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Evaluation of Prevalance Rate of Pregnancy Induced Endocrine Disorders and Associate Complications by a Clinical Pharmacist – Prospective Observational Study

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Abstract

Background: During pregnancy many physiological adaptations takes place which may result in serious adjustments in endocrine system such as serum and urine electrolytes, secretion of endocrine hormones and structural changes of endocrine glands. The Endocrine tests during pregnancy have need of proper awareness of the changes of endocrine system. The current study was undertaken to evaluate the prevalence of pregnancy induced endocrine disorders.

Methods: a prospective observational study was conducted at MIMS hospital, study population 200 inpatients from gynaecology and obstetrics department. Data was analysed in Microsoft excel.

Results: data records obtained from 200 patients in which most of the patients belong to age group 21-30 years [77.5%]. Hypothyroidism was the most found among the patients [33.5%] followed by GDM [27%], overt DM [22%], prolactinoma [7%], hyperthyroid [5%], Hashimoto's disease[2%] and anterior pituitary gland insufficiency [1.5%].

Conclusion: According to our study, as, most of the women are prone to hormonal fluctuations abnormally during pregnancy especially from the 2nd trimester frequent check-ups aid in early detection of abnormalities and promotes healthy pregnancy.

Keywords: pregnancy, physiological adaptations, prevalence, endocrine, gynaecology.

Introduction

Pregnancy is defined as the period during which a foetus develops inside a woman's womb which usually lasts about 40 weeks or just over 9 months, as measured from last menstrual period to delivery. (1)

GPLA status differences:

G –Gravida (number of times patient conceived)
P – Parity (number of live births)
L – Living child (number of living children)
A – Abortion (number of abortions)

During pregnancy many physiological adaptations are takes place which may result in serious adjustments in endocrine system such as serum and urine electrolytes, secretion of endocrine hormones and structural changes of endocrine glands. The Endocrine tests during pregnancy have need of proper awareness of the changes of endocrine system. (2)

Physiological changes in pregnancy might bring about critical modifications in endocrine chemical profiles, serum and pee electrolytes

and morphology of endocrine organ on imaging. (3) Numerous chemical levels are impacted in the body during pregnancy. A few chemicals assume significant parts during pregnancy. Those hormones are:

- ✓ Human chorionic gonadotropin hormone
- ✓ Estrogen
- ✓ Progesterone
- ✓ Human placental lactogen. (4)

Different Kinds of Pregnacy Actuated Endocrine Disorders:

- ➢ Gestational Diabetes Mellitus
- ➢ Overt DM
- ➢ Hypothyroidism
- ➢ Hyperthyroidism
- ➢ Hashimoto's thyroiditis
- ➢ Anterior pituitary deficiency
- ➢ Prolactinoma (5)

Methods And Methodology:

Study design: prospective observational study

Study population: 200 patients

Study duration: 8 months

Study site: The study was conducted in the gynaecology and obstetrics department at MAHARAJA INSTITUTE OF MEDICAL SCIENCES (MIMS hospital), Nelimarla, Vizianagaram. The participants enrolled in the study involve inpatients after filling a properly written inform consent. The data is collected in a pre-designed data collected form.

Selection of Study Subjects

Inclusive Criteria:

a. All pregnant women with endocrine disorders.
b. Pregnant women of age above 18 years.
c. Patients belonging to all the socioeconomic groups.
d. Patients who are willing to participate in study.

Exclusive Criteria:

a. Pregnant Women without Endocrine Disorders.
b. Patients below 18 Years of Age.
c. Patients Who Are Not Willing To Participate In Study And Provide ICF.
d. Retrospective Cases Are Excluded.
e. Patients With Incomplete Information

Ethical Aspect of the Study:

i. Written Informed Consent Was Obtained From All Participants After Explaining The Purpose of the Study.
ii. Confidentiality of the collected data was assured.
iii. Participants in research have been voluntary and participants were assured that withdrawing from the study at any stage is acceptable.

Statistical Analysis and Scales:

Data collected will be analysed statistically using descriptive analysis namely mean, median and standard deviation for quantitative variables and non-parametric tests for qualitative variables whenever necessary results will be depicted in form of percentages, pie charts or graphs (horizontal and vertical). Data will be analysed using kuppuswamy scale.

Results:

1. Age

In this study, 200 pregnant women has participated. From the data analysis, it was observed that maximum number of women belong to the category 21-30 years of age that is 77.5% as shown in the Fig: 1.1 and 30 members out of the 200 participants belong to 31-40 years of age that is 15%, whereas the rest of the 7.5% holding 15 subjects belong to age group less than 20 years as picturised in Fig 1.3 and their descriptive analysis was presented in table 1.2

Table: 1.1: Representation of Age Distribution Pattern among the Patients

Age	No. of subjects	Percentage
Below 20 years	15	7.5
21-30 years	155	77.5
31-40 years	30	15
Total	**200**	**100**

Table 1.2: Descriptive Analysis of Age

Descriptive analysis	
Mean	66.66
Median	30
Maximum	155
Minimum	15
Standard deviation	76.86

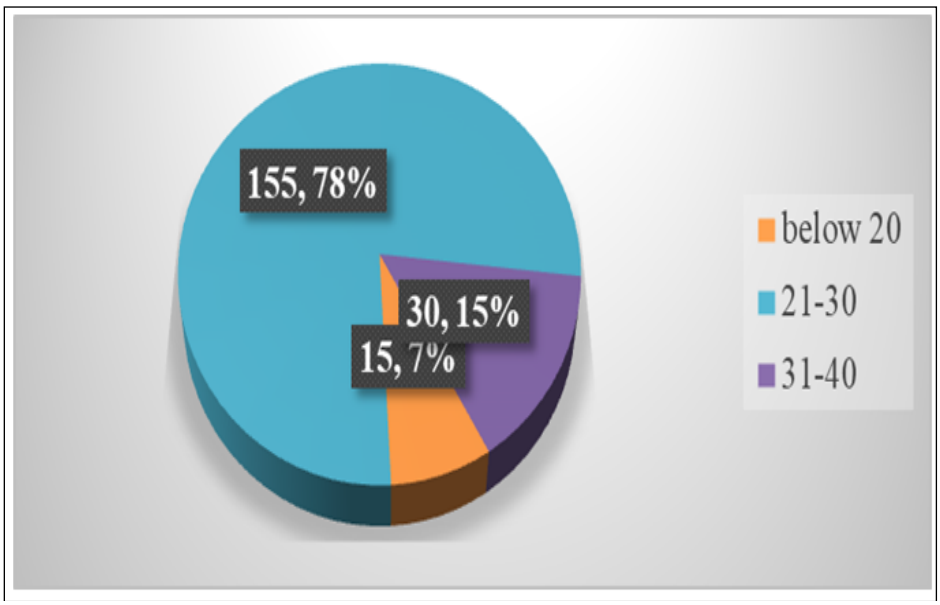

Figure 1.3: Age Distribution Pattern

2. Residence

In This Study, Out Of 200 Participants125 Number Of Participants Were From Rural Area That Is About 63% Whereas Only 75 Members Had Participated From Urban Area That Is 37% As Shown In Table 2.1 And Picturised In Fig 2.3. Descriptive Analysis Of The Data Was Presented In Table 2.2.

Table 2.1: Residence Area of the Participants

Residence	No. of Subjects	Percentage
Urban	75	37
Rural	125	63

Table 2.2: Descriptive analysis of Residence Data

Descriptive Analysis	
Mean	133.33
Median	125
Maximum	200
Minimum	75
Standard Deviation	62.91

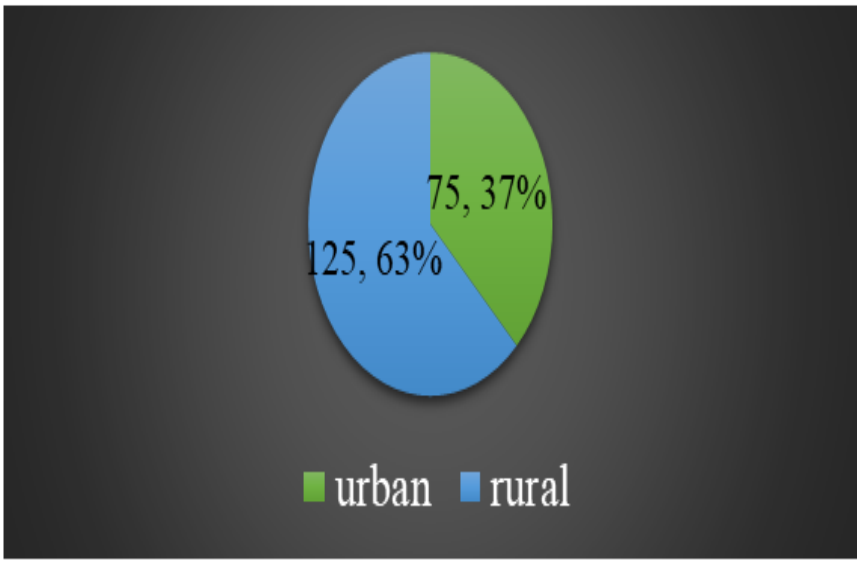

Figure 2.2: Schematic Representation of Residual Area

3. Educational Status:

Most Of The Subjects Were Literates Occupying 190 Out Of 200 [I.E., 95%] And Illiterates Were 10 [5%] As Shown In Table 3.1 And Pictorial Representation In Fig 3.4 Literate Subjects Were Further Classified Based On Their Qualification As Shown In Fig 3.5 62 [31%] Subjects Were Graduates Followed By 58 [29%] Women Had Qualification 10^{th} And Below 10^{th}. 55 [27.5%] Of Them Were 12^{th} Qualified Whereas 15 [7.5%] Subjects Were Post Graduates.

Descriptive Analysis Was Done To The Educational Qualification Data And The Interpretation Was As Shown In The Tab: 3.3

Table 3.1: Educational Status of the Participants

Educational Status	No. of Subjects	Percentage
Illiterate	10	5
Literate	190	95

Table 3.2: Educational Qualification of the Participants

Educational Qualification	No. of Subjects	Percentage
Below 10^{th} And 10^{th}	58	29
12^{th} (Intermediate)	55	27.5
Graduation	62	31
Post-Graduation	15	7.5

Table 3.3: Descriptive Analysis of the Educationl Status

Discriptive Analysis	
Mean	47.5
Median	56.5
Standard Deviation	21.85
Minimum	15
Maximum	62

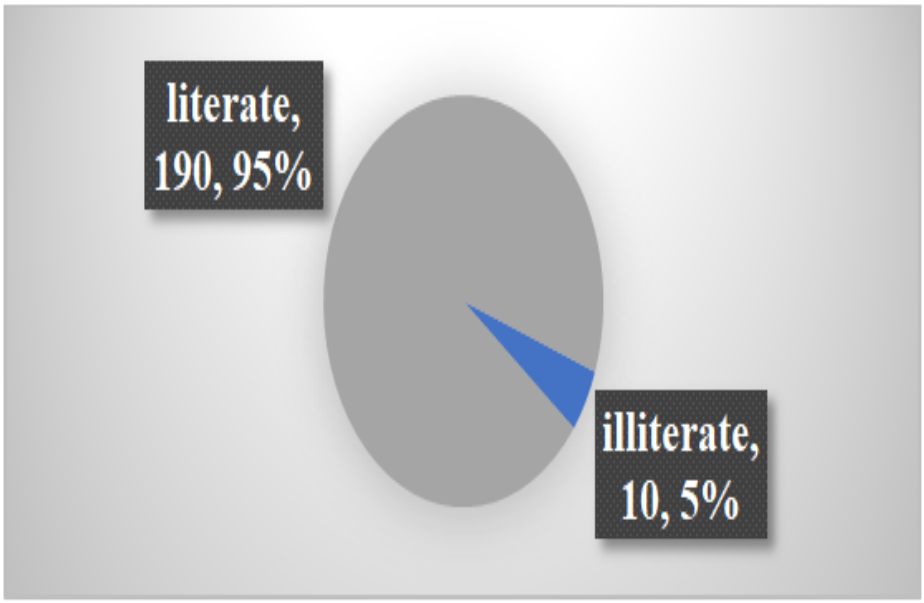

Figure 3.4: Schematic Representation of Educational Status

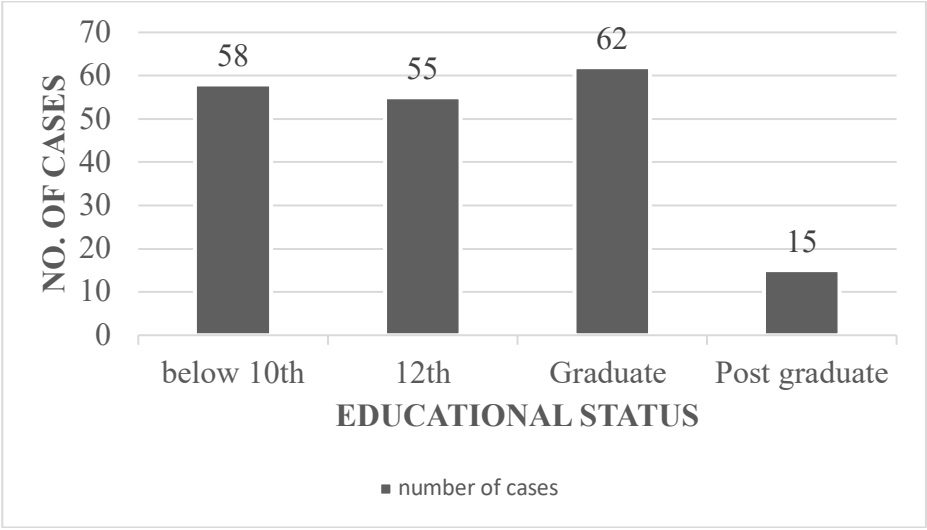

Figure 3.5: Schematic Representation of Educational Qualification

4. Socio-Economic Status (Kuppuswamy Scale):

The Results Were Categorised And Percentages Were Calculated As Shown In Table 4.1 96 [48%] Subjects Belong To Upper Middle-Class Category, 58 [29%] Subjects Were Of Lower Middle-Class Category, 28 [14%] Subjects Were Upper Class And 15 [7.5%] Subjects Belong To Upper Lower Whereas 3 [1.5%] Subjects Were Of Lower Category As Picturised In Fig 4.3 And The Descriptive Analysis Of The Data Is In Table 4.2

Table 4.1: Category of the Participants

Category	Score	No. Of Cases	Percentage
Lower	Below 5	96	4.8
Upper Lower	5- 10	58	29
Lower Middle	11 – 15	28	14
Upper Middle	16 – 25	15	7.5
Upper Class	26 – 29	3	1.5

Table 4.2: Descriptive Analysis of Socio-Economic Status

Descriptive Analysis	
Mean	40
Median	28
Standard Deviation	37.40
Maximum	58
Minimum	15

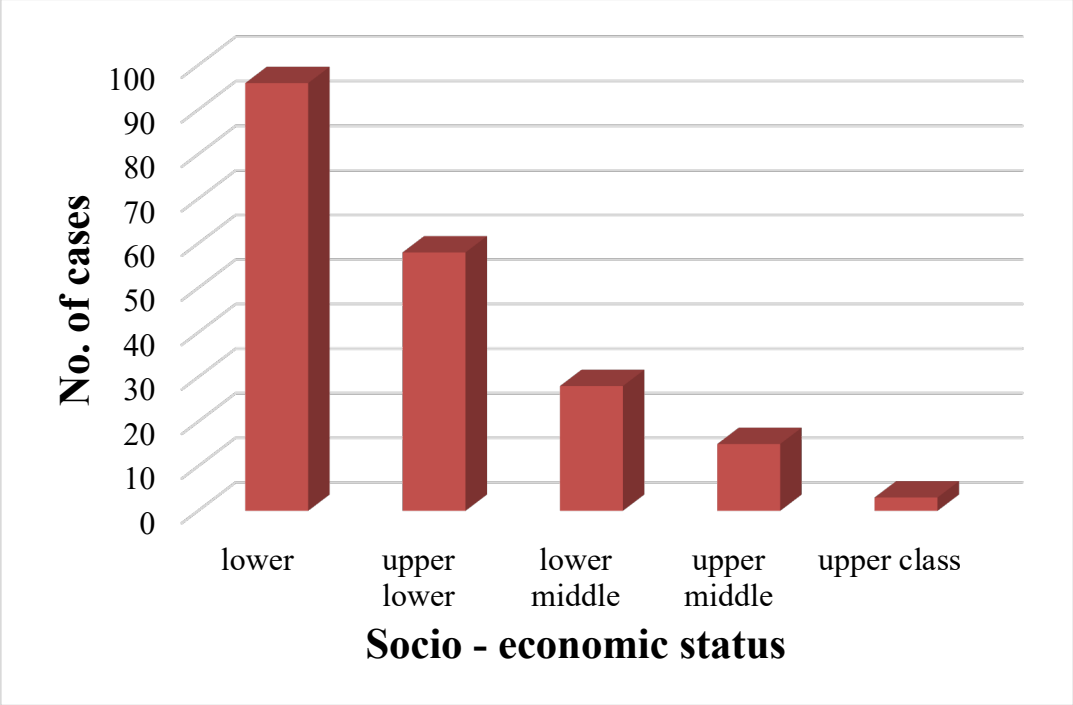

Figure 4.3: Schematic Representation of Category of Socio-Economic Class

5. Social Habits (Alcohol And Tobacco):

On Analysing The Data And Interviewing The Patient, All The Women With Social History Had Stopped Alcohol Drinking And Tobacco Consumption After Being Conceived.

The History Habit Is Analysed And Percentages Were Calculated As Shown In The Tab: 5.1. 18 [9%] Subjects Were Occasional Drinkers, Whereas Tobacco Consumption Was Assessed Only In Rural Areas.32 [16%] Subjects Inhaled Tobacco Whereas 7 [3.5%] Subjects Chewed As Represented In Fig 5.3. The Descriptive Analysis Was Presented In Table 5.2.

Table 5.1: Table for Social Status Representation

Social Status		**No. Of Subjects**	**Percentage**
Alcohol		18	9
Tobacco	Smoking	32	16
	Chewing	7	3.5

Table 5.2: Tables for Descriptive Analysis

Descriptive Analysis	
Mean	19
Median	18
Minimum	7
Maximum	32
Standard Deviation	12.52

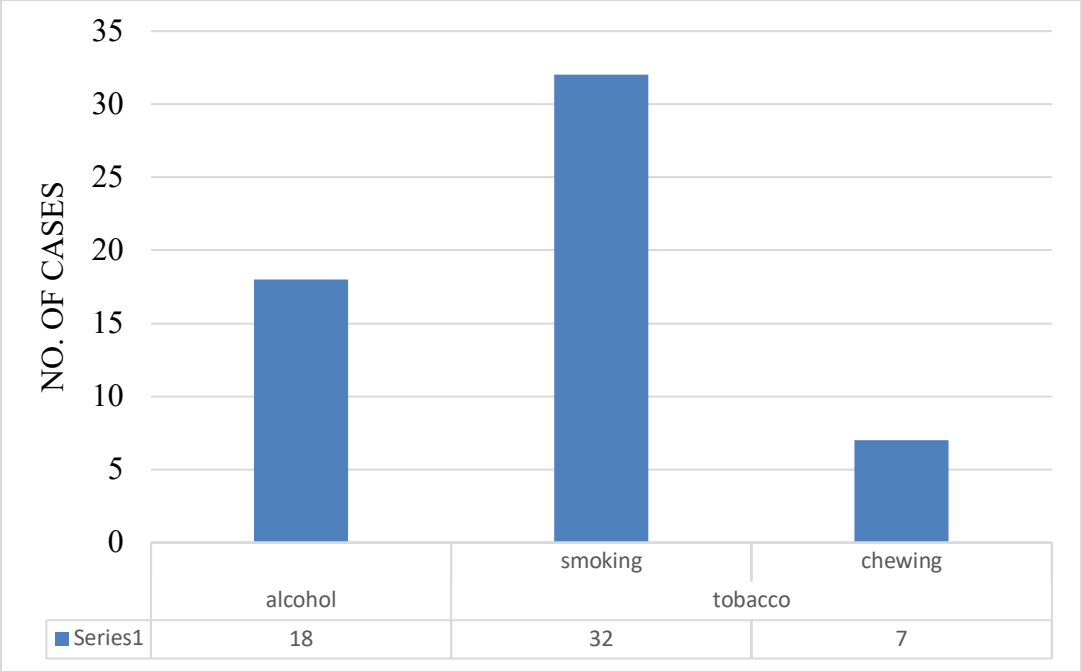

Figure 5.3: Social Habits – Representation

6. Prevalence of Pregnancy Induced Endocrine Disorders

The Cases Were Collected On The Day The Patient's Diagnosis Was Confirmed At Different Trimesters As Shown In Fig 6.1 The Highest Number Of Cases Noticed Were Hypothyroid Cases That Is 71[35.5%] On Cumulating All The Individual Trimester Cases But 2nd Trimester Holds 29 Cases And Then The 3rd Trimester 28 Cases At Last The 1st Trimester 14 Cases, Followed By Gestational Diabetes (Gdm) With 54 [27%] Cases Overall The Maximum Number Of Cases Recorded Was During 3rd Trimester That Is 24 Then In The 2nd Trimester 18 At Last The 1st Trimester 12. 44 Cases Were Found To Have Overt Dm In Which 24 [22%] Were Diagnosed During 2nd Trimester And 10 In Each 1st And 3rd Trimester. 14 [7%] Cases Of Prolactinoma Were Recognised In Which 09 Cases Were Of 3rd Trimester And 05 Cases Were Of 2nd Trimester And No Cases Were Found In 1st Trimester. Followed By Hyperthyroid Containing About 10 [5%] Cases Where 07 Of Them Were Diagnosed During 2nd Trimester And 03 Of Them In 3rd Trimester And No Cases Were Found During 1st Trimester. Hashimoto's Disease Was Found To Be Seen In 04 [2%] Cases In Which The Maximum Cases Recorded Was In 3rd Trimester Around 03 Cases And Only 01 Case Was Found During 2nd Trimester And No Cases Were Found During 1st Trimester. The Least Number Of Cases That Is 03 [1.5%] Were Found To Have Anterior Pituitary Insufficiency Where The 2nd Trimester Holds The Maximum Of 02 Cases Followed By 3rd Trimester With Only 01 Case And 0 Cases During 1st Trimester Were Noticed.

Table 6.1: Tabulation of Pregnancy Induced Endocrine Disorders

Diagnosis	1st Trimester	2nd Trimester	3rd Trimester	Sum	Percentage
Overt Dm	10	24	10	44	22
Gdm	12	18	24	54	27
Hypothyroid	14	29	28	71	35.5
Hyperthyroid	-	07	03	10	5
Prolactinoma	-	05	09	14	7
Hashimoto's Disease	-	01	03	4	2
Anterior Pituitary Insufficiency	-	02	01	3	1.5

Table 6.2: Descriptive Analysis for Sum of Diagnosis

Descriptive Analysis	
Mean	28.57
Median	14
Standard Deviation	27.38
Maximum	71
Minimum	3

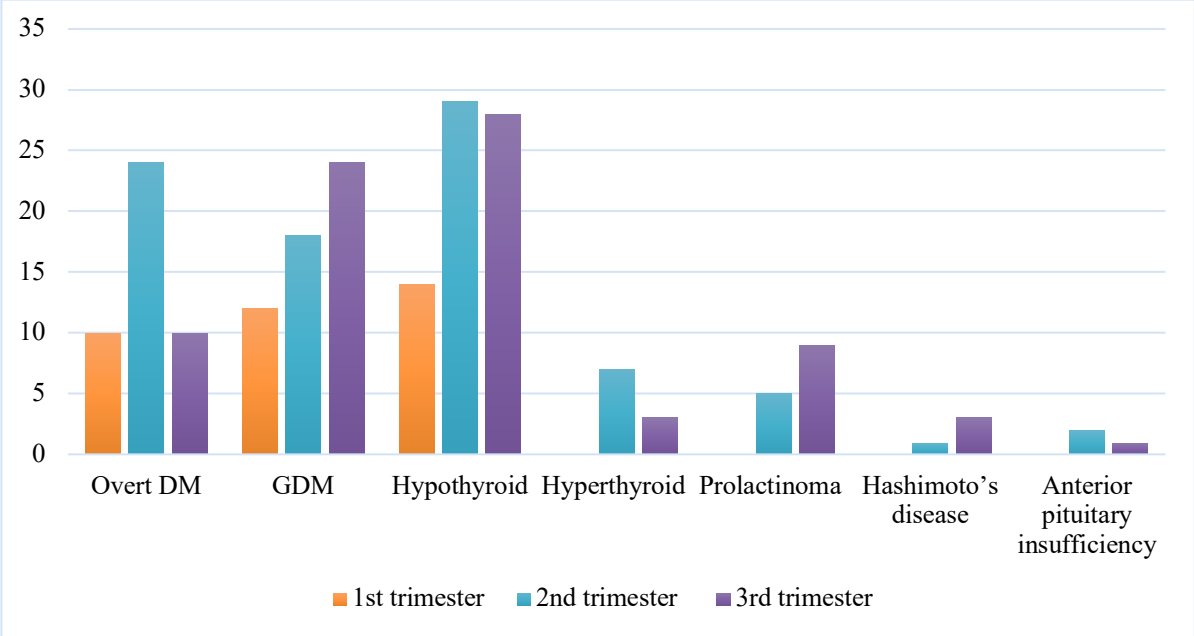

Figure 6.3: Prevalence of Pregnancy Induced Endocrine Disorders

7. Gravida

Gravida Refers To The Current Number of Pregnancies. Out Of 200 Participants 89 [44.5%] Of Them Were Of Primigravida Followed By 62 [31%] Were Of G_2 Pregnancy. G_3 Had 26 [13%] Subjects, G_4 Pregnancy Holds 21 [10.5%] Subjects. Only 2 [1%] Subjects Account For G_6 Pregnancy. No Subjects Were Recorded To Have G_5 Pregnancy As Shown In Table 7.1. Descriptive Analysis Was Done And Is Presented In Table 7.2 Graphical Representation Of The Data Was Depicted In Fig 7.3.

Table 7.1: Tabular Representation of Gravida

Gravida	**No. of Cases**	**Percentage**
1	89	44.5
2	62	31
3	26	13
4	21	10.5
5	0	0
6	2	1

Table 7.2: Descriptive Analysis of Gravida

Descriptive Analysis	
Mean	33.3
Median	23.5
Standard Deviation	35.26
Maximum	89
Minimum	0

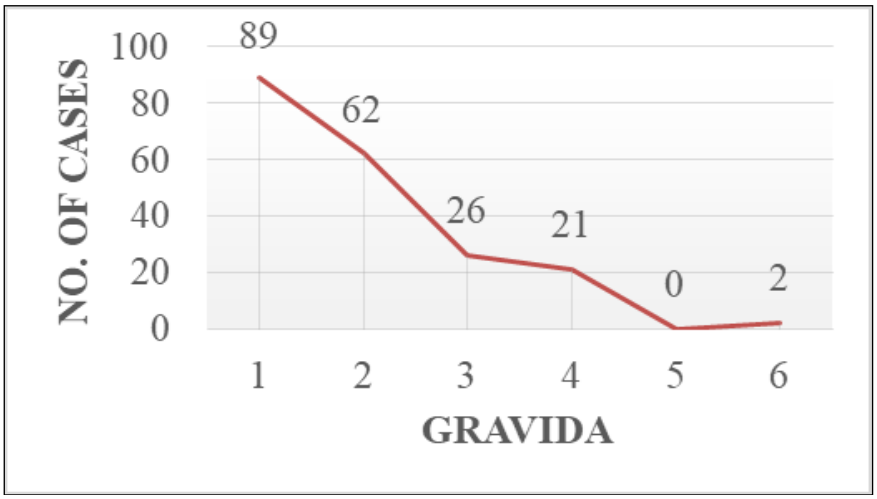

Figure 7.3: Diagramatic Representation of Gravida

8. Abortion's

Out Of 200 Participants, 146 [73%] Subjects Had Not Undergone Any Abortions In Prior Pregnancies But 34 [17%] Women Had Undergone As Shown In The Table 8.1 1 Abortion Whereas 15 [7.5%] Of The Cases Had Experienced 2 Abortions. 3 [1.5%] Cases Had Gone Through Abortion Thrice Only 2 [1%] Subjects Had 4 Abortions. The Graphical Representation Is Presented In Fig 8.3 and Descriptive Analysis Reports in Table 8.2

Table 8.1: Tabulation of Abortion Data

Abortion's	No. Of Cases	Percentages
0	146	73
1	34	17
2	15	7.5
3	3	1.5
4	2	1

Table 8.2: Descriptive Analysis of Abortion Data

Descriptive Analysis	
Mean	40
Median	15
Standard Deviation	60.64
Maximum	34
Minimum	3

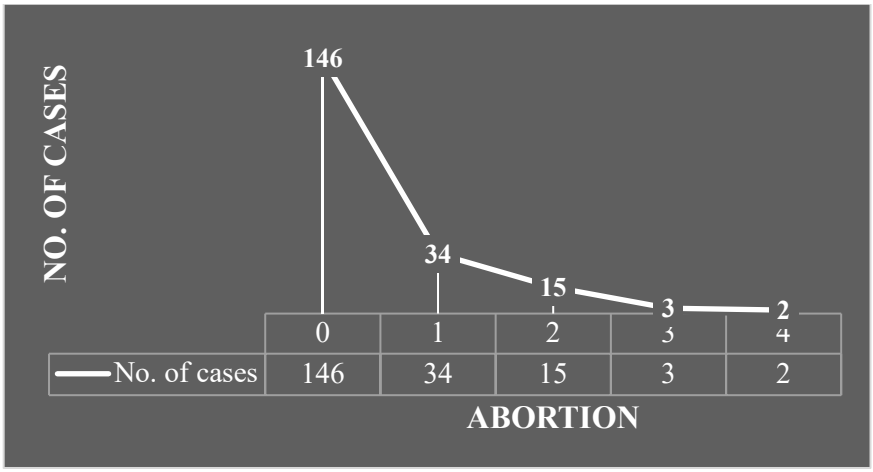

Figure 8.2: Diagramatic Representation of Abortion Data

9. Parity

Parity Refers To The Delivery Of Live Child. In Our Study 107 [53.5%] Did Not Gave Birth to A Live Child But 74 [37%] Women Had Delivered 1 Child. 17 [8.5%] Subjects Had Delivered 2 Live Children Whereas Only 2 [1%] Delivered 3 Living Children As Represented In Table 9.1 And Figure 9.3 The Descriptive Analysis of The Data Is Presented In Table 9.2.

Table 9.1: Tabulation of Parity Data

Parity	No. Of Cases	Percentage
0	107	53.5
1	74	37
2	17	8.5
3	2	1

Table 9.2: Descriptive Analysis of Parity Data

Descriptive Analysis	
Mean	50
Median	45.5
Standard Deviation	49.05
Maximum	74
Minimum	17

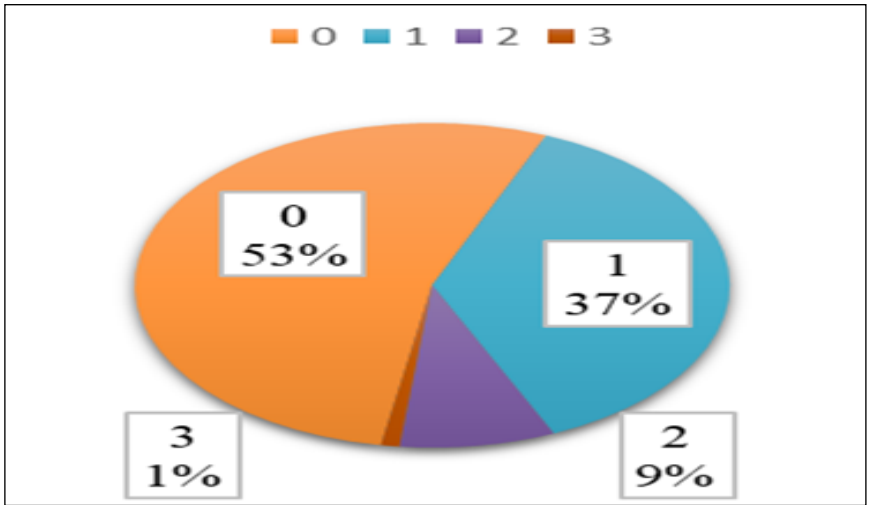

Figure 9.2: Representation of Parity Data

10. Living Child:

All The Data Collected For Parity Will Not Relate To Living Child. 107 [53.5%] Has No Living Children Whereas 87 [43.5%] Has 1 Living Child But Only 6 [3%] Has 2 Living Children As Shown In Table 10.1 and Figure 10.3 Descriptive Analyses Is Represented In Table 10.2.

Table: 10.1 Tabular Data of Living Child

Living Child	No. Of Cases	Percentage
0	107	53.5
1	87	43.5
2	6	3

Table 10.2: Descriptive Analysis of Living Child

Descriptive Analysis	
Mean	66.66
Median	87
Standard Error	53.48
Maximum	107
Minimum	6

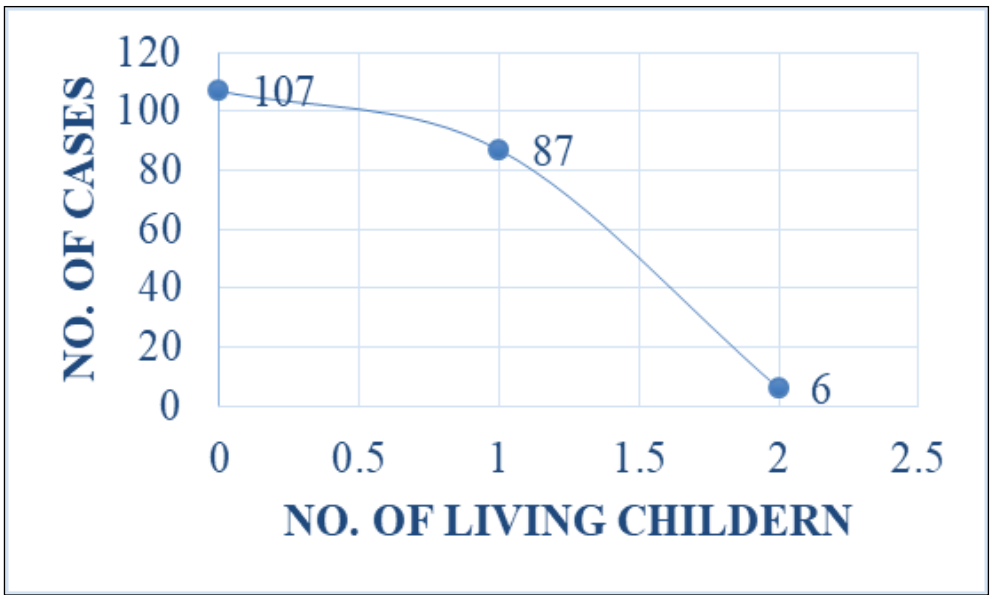

Figure: 10.2 Graphical Representation of Living Child

11. Type of Pregnancy

There Are Many Ways To Induce Pregnancy, In Our Study 184 [92%] Members Conceived Spontaneously Whereas Only 6 [3%] Underwent In Vitro Fertilization. Intrauterine Insemination And Ovulation Induction Holds Equal Proportions 5 [2.5%] As Shown In Table 11.1 And Figure 11.3 Descriptive Analysis Was Presented In Table 11.2

Table 11.1: Tabulation of Pregnancy Type

Type of Pregnancy	**No. of Cases**	**Percentage**
Conceived Spontaneously	184	92
In Vitro Fertilization	6	3
Intra Uterine Insemination	5	2.5
Ovulation Induction	5	2.5

Table 11.2: Descriptive Analysis of Pregnancy Types

Descriptive Analysis	
Mean	50
Median	5.5
Standard Deviation	89.33
Maximum	184
Minimum	5

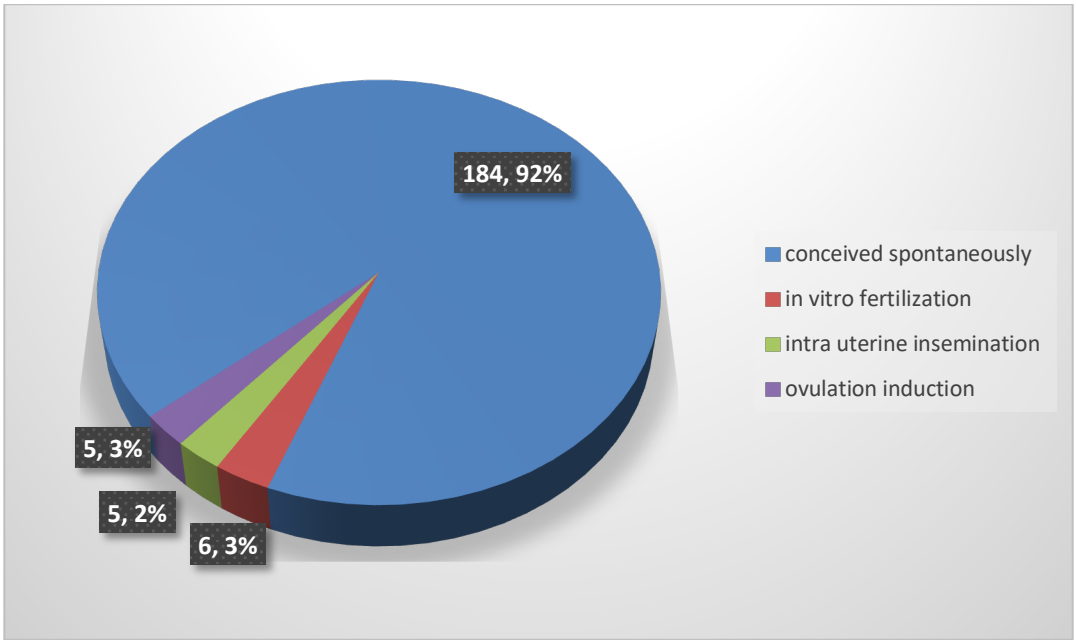

Figure 11.3: Demonstration of Pregnancy Type

12. Symptoms

Symptoms Vary From Trimester To Trimester. They Develop In Accordance With The Morphological And Systemic Changes Occurring During Pregnancy. The Most Common Symptom Observed Was Lower Abdominal Pain In 39 [19.5%] Women Followed By Back Pain In 17 [8.5%], Pedal Edema Was Also Observed In 15 [7.5%] Women. Vomiting, Spotting, Pain During Micturition And Bleeding Are Observed In Respective Numbers 13 [6.5%], 12 [6%], 10 [5%] And 9 [4.5%]. The Least Observed Is Rashes In 7 [3.5%] Women As Shown In Table 12.1 And Fig 12.3 And Descriptive Analysis Was Presented In Table 12.2

Table: 12.1 Tabulation Data of Symptoms

Symptoms	No. Of Cases	Percentage
Lower Abdominal Pain	39	19.5
Rashes	7	3.5
Back Pain	17	8.5
Spotting	12	6
Vomiting	13	6.5
Bleeding	9	4.5
Pedal Edema	15	7.5
Pain During Micturition	10	5

Table 12.2 Descriptive Analysis of Symptoms

Descriptive Analysis	
Mean	15.25
Median	12.5
Standard Deviation	10.12
Maximum	39
Minimum	7

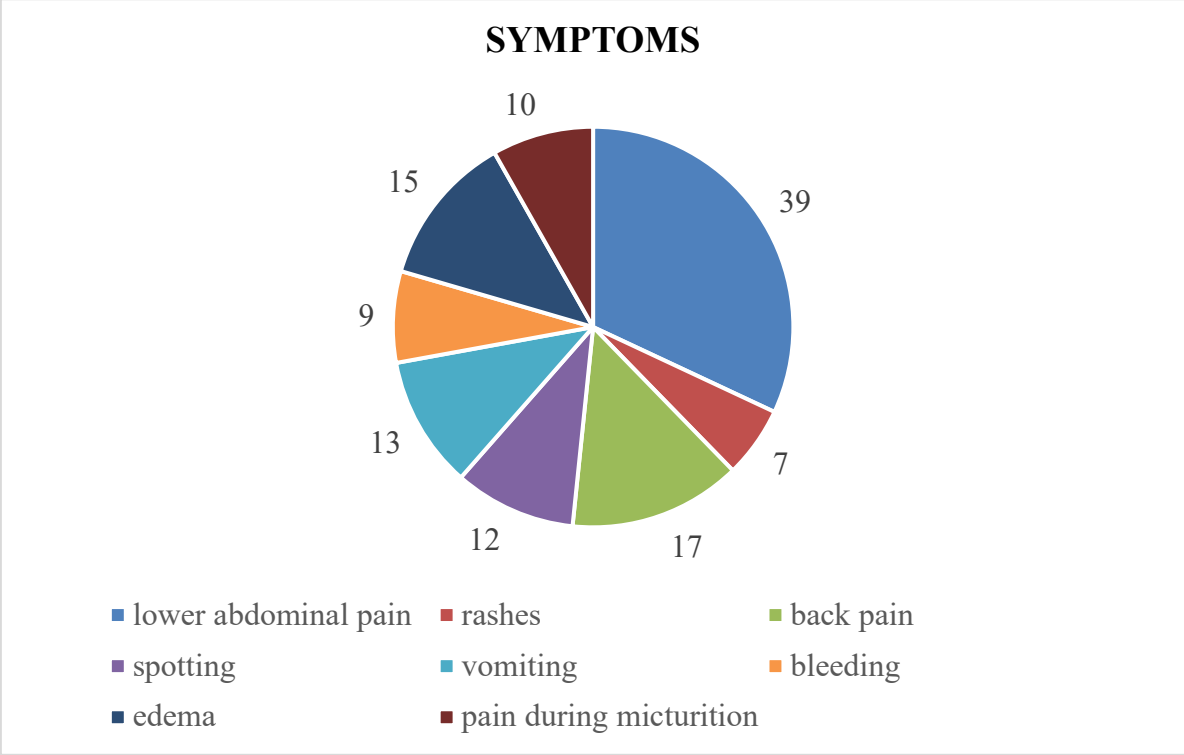

Figure 12.3: Representation of the Symptoms

13. Complications

Complications Were Most Commonly Noticed, When The Women Are Especially Affected With Endocrinal Changes During Pregnancy. According To Our Study, As Shown In Table 13.1 Hypertension Is The Most Common One 41 [20.5%] Followed By Eclampsia 37 [18.5%], Then With Prom 25 [12.5%] Next Is Oligoamniol In 22 [11%]. Anaemia And Posterior Compartment Prolapse (Pcp) Are Observed In 19 [9.5%] And 15 [7.5%] Respectively. Hyperemesis Gravida And Polyhydramnios Holds Same Proportion 13 [6.5%] Followed By Hypotension In 5 [2.5%] And The Least Is Miscarriage In 3 [1.5%] Women As Picturised In Fig 13.3 And Descriptive Analysis Was Presented In Table 13.2

Table 13.1: Tabulation of Complications

Complication	No. Of Cases	Percentage
Anaemia	19	9.5
Miscarriage	3	1.5
Hypertension	41	20.5
Hypotension	5	2.5
Eclampsia	37	18.5
Hyperemesis Gravida	13	6.5
Posterior Compartment Prolapse (Pcp)	15	7.5
Prom	25	12.5
Polyhydramnios	13	6.5
Oligo Amniol	22	11

Table 13.2: Descriptive Analysis of Complications

Descriptive Analysis	
Mean	19.3
Median	17
Standard Deviation	12.43
Maximum	41
Minimum	3

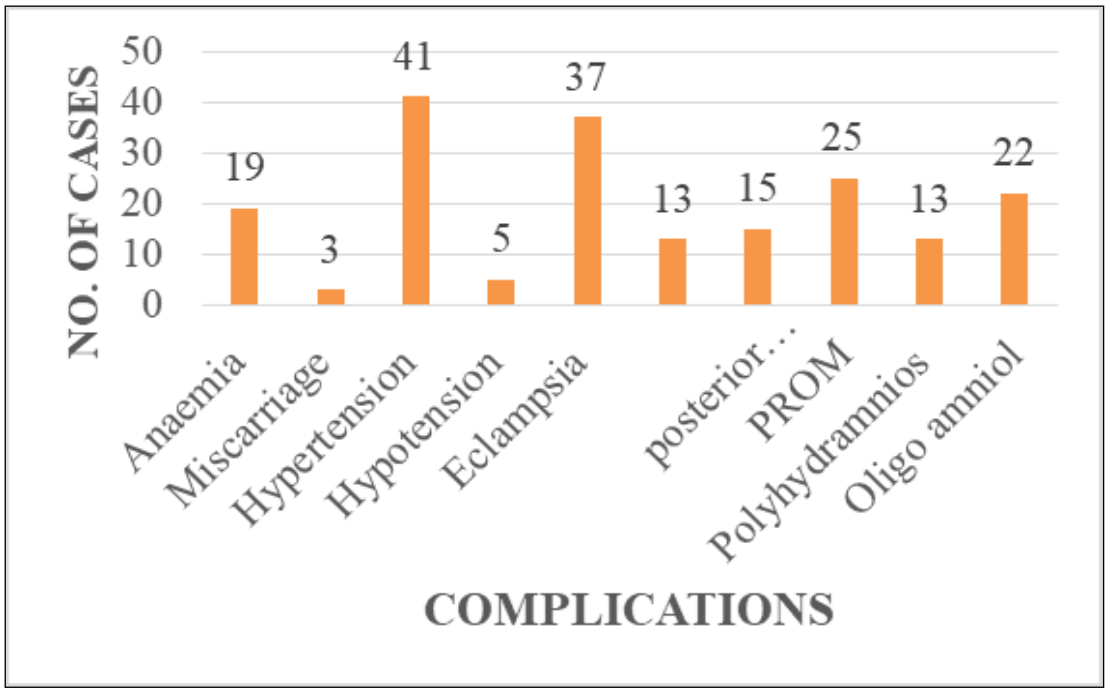

Figure 13.2: Graph of Complications

14. Non- Pharmacological Therapy

Not All Patients Received Drug Therapy Some Were Recommended To Follow Non Pharmacological Therapy Based On The Patient's Condition As Shown In Table 15.1 And Depicted In Fig 15.3 96 Patients Were Recommended To Follow Diabetic Diet Whereas Only 1 Patient Was Recommended With High Protein Diet Along With It. 90 Patients Were Preferred To Go With Lifestyle Management. 5 Women Were Recommended To Intake Plenty Of Water Whereas 4 Patients Were Counselled To Start Protein Rich Diet. Descriptive Analysis Is Presented In Table 15.2.

Table 15.1: Tabulation of Non-Pharmacological Therapy

Non-Pharmacological Therapy	**No. of Cases**
Bed Rest Recommended	1
Boost The Immune System	1
Follow Diabetic Diet	96
Follow Diabetic Diet And High Protein Diet	1
Induce Life Style Modifications	90
Intake Iron Rich Foods	1
Intake Plenty Of Water And Fluids	5
Start Protein Diet	4
Start Mild Exercise	1

Table 15.2: Descriptive Analysis For Non-Pharmacological Therapy

Descriptive Analysis	
Mean	24.875
Median	2.5
Standard Deviation	42.10
Maximum	96
Minimum	1

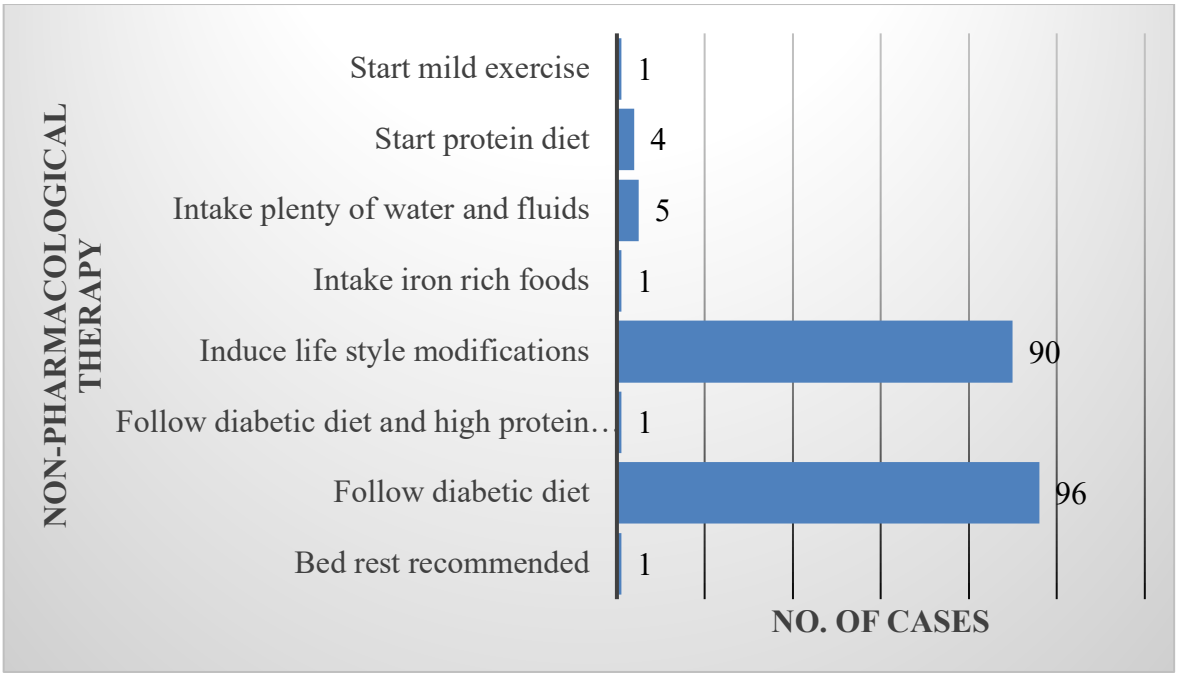

Figure 15.2: Grapical Reprentation of Non-Pharmacological Therapy

15. Pharmacological Therapy:

As Our Study Contains A Greater Number Of Hypothyroid Cases The Thyronorm Is The Popularly Given Drug Among 90 Subjects. Treatment For Diabetes Is Treatment For Diabetes Is Further Classified And Given According To Patient's Condition Metformin In 71 Patients, H. Mixtard In 24 Cases, Actapid Insulin In 7 Whereas Insulin Aspart In 4 Subjects As Shown In Table 16.1 And In Figure 16.3: Descriptive Analysis Were Represented In Table 16.2.

Table 16.1: Tabulation of Pharmacological Therapy

Drugs	**No. of Cases**
Thyronorm	90
Metformin	71
H. Mixtard	24
Insulin Aspart	4
Actrapid Insulin	7

Table 16.2 Descriptive Analysis for Pharmacological Therapy

Descriptive Analysis	
Mean	39.2
Median	24
Standard Deviation	39.04
Maximum	90
Minimum	4

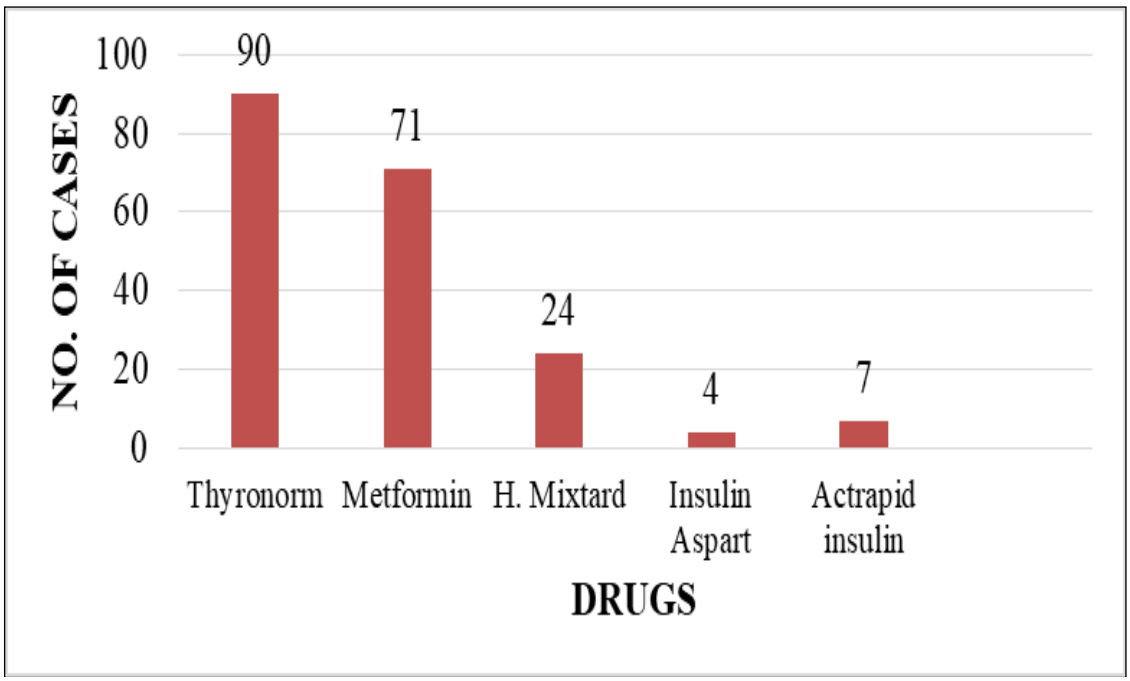

Figure 16.2: Schematic Representation of Drugs

Discussion:

Endocrine Changes Are Mostly Encountered In Pregnant Women With Respect Of Their Age, Residence, Educational Status And Social Habits. These Are Common Factors Affecting The Hormonal Changes In Gestational Women.

In Our Study, We Included A Sample Size Of 200 Participants And Have Taken Several Parameters To Observe The Most Aggregating Factors Which Induce Hormonal Changes In Pregnant Women. The Main Aim Of The Study Is To Evaluate The Prevalence Rate Of Pregnancy Induced Endocrinal Changes And Associated Complications.

This Study Also Made A Simultaneous Observation In The Pattern In Thyroid And Diabetic Pregnant Women In Order To Manage The Complications And Induce Healthy Delivery.

According To Our Inclusive Criteria, We Have Considered Pregnant Women In Whom The Pregnancy Induced Endocrinal Disorders Were Conformed I.E., The Age Group Between 18 To 40 Years. The Age Is Further Distributed Into The Categories - Below 20 Years Containing 15 Members [7.5%], 21-30 Years Are About 155 Subjects [77.5%] And 31-40 Years Are Of 30 Cases [15%]. The Most Effective Age Group Is Between 21-30 Years Containing Majority of The Sample Size Subjects I.E., 155 Patients.

We Observed That Rural Women Are The Most Effected With Endocrinal Changes During Pregnancy. Rural Area Contained 125 Subjects I.E., 63% Out Of 100% Whereas The Remaining 37% Women Holding 75 Samples Are From Urban Background. Most Of The Rural Women Are Of Lower Socio-Economic Status Which Even More Declines Their Level Of Education And Knowledge On The Pregnancy Care Leading To Most Of The Complications.

The Main Aim Of Categorizing The Educational Status Was To Analyse, The Awareness About The Knowledge Regarding Pregnancy Care And Its Complications. The Classification Of Educational Status Was Made Into Literacy Rate That Is 190 Women Had Basic Education [95%] And Illiteracy Rate That Is 10 Women Had No Education [5%]. The Educational Qualification Of The Literate Women Was Divided As, 58 Subjects <= 10^{th} Qualified Members [29%], 55 Samples Had Intermediate Education [27.5%],62 Women Are Graduates [31%] And 15 Women Are Post-Graduates [7.5%]. All The Illiterates Are From Rural Background In Our Study Whereas Literates Were In Both Rural And Urban Areas.

According To Our Study Both Literates And Illiterates Were Affected.

In This Study Socio-Economic Class Of 15 Patients Was Found To Be Upper Middle [7.5%], 28 Members Are Of Lower Middle [14%], 3 Patients Belong To Upper Class [1.5%], 58 Cases Are Of Upper Lower Category [2.9%] And 96 Members Are Of Lower Category [48%]. Kuppuswamy Socio-Economic Status Scale Was Used To Learn About Participants Socio-Economic Status And Most Of Them Were Literates. Counselling Was Given To Those Women Who Failed To Understand Their Complications.

On Analysing The Data And Interviewing The Patient, All The Women With Social History Had Stopped Alcohol Consumption And Tobacco Abuse After Being Conceived. The Distribution Percentage Of Alcohol Consumption In Pregnant Women Is 9% [18 Cases] Whereas The Tobacco Abuse Is 19.5% [39 Cases] Which Is Further Categorized As Tobacco Smoking In 32 Patients [16%] And Tobacco Chewing In 7 Patients [3.5%]. Nechanská, B., Et Al. (6) Has Compared Users And Nonusers In 1,008,821 Mothers From 2000 To 2009 Where 60,502 Women Had Consumed Tobacco And 1,528 Had Alcohol Consumption I.E., 13% And 5% Respectively, On Comparison With Our Results, Our Study Has Shown 6.5% Greater Of Tobacco Abusers And 4% Higher Alcohol Drinkers.

The Participants In This Study Were Categorized Into Different Trimesters Based On Their Gestational Week When The Diagnosis Of Pregnancy Induced Endocrine Disorders Were Conformed. 36 Women Are From 1st Trimester [18%], 86 Belong To 2nd Trimester [43%] And 78 To 3rd Trimester [39%]. Maximum Number Of Cases Were Diagnosed During 2nd Trimester Followed By 3rd Trimester And At The Last 1st Trimester. The Care Should Be Taken During The 2nd Trimester Period.

Gravida Refers To The Current Number Of Pregnancies. On Analysing The Overall Subject's Data [44.5%] 89 Subjects Are Primigravida, [31%] 62 Cases Were G2 Pregnancy, [13%] 26 Cases Were G3 Pregnancy, [10.5%] 21 Cases Had G4 Pregnancy, [0%] Null In G5 Pregnancy And [1%] 2 Cases Are Of G6 Pregnancy. None Of Our Subjects Were Recorded For G5 Pregnancy.

Delivering A Live Child Refers To Parity. In Our Study, 107 Women Had 0 Live Births [53.5%], 74 Women Had History Of 1 Live Birth In [37%], 17 Subjects Had 2 Live Births In [8.5%] And Only 2 Cases Had 3 Live Births In [1%].

All The Data Collected For The Parity Will Not Relate To The Living Child. Women With No Living Children Are 107 [53.5%], 87 Women Had 1 Child [43.5%], 6 Women Had 2 Living Children [3%].

The Samples In Our Study, Had A History Of Abortions, 146 Subjects Had 0 Abortions [73%], 34 Women Experienced 1 Abortion [17%], 15 Subjects Had Subjected To Abortion Twice [7.5%], 3 Samples Had History Of 3 Abortions [1.5%] And Only 2 Cases Underwent Abortion 4 Times [1%]. Abortion Might Be Occurred Due To Hormonal Fluctuations.

Participants In Our Study Have Conceived In Various Ways. 184 Women Had Conceived Spontaneously [92%], 6 Women Underwent Invitro Fertilization [3%] Whereas 5 Women Underwent Intra Uterine Insemination And Ovulation Induction Each Occupying 2.5% Respectively.

Symptoms Is Defined As A Physical Or Psychological Issue That A Person Has That Could Be A Sign Of Illness Or Condition. On Analysing The Data Clinical Features Vary From Trimester To Trimester. The Most Common Symptom Observed Was Lower Abdominal Pain In 39 Women [19.5%], Back Pain In 17 Women [8.5%], Pedal Edema In 15 Women [7.5%], Vomiting In 13 Members [6.5%], Spotting In 12 Subjects [6%], Pain During Micturition In 10 Cases [5%], Bleeding In 9 Women [4.5%] And The Least Observed Rashes In 7 Women [3.5%].

In The Current Study, Endocrine Disorders Were Observed In Pregnant Women Are As Follows: 71 Case Of Hypothyroidism [35.5%], 54 Gestational Dm [27%], 44 Overt Dm [22%], 14 Prolactinoma [7%], 10 Hyperthyroidism [5%], 4 Hashimoto's Disease [2%] And 3 Anterior Pituitary Insufficiency [1.5%].

Hypothyroidism Is The Most Observed Diagnosis In Our Study. On Comparison Of Prevalence Rate Of Hypothyroidism In Mary George Et Al., Study Which Included 100 Pregnant Women Resulted In Incidence Of 6.3% Whereas Our Results Reported 29.2% Higher Folds On Analysis Of The Reports. On Comparison With Mummalaneni G Et Al., (7) Their Study Has Shown 20.5% Declined Results With Respect To Our Study Results.

Gestational Diabetes Is One of The Most Encountered disorder In Pregnant Women. 27% Has Been Affected With Gdm Out Of 100%. 15.3% Higher Result Was Observed In Our Study On Comparison With Mummalaneni G Et Al., (7)

Overt Dm Was Also Frequently Observed Cause During Gestational Period. According To The Analysis Of Our Study Results 22% Was Reported And When Compared With Aisha Syed Wali Et Al., (9) Who Has Studied On 2,462 Women, Their Results Has Shown 5.2% Lower Than Ours.

Prolactinoma Is A Partially Common Condition In Pregnant Women. 7% Of The Total Was Reported With Prolactinoma. This Study Is Compared With Domingue, M. E Et Al., (12) Which Included 104 Pregnancies And 73 Of Them Were Diagnosed With Prolactinoma That Is 70.1% Which Is Greater Result Than This Study.

Hyperthyroidism Is Also An Observed Diagnosis In Our Study. On Comparison Of Prevalence Rate Of Hyperthyroidism In Nir Pillar Et.Al.,(8) Which Included The Sample Size Of 185636 Subjects 189 Members Had Diagnosed For Hyperthyroidism, Whereas Our Study Included 200 Subjects In Which 10 Members Reported To Have Hyperthyroidism.

Hashimoto's is a Rare Kind Of Case That Can Be Encountered, In This Study 2% Was Observed. On Comparing With Cellini, M Et Al., (11) Who Has Done Study On 87 Patients Reported 2.1% Women Are Affected With Hashimoto's, Their Results Exhibit 0.1% Higher Folds Than This Study.

Anterior Pituitary Insufficiency Is The Least Observed Diagnosis Holding 1.5% In This Study. When This Study Is Compared With Kubler, K Et Al., (10) They Reported 27 Cases For Anterior Pituitary Insufficiency Disorder I.E., Their Report Represents 24 Cases Higher Was Observed Than This Study.

Complications Were Most Observed During Pregnancy Especially When Hormonal Changes Were Noticed. In This Study,41 Cases Holds Hypertension As Complication I.E., 20.5%. The Study Was Compared With Kumari Et Al., (13) Whose Sample Size Was 216 And 15 Cases Reported For Ghtn Therefore It Is Noticed That This Study Reports 0.5% Higher Result. Followed By Eclampsia Holding 37 Cases 18.5% Whereas Kumari Et Al., (13) Has Reported 29.5% Higher Percentage Than This Study By Observing 68 Eclampsia Cases. Some Other Complications Encountered Were 12.5% Prom With 25 Cases, 11% Oligoamniol In 22 Cases, 9.5% Anaemia In 19 Cases, 7.5% Posterior Compartment Prolapse (Pcp) In 15 Members, 6.5% For Both Hyperemesis Gravida And Polyhydramnios That Is 13 Cases Respectively, 2.5% Hypotension That Is 5 Cases And 1.5% Miscarriage That Is 3 Cases.

In The Current Study, Pharmacological Therapy Pattern Was Observed In Thyroid And Diabetic Patients. As Thyroid Hold Large Number of Subjects Thyronorm Was Frequently Prescribed with the Dose Relating to the Patient's Condition and Their Level of TSH in Their Blood. Diabetic Treatment Also Varied From Patient To Patient. Metformin, H.Mixtard, Insulin Aspart, Actrapid Insulin Were Prescribed According To The Patient Blood Glucose Levels, Not Every Patient Received Pharmacological Therapy Women Who Had Slight Deviation From The Normal Range Counselled To Induce Lifestyle Modifications. Increase In Prolactin Levels During Pregnancy Is Normal Phenomenon. Wide Increase In The Projection Of Prolactin In Blood Leads To Prolactinoma. Prolactinoma Subsides Post Lactation Period So, No Drug Therapy Was Given They Were Advised Not Stimulate Their Nipples. All The Diabetic Patients Were Advised To Follow Diabetic Diet And Increase The Amount Of Iron Rich And Protein Rich Content. Some Women Were Recommended To Start Mild Exercises And Intake Plenty Of Oral Fluids.

Conclusion:

Endocrine Changes During Pregnancy Is A Common Phenomenon In Accordance To Support The Developing Fetus And Prepare The Women To Have Maternal Environment For The Healthy Fetus Development. As The Women Undergo Transition From One Trimester To Another She Might Experience Fluctuations In Her Hormones. Therefore, Frequent Check-Ups Are Needed For Identifying, Diagnosing And Treating The Abnormal Conditions.

In Conclusion, It Is Important For Pregnant Women To Receive Appropriate Prenatal Care And To Be Screened For These And Other Endocrine Disorders During Pregnancy. With Proper Non-Pharmacological And Pharmacological Management, Many of These Conditions Can Be Effectively Controlled, Minimize The Risks Of Both The Mother And The Developing Fetus.

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