly agreed followed by 8[36.4%] agree, Towards special diet 12[54.5%],Strongly agreed 8[36.4%] agree and 12[9.1%] responded neutral. Regarding medication 17 responded [77.3%]strongly agree,4[18.2%] agree, 1[4.5%]neutral. Query about attitude towards the importance to do breast care was 8[36.4%] reacted strongly agree, followed by 10[45.5%] agree, 4[18.2%] neutral.

Table 26: ATTITUDE TOWARDS HYPERTENSION

SL.NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)
	• Agree	8	(36.4%)
	• Strongly Agree	14	(63.6%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	2	(9.1%)
	• Agree	8	(36.4%)
	• Strongly Agree	12	(54.5%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	1	(4.5%)
	• Agree	4	(18.2%)
	• Strongly Agree	17	(77.3%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	4	(18.2%)
	• Agree	10	(45.5%)
	• Strongly Agree	8	(36.4%)

PRACTICE

Regarding practice 20[90.9%] were regularly following the antenatal check and blood test while 2[9.1%] not following. About 17[77.3%] participants were on normal diet, and 5[22.7%] were on special diet during their pregnancy. All the participants 22[100%] claimed that they were taking medication regularly and all were consuming medication after food intake 22[100%].

Table 27: PRACTICE TOWARDS HYPERTENSION

SL.NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	2	(9.1%)
	• Following	20	(90.9%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	17	(77.3%)
	• Special Diet	5	(22.7%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	19	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	19	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPOTHYROIDISM

KNOWLEDGE

Out of 120 participants studied, 16 participants had Hyperthyroidism in which 5[31.3%] of the participants had very well knowledge about the term hypothyroidism, 7[43.8%] had well knowledge, followed by 4[25%] neutral. About complications of hyperthyroidism 4[25%] patients had very well knowledge, 6[37.5%] well, 4[25%] neutral, 2[12.5%] little, 0[0%] very little. Knowledge about the importance to maintain normal level of thyroid hormone 7[43.8%] participants responded very well, 9[56.3%] well. About the cause of hyperthyroidism 5[31.3%] knew very well knowledge, 6[37.5%] well, 3[18.8%] neutral, 2[12.5%] little. About 9 participants [56.3%] responded very well about the importance to do mild exercise, 3[18.8%] well, 3[18.8%] neutral, 1[6.3%] little. To maintain the body weight 4 participants [25%] had very well knowledge 10[62.5%] knew well, 2[12.5%] neutral. The food items to improve the condition during pregnancy 4[25%] responded very well, 8[50%] well, 2[12.5%] neutral, 1[6.3%] little and 1[6.3%] very little. Most of the patients were aware of the side effects caused by the drugs they are taking 4[25%] had very well knowledge about it, followed by 6[37.5%] well, 4[25%] neutral, 2[12.5%] very little. About the dose and frequency of the drugs they are taking 3[18.8%] reacted very well knowledge about it, followed by 9[56.3%] well, 4[25%] little. The mean knowledge, attitude and practice scores were found to be 30.06±30.06, 20.94 ±3.43 and 3.31 ±0.48 respectively.

Table 28: KNOWLEDGE TOWARDS HYPOTHYROIDISM

SL.NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hypothyroidism?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	4	(25%)
	• Well	7	(43.8%)
	• Very Well	5	(31.3%)
2	Knowledge about complications of hypothyroidism?		
	• Very Little	0	(0%)
	• Little	2	(12.5%)
	• Neutral	4	(25%)
	• Well	6	(37.5%)
	• Very Well	4	(25%)
3	Do you know it is important to maintain normal thyroid hormone level?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	0	(0%)
	• Well	9	(56.3%)

	• Very Well	7	(43.8%)
4	Do you know about the cause of hypothyroidism?		
	• Very Little	0	(0%)
	• Little	2	(12.5%)
	• Neutral	3	(18.8%)
	• Well	6	(37.5%)
	• Very Well	5	(31.3%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	1	(6.3%)
	• Neutral	3	(18.8%)
	• Well	3	(18.8%)
	• Very Well	9	(56.3%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(12.5%)
	• Well	10	(62.5%)
	• Very Well	4	(25%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	1	(6.3%)
	• Little	1	(6.3%)
	• Neutral	2	(12.5%)
	• Well	8	(50%)
	• Very Well	4	(25%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	2	(12.5%)
	• Little	0	(0%)
	• Neutral	4	(25%)
	• Well	6	(37.5%)
	• Very Well	4	(25%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	0	(0%)
	• Little	4	(25%)
	• Neutral	0	(0%)
	• Well	9	(56.3%)
	• Very Well	3	(18.8%)

ATTITUDE

The overall attitude towards antenatal checkup was 10 participants [62.5%] strongly agreed, and 6[37.5%] agreed. Towards special diet 7[43.8%] strongly agreed, followed by 4[25%] agree, 2[12.5%] neutral, 2[12.5%] disagree, 1[6.3%] strongly disagree. Regarding the medication 9 participants responded [56.3%] strongly agree, followed by 3[18.8%] agree, 3[18.8%] neutral, and 1[6.3%] disagree. Query about attitude towards the importance to do breast care was strongly agreed by 7[43.8%], followed 5[31.3%] agree, 2[12.5%] disagree, 2[12.5%] strongly disagree.

Table 29: ATTITUDE TOWARDS HYPOTHYROIDISM

SL.NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)

	• Agree	6	(37.5%)
	• Strongly Agree	10	(62.5%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	1	(6.3%)
	• Disagree	2	(12.5%)
	• Neutral	2	(12.5%)
	• Agree	4	(25%)
	• Strongly Agree	7	(43.8%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	1	(6.3%)
	• Neutral	3	(18.8%)
	• Agree	3	(18.8%)
	• Strongly Agree	9	(56.3%)
4	It is important to do breast care.		
	• Strongly Disagree	2	(12.5%)
	• Disagree	2	(12.5%)
	• Neutral	0	(0%)
	• Agree	5	(31.3%)
	• Strongly Agree	7	(43.8%)

PRACTICE

Regarding practice 14[87.5%] were regularly following the antenatal checkup and blood test while 2[12.5%] were not following. About 13[81.25%] participants were on normal diet, and 3[18.75%] were on special diet during their pregnancy. All the participants 14[100%] claimed that they were taking medication regularly and all were consuming medication after food intake 14[100%].

Table 30: PRACTICE TOWARDS HYPOTHYROIDISM

SL.NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	2	(12.5%)
	• Following	14	(87.5%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	13	(81.25%)
	• Special Diet	3	(18.75%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	16	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	16	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS HYPERTHYROIDISM

KNOWLEDGE

Out of 120 participants studied, 14 participants had Hyperthyroidism in which [35.7%] of the participants had very well knowledge about the term hyperthyroidism, 6[42.9%] well, followed by 3[21.4%] neutral. About complications of hyperthyroidism, 3[21.4%] patients had very well knowledge, followed by 6[42.9%] well and 3[21.4%] responded neutral. Knowledge about the importance to maintain normal thyroid level 7[50%] participants responded very well, followed by 7[50%] well. About the cause of hyperthyroidism 5[35.7%] had very well knowledge followed by 6[42.9%] well, 2[14.3%] neutral, 1[7.1%] little. About 9 participants [64.3%] responded very well about the importance to do mild exercise, 3[21.4%] well and 2[14.3%] neutral. To maintain body weight 4[28.6%] participants had very well knowledge about the importance, 9[64.3%] knew well, 1[7.1%] neutral. About the food items to improve their condition 3[21.4%] had very well knowledge, 7[50%] well, 2[14.3%] neutral, 1[7.1%] little

and 1[7.1%] very little. Most of the patients were aware of the side effects caused by the drugs they were taking 4[28.6%] responded very well, followed by 4[28.6%] well, 4[28.6%] neutral, 2[14.3%] very little. Query about dose and frequency of the medication about 3[21.4%] responded very well, followed by 8[57.1%] well, 3[21.4%] little. The mean knowledge, attitude and practice scores were found to be 30.64±4.05, 21.86 ±2.14 and 3.38 ±0.51 respectively

Table 31: KNOWLEDGE TOWARDS HYPERTHYROIDISM

SL.NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term hyperthyroidism?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	3	(21.4%)
	• Well	6	(42.9%)
	• Very Well	5	(35.7%)
2	Knowledge about complications of hyperthyroidism?		
	• Very Little	0	(0%)
	• Little	2	(14.3%)
	• Neutral	3	(21.4%)
	• Well	6	(42.9%)
	• Very Well	3	(21.4%)
3	Do you know it is important to maintain normal thyroid hormone level?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	0	(0%)
	• Well	7	(50%)
	• Very Well	7	(50%)
4	Do you know about the cause of hyperthyroidism?		
	• Very Little	0	(0%)
	• Little	1	(7.1%)
	• Neutral	2	(14.3%)
	• Well	6	(42.9%)
	• Very Well	5	(35.7%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	2	(14.3%)
	• Well	3	(21.4%)
	• Very Well	9	(64.3%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	1	(7.1%)
	• Well	9	(64.3%)
	• Very Well	4	(28.6%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	1	(7.1%)
	• Little	1	(7.1%)
	• Neutral	2	(14.3%)
	• Well	7	(50%)

	• Very Well	3	(21.4%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	2	(14.3%)
	• Little	0	(0%)
	• Neutral	4	(28.6%)
	• Well	4	(28.6%)
	• Very Well	4	(28.6%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	0	(0%)
	• Little	3	(21.4%)
	• Neutral	0	(0%)
	• Well	8	(57.1%)
	• Very Well	3	(21.4%)

ATTITUDE

The overall attitude towards antenatal checkup was 10[71.4%] strongly agreed, and 4[28.6] % agreed. Towards special diet 8[57.1%] strongly agreed, followed by 3[21.4%] agree, 1[7.1%] neutral, 2[14.3%] disagree. Regarding medication 9[64.3%] responded strongly agree, 1[7.1%] agree, 2[14.3%] neutral, 2[14.3%] disagree. Query about attitude towards importance to do breast care 8[57.1%] reacted strongly agree, 4[28.6%] agree and 2[14.3%] disagree.

Table 32: ATTITUDE POST TOWARDS HYPERTHYROIDISM

SL.NO	ATTITUDE	NUMBER OF PATIENTS	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)
	• Agree	4	(28.6%)
	• Strongly Agree	10	(71.4%)
2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(14.3%)
	• Neutral	1	(7.1%)
	• Agree	3	(21.4%)
	• Strongly Agree	8	(57.1%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(14.3%)
	• Neutral	2	(14.3%)
	• Agree	1	(7.1%)
	• Strongly Agree	9	(64.3%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	2	(14.3%)
	• Neutral	0	(0%)
	• Agree	4	(28.6%)
	• Strongly Agree	8	(57.1%)

PRACTICE

Regarding practice all the participants 14[100%] were regularly following antenatal checkup and blood test while 1[7.1%] .About 9[64.28%] participants were on normal diet, and 5[35.7%] were on special diet during their pregnancy. All the participants 14[100%] claimed that they were taking medication regularly and all were consuming supplementation after food intake 14[100%].

Table 33: PRACTICE TOWARDS HYPERTHYROIDISM

SL.NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	0	(0%)
	• Following	14	(100%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	9	(64.28%)
	• Special Diet	5	(35.7%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	14	(100%)
4	Timing of medication consumption?		
	• Before Food	0	(0%)
	• After Food	14	(100%)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF THE PARTICIPANTS TOWARDS GESTATIONAL DIABETES MELLITUS KNOWLEDGE

Out of 120 participants studied, 13 participants had Gestational diabetes mellitus in which 4[30.8%] of the participants had very well knowledge about the term gestational diabetes mellitus, 6[46.2%] well, followed by 2[15.4%] little and 1[7.7%] very little. About complications of gestational diabetes mellitus, 3[23.1%] patients had very well knowledge followed by 7[53.8%] well, 1[7.7%] neutral and 2[15.4%] responded little. Knowledge about the importance to maintain the normal blood sugar level 9[69.2%] participants responded very well, followed by 3[23.1%] well, 1[7.7%] neutral. About the cause of gestational diabetes mellitus 4[30.8%] had very well knowledge followed by 5[38.5%] well, 2[15.4%] neutral, 2[15.4%] little. About 3 participants [23.1%] responded very well about the importance to do mild exercise, 6[46.2%] well, 3[23.1%] neutral and 1[7.7%] little. To maintain body weight 10[76.9%] participants had very well knowledge about the importance and 3[23.1%] well. About the food items to improve the condition during pregnancy 11[84.6%] had very well knowledge and 2[15.4%] knew well. Most of the patients were aware of the side effects caused by the drugs they were taking 4[30.8%] responded very well, followed by 6[46.2%] well, 2[15.4%] neutral, 1[7.7%] little. Query about dose and frequency of the medication they were taking 11[84.6%] responded very well knowledge about it, followed by 2[15.4%] well. The mean knowledge, attitude and practice scores were found to be 32.62±5.99, 22.77 ±1.42 and 4S.44 ±0.53 respectively.

Table 34: KNOWLEDGE TOWARDS GESTATIONAL DIABETES MELLITUS

SL.NO	KNOWLEDGE	NUMBER OF PATIENTS	PERCENTAGE
1	Knowledge about the term gestational diabetes mellitus?		
	• Very Little	1	(7.7%)
	• Little	2	(15.4%)
	• Neutral	0	(0%)
	• Well	6	(46.2%)
	• Very Well	4	(30.8%)
2	Knowledge about complications of gestational diabetes mellitus?		
	• Very Little	0	(0%)
	• Little	2	(15.4%)
	• Neutral	1	(7.7%)
	• Well	7	(53.8%)
	• Very Well	3	(23.1%)
3	Do you know it is important to maintain normal level of blood sugar?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	1	(7.7%)
	• Well	3	(23.1%)
	• Very Well	9	(69.2%)

4	Do you know about the cause of gestational diabetes mellitus?		
	• Very Little	0	(0%)
	• Little	2	(15.4%)
	• Neutral	2	(15.4%)
	• Well	5	(38.5%)
	• Very Well	4	(30.8%)
5	Do you think it is important to do mild exercise?		
	• Very Little	0	(0%)
	• Little	1	(7.7%)
	• Neutral	3	(23.1%)
	• Well	6	(46.2%)
	• Very Well	3	(23.1%)
6	Do you think it is important to maintain body weight during pregnancy?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	0	(0%)
	• Well	3	(23.1%)
	• Very Well	10	(76.9%)
7	Do you know about the food items that you can take to improve your condition?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	0	(0%)
	• Well	2	(15.4%)
	• Very Well	11	(84.6%)
8	Are you aware of any of the side effects caused by the drugs you are taking?		
	• Very Little	0	(0%)
	• Little	1	(7.7%)
	• Neutral	2	(15.4%)
	• Well	6	(46.2%)
	• Very Well	4	(30.8%)
9	Do you know about the dose and frequency of your medication?		
	• Very Little	0	(0%)
	• Little	0	(0%)
	• Neutral	0	(0%)
	• Well	2	(15.4%)
	• Very Well	11	(84.6%)

ATTITUDE

The overall attitude towards antenatal checkup was 12[92.3%] strongly agreed and 1[7.7%] % agreed. Towards special diet 7[53.8%] strongly agreed, followed by 4[30.8%] agree, 2[15.4%] neutral. Regarding medication 3[23.1%] strongly agree, 7[53.8%] agree and 3[23.1%] responded neutral. Query about attitude towards importance to do breast care 6[46.2%] reacted strongly agree, and 7[53.8%] agree.

Table 35: ATTITUDE TOWARDS GESTATIONAL DIABETES MELLITUS

SL.NO	ATTITUDE	NUMBER OF PATIENT	PERCENTAGE
1	It is important to do regular antenatal checkup and blood test.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)
	• Agree	1	(7.7%)
	• Strongly Agree	12	(92.3%)

2	It is essential to follow special diet during pregnancy.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	2	(15.4%)
	• Agree	4	(30.8%)
	• Strongly Agree	7	(53.8%)
3	Taking medication has positive impact on both mother and baby.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	3	(23.1%)
	• Agree	7	(53.8%)
	• Strongly Agree	3	3(23.1%)
4	It is important to do breast care.		
	• Strongly Disagree	0	(0%)
	• Disagree	0	(0%)
	• Neutral	0	(0%)
	• Agree	7	(53.8%)
	• Strongly Agree	6	(46.2%)

PRACTICE

Regarding practice all the participants 13[100%] were regularly following antenatal checkup and blood test. About 9[69.23%] participants were on normal diet, and 4[30.76%] were on special diet during their pregnancy. All the participants 13[100%] claimed that they were taking medication regularly and all were consuming medication before food intake 13[100%].

Table 36: PRACTICE TOWARDS GESTATIONAL DIABETES MELLITUS

SL.NO	PRACTICE	NUMBER OF PATIENTS	PERCENTAGE
1	Are you following regular antenatal checkup and blood test as directed by the physician?		
	• Not Following	0	(0%)
	• Following	13	(100%)
2	Are you following special diet during this pregnancy?		
	• Normal Diet	9	(69.23%)
	• Special Diet	4	(30.76%)
3	Are you taking any medication during this pregnancy?		
	• Not Taking	0	(0%)
	• Taking	13	(100%)
4	Timing of medication consumption?		
	• Before Food	13	(100%)
	• After Food	0	(0%)

EVALUATION OF THE IMPACT OF COUNSELLING ON KNOWLEDGE, ATTITUDE AND PRACTICE PRE AND POST COUNSELLING

ANOVA test was used to find out the impact of patient counselling. It was found out that there was a significant increase in the knowledge, attitude and practice scores of the patient after counselling. In knowledge section the scores in precounselling was found to be 19.74 ± 6.28 and in post counselling it was 31.23 ± 6.78 and the difference is -11.492 . In attitude section the scores in precounselling was found to be 19.04 ± 3.90 and in post counseling it was 22.19 ± 2.08 , and the difference is -3.150 . In practice section the scores in precounselling was 3.13 ± 1.05 and in postcounselling it was 3.34 ± 0.59 and the difference is -0.09 .

Table 37: ASSESSMENT OF THE IMPACT OF COUNSELLING ON KNOWLEDGE, ATTITUDE AND PRACTICE BEFORE AND AFTER COUNSELLING

VARIABLES	PRECOUNSELLING	POSTCOUNSELLING	DIFFERENCE	T VALUE	P VALUE
Knowledge	19.74±6.28	31.23±6.78	-11.492	-16.715	<0.001
Attitude	19.04±3.90	22.19±2.08	-3.150	-10.034	<0.001
Practice	3.13±1.05	3.34±0.59	-0.09	-0.383	0.702

CONCLUSION

Gestational complications can result in serious sequelae and this can also affect at any stage of pregnancy. Clinical pharmacist plays an important role in antenatal care by providing better patient counselling to pregnant women by giving knowledge and awareness regarding gestational complications, safe medication use for co-morbidities, pregnancy test education, vitamin supplements, diet education, family planning and fertility treatments. Patient education improves understanding level of participants towards gestational complications. Clinical pharmacist can play a main role in improving patient care by counselling. Hence, this study suggests advantages of intervention by clinical pharmacist in improving knowledge, attitude and practice of participants towards gestational complications.

FUTURE SCOPE

There was a significant improvement regarding knowledge, attitude and practice in post counselling. Gestational complications can result in serious sequelae and this can also affect at any stage of pregnancy. Clinical pharmacist plays an important role in antenatal care by providing better patient counselling to pregnant women by giving knowledge and awareness regarding gestational complications, safe medication use for co-morbidities, pregnancy test education, vitamin supplements, diet education, family planning and fertility treatments. Patient education improves understanding level of participants towards gestational complications. Clinical pharmacist can play a main role in improving patient care by counselling. Hence, this study suggests advantages of intervention by clinical pharmacist in improving knowledge, attitude and practice of participants towards gestational complications.

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