



RESEARCH ARTICLE

COMPREHENSIVE EVALUATION OF PREGNANCY COMPLICATIONS AT A TERTIARY CARE TEACHING HOSPITAL

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Abstract

Pregnancy complications, while often mild, can pose significant risks to both mother and child. Common complications include anemia in pregnancy, thyroid disorders, gestational hypertension, preeclampsia, eclampsia, gestational diabetes mellitus (GDM), infections, and preterm labor. Physiological changes during pregnancy increase the demand for iron, making anemia a prevalent concern. Preeclampsia, characterized by elevated blood pressure and proteinuria, presents a risk with an unknown etiology. Timely prenatal care and early detection are essential for mitigating these risks. This prospective observational study was conducted over six months in an obstetrics ward at a tertiary care teaching hospital, involving a sample of 110 participants. Our findings revealed that the 18-25 age group was most susceptible to pregnancy complications. Moreover, the majority of complications were detected during the third trimester, affecting 74.54% of the study population. Among the subjects, 25.45% experienced hypertensive disorders, 20% were diagnosed with GDM, 13.63% suffered from anemia during pregnancy, and 36.36% reported thyroid disorders during pregnancy. Notably, thyroid disorders were the most frequently identified complication in this population. Complications during pregnancy can have severe maternal and fetal consequences if left untreated. Physiological changes, inadequate antenatal care, young age at pregnancy, illicit drug use, and multiple pregnancies are contributing factors to these complications. Early screening, diagnosis, and treatment are crucial for effective management and the prevention of severe maternal and fetal complexities. Educating and raising awareness about symptoms, consequences, and preventive measures play a vital role in reducing the occurrence of pregnancy complications.

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Introduction:-

Pregnancy, an extraordinary journey marked by physiological transformations, is typically a period of immense joy and anticipation for expectant mothers and their families. However, the path to motherhood is not always without challenges, and certain women may encounter pregnancy complications that demand specialized care and attention. Among these complications, diabetes, anemia, hypertension, thyroid disorders, and obesity are known to be influential factors that can significantly affect both maternal and fetal health.

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This study embarks on a comprehensive exploration of the prevalence, impact, and underlying factors associated with these pregnancy-related complications, with a specific focus on pregnant women seeking care at a tertiary care teaching hospital. Our research aims to shed light on the multifaceted dimensions of these conditions and their implications for maternal and neonatal well-being.

The primary objective of this study is to assess the frequency of pregnancy complications among women seeking care at a tertiary care teaching hospital. Such healthcare institutions often serve as vital referral centers for high-risk pregnancies, attracting a diverse population of patients with varying medical backgrounds. Understanding the prevalence and types of complications within this unique healthcare environment is fundamental to characterizing the scope of the issue.

In addition to prevalence, this research endeavors to examine several critical dimensions of these complications. We seek to determine which age groups of women are most susceptible to experiencing these challenges, as maternal age is known to influence pregnancy outcomes. Furthermore, we aim to investigate whether weight plays a significant role in the occurrence of these complications, considering the global concern of obesity and its potential impact on pregnancy.

Another pivotal aspect of our study is the determination of which trimester of pregnancy is most commonly associated with these complications. Pregnancy unfolds in distinct trimesters, each marked by unique physiological dynamics, and recognizing when these complications are most likely to manifest can guide clinical interventions and patient monitoring.

By conducting this research within the context of a tertiary care teaching hospital, we aspire to provide a comprehensive understanding of the complex landscape of pregnancy complications. The insights garnered from this study are poised to inform clinical practices, refine patient care protocols, and contribute to the overarching mission of advancing maternal and fetal health in the face of high-risk pregnancies. Ultimately, our aim is to enhance the quality of care and outcomes for the women who entrust their pregnancies to such specialized healthcare settings.

Methodology:-

The research was carried out at the Tertiary Care Teaching Hospital in Karimnagar. This study adopted a hospital-based prospective observational design to examine various aspects related to the subject matter. The investigation spanned a duration of six months, during which an extensive dataset was collected and analyzed. The study's sample size was comprised of a total of 110 participants, carefully selected to ensure a representative cross-section of the population under investigation. This robust sample size and the strategic choice of a tertiary care teaching hospital as the research site both contribute to the study's credibility and its potential to yield valuable insights into the selected research objectives.

Study site	Study design	Study duration	Sample size
Tertiary care teaching hospital, Karimnagar.	hospital-based prospective observational study.	6 months.	110 individuals.

Study Criteria:

Inclusion Criteria

1. Women of age 18-40yrs are included in this study.
2. Women with DE novo pregnancy complications are included in this study.
3. Women who visits to tertiary care teaching hospital with pregnancy complications.

Exclusion Criteria

1. Female below 18yrs are excluded from this study.
2. Female with the pregnancy complication in their past pregnancy are excluded from this study.

Statistical Analysis:

1. In this study mean statistical tool, frequency distribution and percentage is being used.
2. Microsoft excel for the easy accessibility, retrieval and for plotting of charts and graphs.

Study Procedure

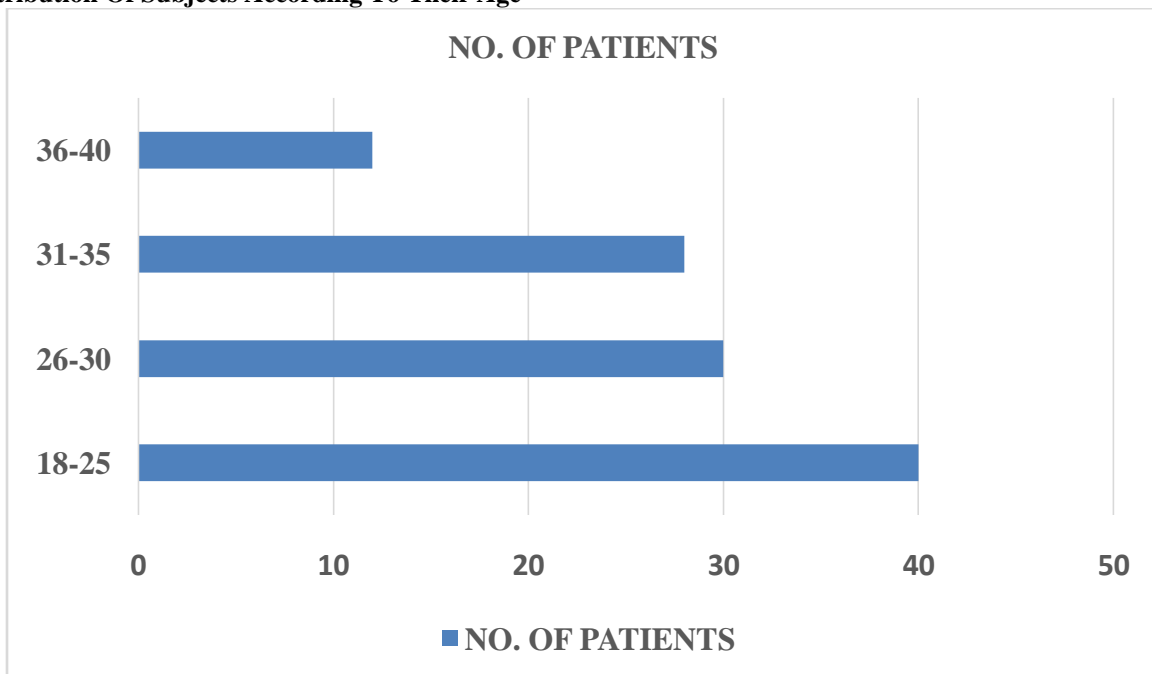
1. The Study Protocol and data collection form were submitted for review and written/ oral consent was obtained from the head of the hospital
2. The Approval of the study from the institutional review board and head of the hospital was obtained.
3. All the case sheets were thoroughly reviewed about their demographic details, symptoms, family and past medical history, laboratory parameters, including treatment pattern by the study team and noted down.
4. The patients were counselled about the Symptoms, various pregnancy complications and how to prevent them by early screening and their management with drugs.
5. All the collected data was subjected to suitable statistical test and analyses for results.

Results:-

The study "Assessment of pregnancy complication in tertiary care teaching hospital" was conducted in tertiary care teaching hospital. A Total of 110 patients were diagnosed with pregnancy complications.

Distribution Of Subjects According To Their Age

AGE (Years)	NO. OF PATIENTS	PERCENTAGE%
18-25	40	36.36%
26-30	30	27.27%
31-35	28	25.45%
36-40	12	10.90%
TOTAL	110	100%

Distribution Of Subjects According To Their Age

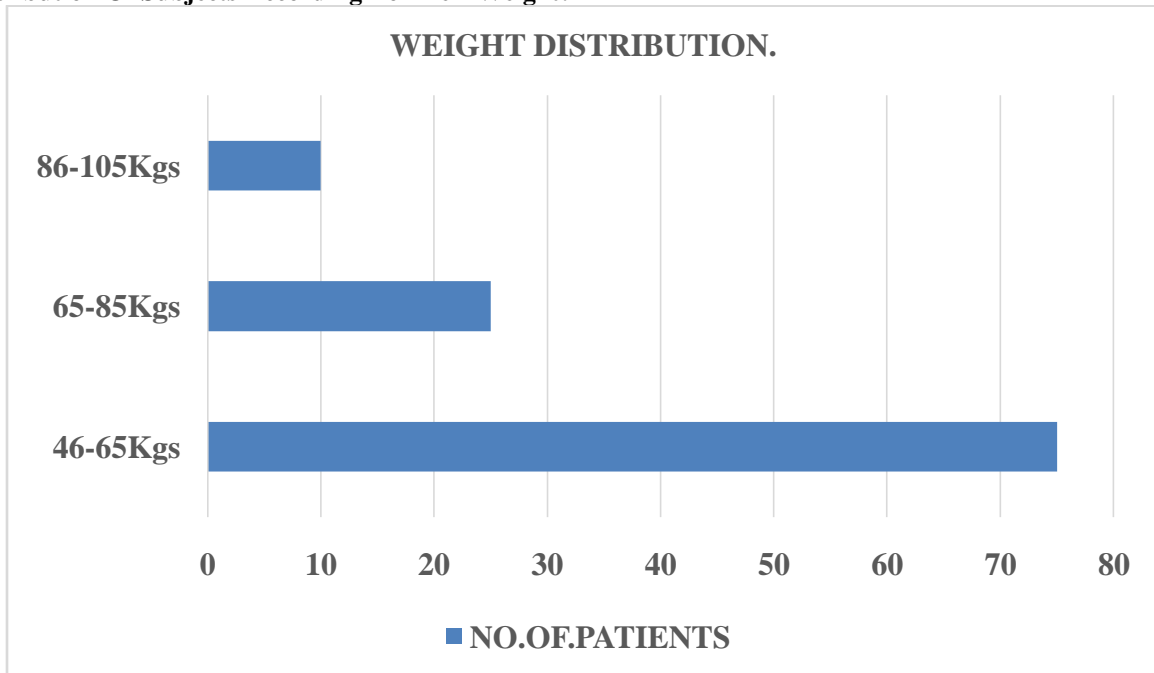
According to our study of 110 patients, 36.36% were between the ages of 18-24 years, 27.27% were in the 26-30-year age group, 25.45% were in the 31-35-year age group, and 10.90% were between 36-40 years old. Therefore, it is evident that the age group of 18-24 years was the most commonly identified with pregnancy complications in our study.

Distribution Of Subjects According To Their Weight:

WEIGHT (kgs)	NO OF PATIENTS	PERCENTAGE%
46-56	75	68.18%

66-85	25	22.72%
86-105	10	9.09%
TOTAL	110	100%

Distribution Of Subjects According To Their Weight:

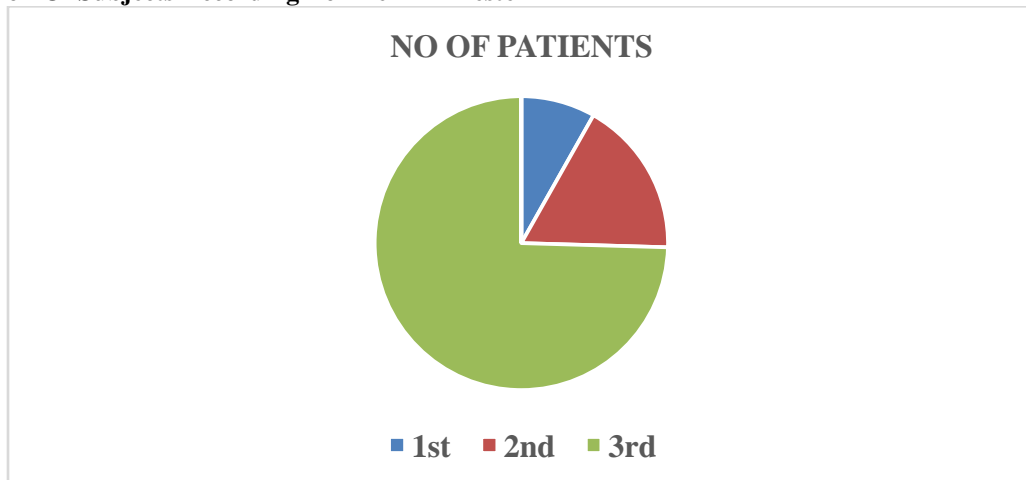


In this study, 75 patients (68.18%) weighing 45-65kgs, 25 patients (22.72%) weighing 66-85kgs, 10 patients weighing 86-105kgs were identified with pregnancy complications. The results depicted that patients weighing 46-65kgs were more prone to pregnancy complications.

Distribution Of Subjects According To Their Trimester.

TRIMESTER	NO OF PATIENTS	PERCENTAGE%
1 ST	09	8.18%
2 ND	19	17.27%
3 RD	82	74.54%
TOTAL	110	100%

Distribution Of Subjects According To Their Trimester

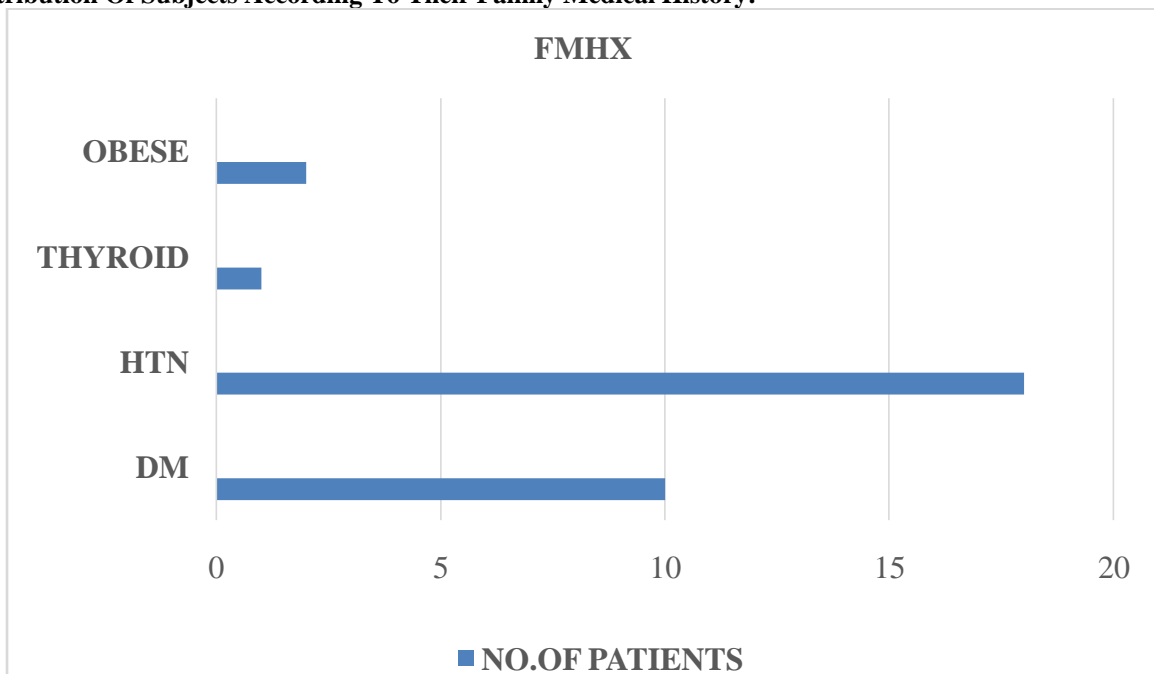


In this study, 9 participants (8.18%) during 1st trimester, 19 participants (17.27%) during 2nd trimester, and 82 participants (74.54%) during 3rd trimester from total 110 study population were affected with pregnancy complication. The results depicted that pregnancy complication were mostly identified during 3rd trimester of pregnancy

Distribution Of Subjects According To Their Family Medical History

FMHX	NO OF PATIENTS	PERCENTAGE%
DM	10	9.09%
HTN	18	16.36%
THYROID	1	0.90%
OBESE	2	1.81%
NONE	86	78.18%
TOTAL	110	100%

Distribution Of Subjects According To Their Family Medical History.

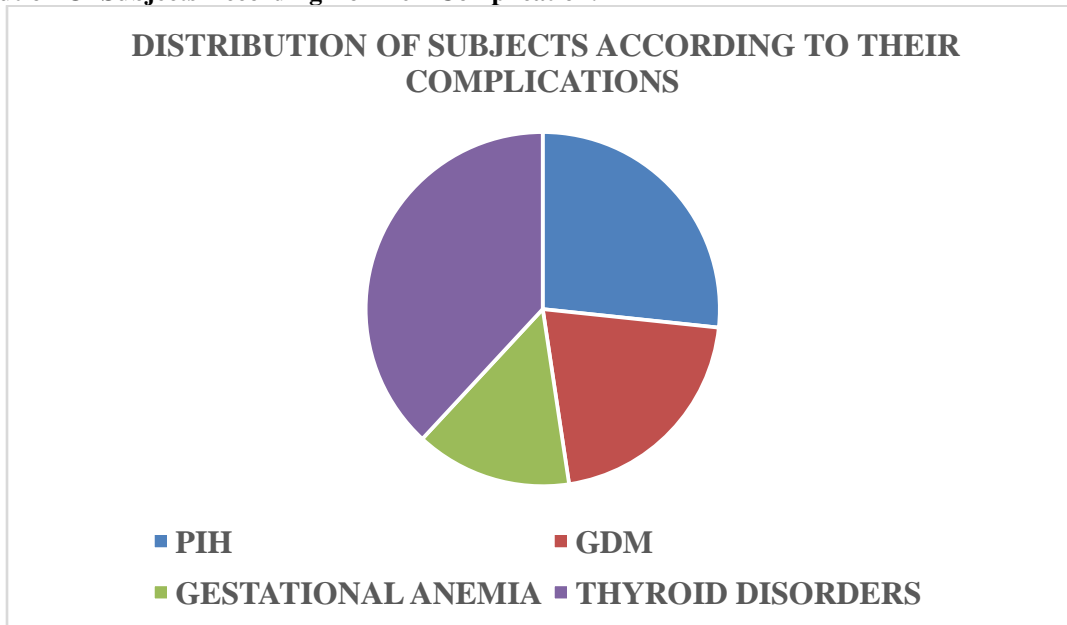


In our study population of 110 participants, we found that 9.09% had a family history of diabetes mellitus, 16.36% had a history of hypertension, 0.90% had thyroid disorders, and 1.81% were obese, all of whom were recognized as having pregnancy complications. Our results indicate that among these factors, only 28.18% of patients with a family history of diabetes mellitus had an impact on the occurrence of complications during pregnancy. This suggests that while family history may play a role, it is not the sole determinant of pregnancy complications, and other factors likely contribute to their occurrence as well.

Distribution Of Subjects According To Their Complication.

COMPLICATIONS	NO. OF PATIENTS	PERCENTAGE%
Hypertensive disorders of pregnancy	28	25.45%
Gestational diabetes mellitus.	22	20%
Anaemia in pregnancy	15	13.63%
Thyroid disorders in pregnancy.	40	36.36%
TOTAL	110	100%

Distribution Of Subjects According To Their Complication.

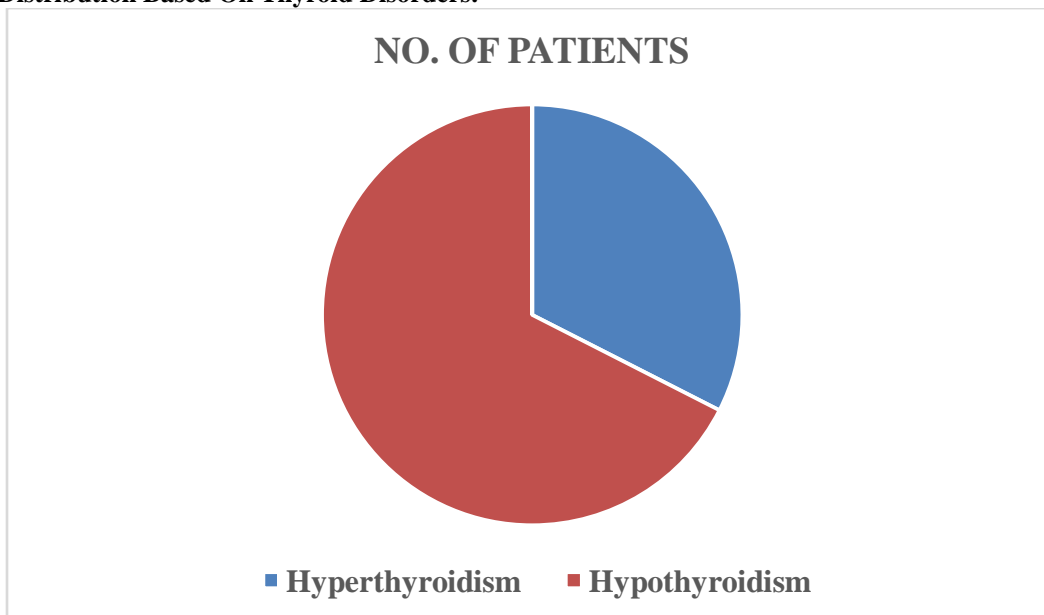


In our study population of 110 subjects, we observed the following occurrences of pregnancy-related complications: 28 subjects (25.45%) had hypertensive disorders, 22 subjects (20%) were diagnosed with gestational diabetes mellitus (GDM), 15 subjects (13.63%) experienced anemia during pregnancy, and 40 subjects (36.36%) were identified with thyroid disorders during pregnancy. These findings indicate that thyroid disorders during pregnancy were the most prevalent among the studied complications in our population, with 36.36% of subjects affected.

Patient Distribution Based On Thyroid Disorders.

THYROID DISORDER	NO.OF PATIENTS	PERCENTAGE%
Hyperthyroidism	13	32.5%
Hypothyroidism	27	67.5%
TOTAL	40	100%

Patient Distribution Based On Thyroid Disorders.

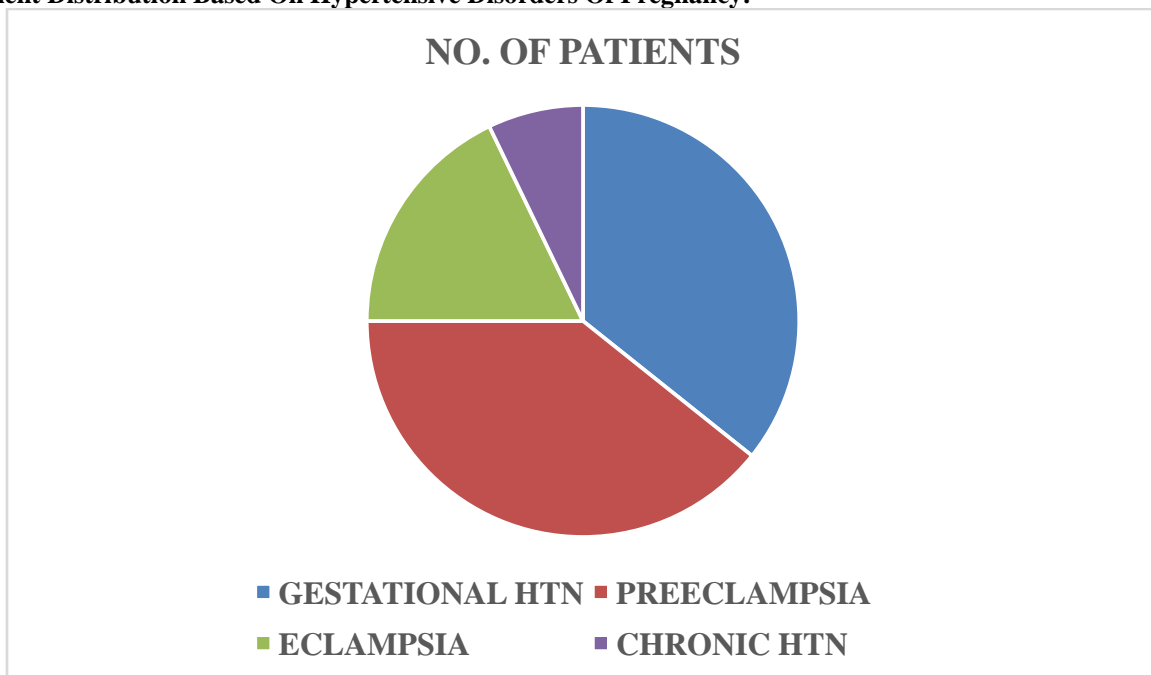


In this study, which included a total sample size of 110 subjects, 40 individuals (36.36%) were identified as having thyroid disorders during pregnancy. Among these subjects, 13 individuals (32.5%) were diagnosed with hypothyroidism, while 27 individuals (67.5%) exhibited hyperthyroidism. These findings suggest that in our study population, hypothyroidism was more prevalent compared to hyperthyroidism among pregnant women with thyroid disorders.

Patient Distribution Based On Hypertensive Disorders Of Prenancy.

HYPERTENSIVE DISORDERS OF PREGNANCY	NO. OF PATIENTS	PERCENTAGE%
Gestational hypertension	10	35.7%
Preeclampsia	11	39.2%
Eclampsia	5	17.8%
Chronic hypertension	2	7.14%
TOTAL	28	100%

Patient Distribution Based On Hypertensive Disorders Of Pregnancy.

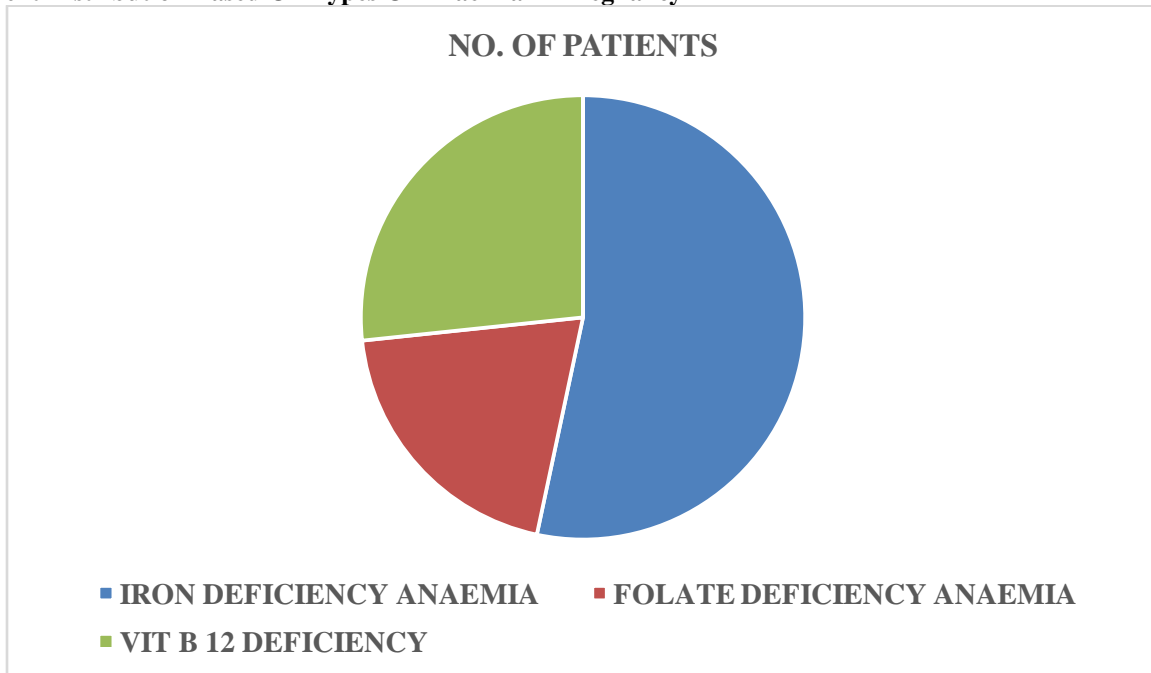


According to our study involving 110 patients, 28 patients were identified as having hypertensive disorders of pregnancy. Among these, 10 patients (35.7%) had gestational hypertension, 11 patients (39.2%) were diagnosed with pre-eclampsia, 5 patients (17.8%) experienced eclampsia, and 2 patients (7.14%) had chronic hypertension. The results of our study indicate that pre-eclampsia was the most commonly observed hypertensive disorder of pregnancy, surpassing the occurrence of other hypertensive conditions in our study population.

Patient Distribution Based On Types Of Anaemia In Pregnancy

TYPES OF ANAEMIA IN PREGNANCY	NO. OF PATIENTS	PERCENTAGE%
Iron Deficiency Anaemia	8	53.3%
Folate Deficiency Anaemia	3	20%
Vit-B12 Deficiency	4	26%
TOTAL	15	100%

Patient Distribution Based On Types Of Anaemia In Pregnancy



According to our study involving 110 patients, 15 patients were identified as having anemia during pregnancy. Among these, 8 patients (53.3%) were recognized with iron deficiency anemia, 3 patients (20%) had folate deficiency anemia, and 4 patients (26%) were diagnosed with vitamin B12 deficiency anemia. Our study results reveal that iron deficiency anemia was the most prevalent type of anemia observed in pregnant women, surpassing the occurrence of other types of anemia in our study population.

Conclusion:-

Pregnancy complications pose a significant global health concern, with approximately 800 women losing their lives daily due to pregnancy-related complications, especially in developing countries. Hypertension, sepsis, unsafe abortion, severe bleeding, and obstructed labor are the leading causes of maternal mortality in these regions. This study focused on identifying pregnant women with various complications, such as hypertensive disorders (gestational hypertension, pre-eclampsia, eclampsia, and chronic hypertension), gestational diabetes mellitus, anemia in pregnancy, iron deficiency anemia, and thyroid disorders in a tertiary care teaching hospital. Notably, hypothyroidism was found to be the most prevalent complication. Left untreated, these conditions can lead to adverse outcomes, including miscarriage, intrauterine distress, fetal malformation, and polyhydramnios. Risk factors such as physiological changes, inadequate antenatal care, early pregnancy, substance use, and multiple pregnancies can contribute to these complications. Early screening, diagnosis, and treatment are crucial for managing and preventing maternal and fetal complications, emphasizing the importance of patient awareness and education regarding early signs, consequences, and preventive measures.

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