A Cross-Sectional Study To Assess The Stress And Anxiety Of Antenatal Mothers On Pregnancy Induced Non-Communicable Diseases In A Selected Tertiary Care Hospital.

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Abstract
Background: Pregnancy-induced Non communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally slow progression in pregnant periods. The pregnancy-induced non communicable diseases are primarily anemia, thyroid disorders, gestational diabetes mellitus, and pregnancy-related hypertension. The main factor in global maternal mortality and morbidity in non-communicable diseases. Maternal mortality is one of the health indicators that illustrates the burden of sickness and death. Each year, more than 150 million women become pregnant in developing countries, and an estimated 500, 000 of them die from pregnancy-related causes. Apart from health issues, the majority of women in underdeveloped nations die owing to a lack of access to maternity health care services.
Aim: The present study aims to assess the stress and anxiety of antenatal mothers on pregnancy induced non-communicable diseases in a selected tertiary care hospital.
Methods: The study conducted with descriptive approach.134 antenatal mothers in their 28 to 38 weeks of gestation were selected tertiary care hospital by purposive sampling technique. The data were collected from the participant using self-administered questionnaire. The data analyzed using descriptive and inferential statistics.
Results: The analysis revealed that distribution of pregnancy induced non communicable diseases among the participant were 43 had GDM,37 had PIH,14 had thyriodism,6 to have anemia. The majority 73%,58.9% of antenatal mother with pregnancy induced non communicable diseases had severe stress and anxiety respectively. There was a strong correlation between stress and anxiety with pregnancy induced non communicable diseases (r=0.67)
Conclusions: The findings of this study suggest Early screening and intervention may have great significance for reducing mental disorders of pregnancy induced non communicable diseases antenatal women and in which further help us teach to antenatal mother's pregnancy induced non communicable diseases and reducing stress and anxiety coping strategies.
Keywords; stress, anxiety, pregnancy induced non communicable diseases, antenatal mothers

I.   Introduction:

Pregnancy-induced Non-communicable diseases (NCDs), also known as Chronic diseases, are not passed from person to person. They are of long duration and generally slow progression in pregnant periods. The pregnancy-induced non communicable diseases are mainly gestational diabetes mellitus, pregnancy-induced hypertension, anemia, and thyroid diseases. These main factors results in global mortality and morbidity in non-communicable diseases (NCDs). Maternal mortality is one of the health indicators which shows the burden of disease and death More than 150 million women become pregnant in developing countries each year and an estimated 500, 000 of them die from pregnancy-related causes. Other than their health problems, most women in developing countries die due to a lack of access to maternal health care services (Meselech Assegid 2003).

Maternal health and non communicable diseases (NCDs) are intimately related. Maternal health and pregnancy outcomes are significantly harmed by NCDs including diabetes and hypertension. In succeeding generations, the cycle of risk accumulation and NCD vulnerability is perpetuated. Issues the impact, inter linkages, and advocates for the integration of services for maternal and child health, NCD care, prevention, and health promotion to sustainably improve maternal health as well address the rising burden of NCDs. – (Anil Kapoor 2015).The total annual number of deaths from NCDs may increase to 55 million by 2030 if timely

interventions are not done for the prevention and control of NCDs.(WHO2020).Pregnancy-induced hypertension (PIH), one of the hypertensive disorders of pregnancy, affects about 10-17 % of all pregnant women worldwide. (Monica Muti 2015), In India, the incidence of preeclampsia is reported to be 8-10% among pregnant women. In the entire world, GDM is thought to impact 7–10% of pregnancies.(Samira Behboudi-Gandevani 2019) According to reports, diabetes prevalence rates in India range from 1.7% to 13.2% in rural areas and 4.6% to 14% in urban areas. National Family Health Survey-4 (NFHS-4) in Tamil Nadu, the prevalence of anemia among non-pregnant women and pregnant women were 55.4% and 44.4% respectively. The Prevalence of thyroid disorders during pregnancy has a wide geographic variation. Western literature shows a prevalence of hypothyroidism in pregnancy of 2.5% and hyperthyroidism in pregnancy has a prevalence of 0.1 to 0.4%. There is a paucity of data on the prevalence of thyroid disorders in Indian pregnant women. Few reports show a prevalence of 4.8% to 11% Amongst the Indian pregnant population. The women experience symptoms of stress and anxiety during pregnancy and in the months following birth. Pregnancy-induced non communicable leading developed risk factors in pregnancy are associated with shorter gestation, IUGR, and Preterm birth and have adverse implications for fetal neurodevelopment and child outcomes. (Michael T. Kinsella 2013) .Prenatal anxiety is a normal and natural experience it may affect a person's feelings, thoughts, behaviors, and physical well-being. Prevalence of pregnancy-induced non communicable diseases the total annual number of deaths from NCDs may increase to 55 million by 2030 if timely interventions are not done for the prevention and control of NCDs.(WHO2020). Prevalence of stress among pregnant women prevalence of stress among pregnant women worldwide was 35%, India (33.3%), and Tamil Nadu 30.9%. (Sandesh Pantha 2014)Prevalence of anxiety among pregnant women Previous studies on pregnancy anxiety from different parts of the world reported a high and diverse prevalence rate of 14–54% (Girija KalayilMadhavanprabhakaran 2015). In south India, the prevalence of anxiety among pregnant women was found 55.7%. Vijaya Bagade 2021. pregnant women about 70%of them were either anxious in Tamil Nadu. (Niloufer S. Ali 2012)

II.   Materials And Methods

Sample and setting

This study was conducted from 20/6/22 to 31/07/22 in a selected tertiary care hospital after obtaining written permission from the authorities. 134 antenatal mothers with pregnancy-induced non communicable diseases were selected by using a purposive sampling technique. the objective of the study was explained and informed consent was obtained from antenatal mothers, demographic data was assessed by using a self-structure questionnaire, and stress and anxiety were assessed by using a standardized scale. They read the questions carefully and answered the same followed for four weeks until the fulfillment of the required samples

Statistical Analysis:

Statistics were utilized to assess and interpret the stress and anxiety of pregnancy-related non communicable diseases using descriptive and inferential methods. The help of the statistical programme SPSS, version 21.

III.   Results
Table 4.1: Sociodemographic variable of antenatal mothers on pregnancy induced non communicable diseases (n=134)

Socio Demographic variable	F=134	%	Mean±Sd
Age in years			
21-25 years	15	11.2	2.27±0.651
26 -30 years	68	50.7	
31 -35 years	51	38.1	
Educational status			
No formal education	1	0.7	3.74±0.682
Primary education	1	0.7	
High school education	7	5.2	
Higher secondary education	25	18.7	
Under graduate	95	70.9	
Post graduate	5	3.7	
Employment status			
Home maker	51	38.1	2.54±1.369
Self-worker	17	12.7	
Daily wagers	9	6.7	
Private workers	57	42.5	
Government workers	0	0	

Monthly income			
Rs5,000-10,000/-	2	1.5	3.46±0.752
Rs10,001-15,000/-	15	11.2	
Rs15,000-20,000/-	37	27.6	
Above Rs20,000/-	80	59.7	
Types of family			
Nuclear family	113	84.3	1.16±0.365
Joint family	21	15.7	
Resistance			
Urban	89	66.4	1.66±0.474
Rural	45	33.6	
Body mass index			
<18.5	2	1.5	2.81±0.654
18.5 -24.9	38	28.4	
25.0-29.9	78	58.2	
>30	16	11.9	
31.0-35.0	0	0	

Table 4.1 showed that majority 50.7% (68) mothers in the age group of 26-30 years, regarding education status 70.9% (95) were Under graduates,42.5% (57) were private employees, 59.7% (80) were having monthly income above20,000/-Rs, 84.3% (113) were belong to nuclear family, 89(66.4%) were from Urban, 78 (58.2%) had BMI between 25.0-29.9.

Table 4.2: Obstetrical variable of antenatal mothers with pregnancy induced non communicable (n=134)

Obstetrical Variable	F=134	%	Mean±Sd
Planned pregnancy			
Yes	78	58.2	1.42±0.495
No	56	41.8	
Week of gestation			
28-31 weeks	15	11.2	2.26±0.648
32-36 weeks	69	51.2	
36-38weeks	50	37.3	
Gravida			
Primi gravida mother	73	54.5	1.46±0.500
Multigravida mothers	61	45.5	
PAST OBSTETRICAL HISTORY			
Mode of delivery			
Spontaneousvaginal delivery	44	32.8	20.33±20.64
Assist vaginal delivery	6	4.5	
LSCS	11	8.2	
Number of children			
One	57	42.5	20.33±31.77
Two	3	2.2	
Three and above	1	0.7	
Sex of the baby			
Male	17	12.7	30.50±19.09
Female	44	32.8	
Weight of the baby			
<1.0kg	1	0.7	15.25±13.52
1.1–1.5kg	7	5.2	
1.6–2.0kg	30	22.4	
2.0–2.5kg	23	17.2	
Any complication at the time of delivery for mother and fetal			
Yes	14	10.4	20.50±23.33
No	47	35.1	

Table4.2 In aspects obstetrical variable 58.2% (78) mothers had planned pregnancy, 51.2% (69) were in their 32-35 weeks of gestation, past obstetrical history regarding Gravida 54.5% (73) were primi gravid mothers, regarding mode of delivery 32.8% (44) had normal vaginal delivery and 8.2% (11) had LSCS , regarding the number of children 42.5% (57) mothers have one living child, among those who have previous child 22.4% (30) most of them born weighing 1.6 -2.0 kg ,10.4 % (14) mothers had complication at the time of delivery.
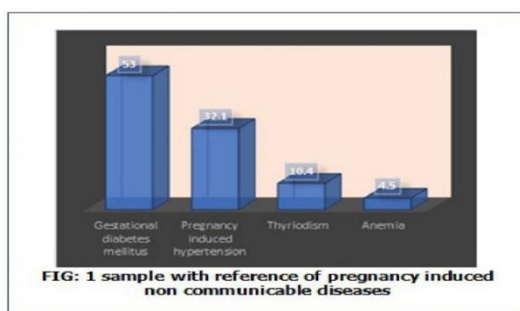
FIG: 1 sample with reference of pregnancy induced non communicable diseases

Figure 4.1 shows the majority of pregnant women 53% (71) of antenatal mothers had gestational diabetes mellitus, 32.1% (43) had pregnancy-induced hypertension, 10.4% (14)had thyroidism, and 4.5% (6) had anemia
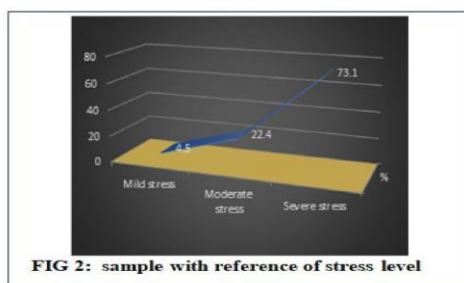

FIG 2: sample with reference of stress level

Figure4.2 shows the majority 73.1% (98) of antenatal mothers with pregnancy-induced non communicable diseases had severe stress, 22.4% (30)had moderate stress, and 4.5%(6)had mild stress.

FIG 3: sample with reference of anxiety level.
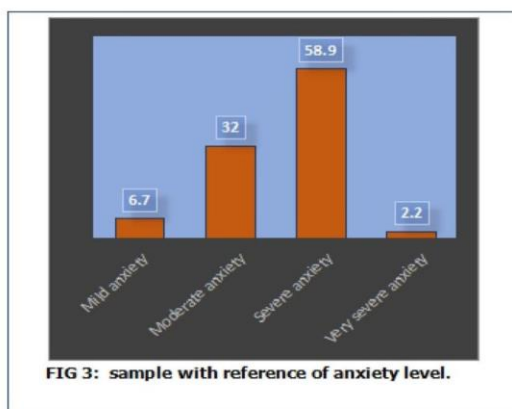
Figure 4.3 shows the majority58.9% (79) of antenatal mothers with pregnancy-induced non communicable diseases had severe anxiety, 32.0% (43) had moderate anxiety, 6.7% (9) had mild anxiety, 2.2% (3) had very severe anxiety.

Table4.3 pregnancy-related non-communicable diseases and antenatal mothers' stress and anxiety.
(n=134)

Correlation Parameters	Pearson R Value	P value	
Comparison of the effects of antenatal mothers' stress and anxiety on non-communicable diseases caused by pregnancy	0.67	0.00*	

Table 4.3 The table represents that there was a strong positive correlation between stress and anxiety of antenatal mothers on pregnancy-induced noncommunicable diseases (r=0.67) (p>0.00).

S. NO	ANXIETYVARIABLE	PREGNANCYINDUCEDNONCOMMUNICABLEDISEASES								CHISQUARET ET		
		Gestationaldiabetes Mellitus		Pregnancyinduced Hypertension		Thyroidism		Anemia				
		F	%	F	%	F	%	F	%	Df	χ2	P
1	MildAnxiety	3	2.2%	4	2.9%	0	0.0%	2	1.5%	9	17.5	0.04 ***
	ModerateAnxiety	22	16.4%	16	11.9%	4	2.9%	1	0.7%			
	SevereAnxiety	46	34.3	20	14.9%	10	8.9%	3	2.2%			
	Verysevere Anxiety	0	0.0%	3	2.2%	0	0.0%	0	0.0%			

Association of Stress among antenatal mothers with pregnancy induced non communicable disease type (n=134)

Table 4.4 showed that among 71 antenatal mothers with GDM, 40.2% (54) mothers had severe stress ,12.6% (17) mothers had moderate stress, among 43 antenatal mothers with PIH ,19.4% (26) had severe stress where as 4.4% (6) had mild stress ,8.9% (12) mothers with thyroid ,4.4% (6) mothers with anemia reported severe stress

The chi square showed that there was a significant association of stress and pregnancy induced non communicable diseases.

Table4.5Associationofanxietyoftheantenatalmotherswithpregnancyinducednon communicable diseases type (n=134)

S. NO	ANXIETYVARIABLE	PREGNANCYINDUCEDNONCOMMUNICABLEDISEASES								CHISQUARET ET		
		Gestationaldiabetes Mellitus		Pregnancyinduced Hypertension		Thyroidism		Anemia				
		F	%	F	%	F	%	F	%	Df	χ2	P
1	MildAnxiety	3	2.2%	4	2.9%	0	0.0%	2	1.5%	9	17.5	0.04 ***
	ModerateAnxiety	22	16.4%	16	11.9%	4	2.9%	1	0.7%			
	SevereAnxiety	46	34.3	20	14.9%	10	8.9%	3	2.2%			
	Verysevere Anxiety	0	0.0%	3	2.2%	0	0.0%	0	0.0%			

Table4.5 the result revealed that among 71 antenatal mothers with GDM ,34.3% (46) mothers had severe anxiety, 2.2% (2) had mild anxiety, among 43 antenatal mothers with PIH ,14.9% (20) had severe anxiety,2.9 % (4) mild anxiety, 8.9% (10) mothers with thyroid ,2.2% (3) reported severe anxiety.

The chi square revealed that there was a significant association of anxiety and pregnancy induced non communicable disease.

Table 4.6: Association of stress on pregnancy induced non communicable diseases with the selected demographic variables of antenatal mothers (n=134)

Socio demographic Variables	Stress Score						Chi Square Test	
	Mild Stress		Moderate Stress		Severe Stress			
	F	%	F	%	F	%	□2	P
Age in years								
21-25 years	1	0.7	4	2.9	10	7.4	10.4	0.03

	F	%	F	%	F	%	χ²	P
26-30 years	5	3.7	20	14.9	43	32.0		*
31-35 years	0	0	6	4.4	45	33.5		
Educational status								
No formal education	0	0	0	0	1	0.7	4.51	0.92
Primary education	0	0	0	0	1	0.7		
High school education	0	0	1	0.7	6	4.4		
Higher secondary education	1	0.7	5	3.7	19	14.1		
Under graduate	4	2.9	23	17.1	68	50.7		
Post graduate	1	0.7	1	0.7	3	2.2		
Occupation								
Home makers	2	1.4	15	11.1	34	25.3	3.63	0.72
Self-workers	1	0.7	3	2.2	13	9.7		
Daily wagers	1	0.7	2	1.4	6	4.4		
Private workers	2	1.4	10	7.4	45	33.5		
Government workers	0	0	0	0	0	0		
Monthly income								
Rs5,000-10,000/-	0	0	0	0	2	1.4	8.22	0.22
Rs10,001-15,000/-	0	0	1	0.7	14	10.4		
Rs15,000-20,000/-	1	0.7	13	9.7	23	17.1		
Above Rs20,000/-	5	3.7	16	11.9	59	44.0		
Types of family								
Nuclear family	6	4.4	23	17.1	84	62.6	2.59	0.27
Joint family	0	0	7	5.2	14	10.4		
Resistance								
Urban	4	2.9	13	9.7	30	22.3	1.66	0.43
Rural	2	1.4	17	12.6	68	50.7		
Body mass index								
<18.5	0	0	0	0	2	1.4	3.57	0.73
18.5 -24.9	2	1.4	7	5.2	29	21.6		
25.0-29.9	3	2.2	17	12.6	58	43.2		
>30	1	0.7	6	4.4	9	6.7		
31.0-35.0	0	0	0	0	0	0		

significant at 0.05

Table 4.6 showed that there is no significant association between stress with the selected demographic variable except age (c2=10.4, P=0.03).

Table.4.7 Association of stress score among antenatal mothers on pregnancy induced non communicable diseases with the selected obstetrical variables (n=134)

Obstetrical Variable	Stress Score						Chi Square Test	
	Mild Stress		Moderate Stress		Severe Stress			
	F	%	F	%	F	%	χ²	P
Planned pregnancy								
Yes	3	2.2	20	14.9	55	41.0	1.22	0.54
No	3	2.2	10	7.4	43	32.0		
Week of gestation								
28-31 weeks	1	0.7	7	5.2	7	5.2	8.46	0.07
32-35 weeks	3	2.2	10	7.4	56	41.7		*
36-38 Weeks	2	1.4	13	9.7	35	26.1		
Gravida								
Primi gravida mothers	2	1.4	19	14.1	52	38.8	2.11	0.34
Multi gravida mothers	4	2.9	11	8.2	46	34.3		
PAST OBSTETRICAL HISTORY								
Mode of delivery								
Spontaneous vaginal delivery	4	2.9	8	5.9	32	23.8	12.4	0.13
Assisted vaginal delivery	0	0	0	0	6	4.4		
LSCS	0	0	3	2.2	8	5.9		
Number of children								
One	4	2.9	10	7.4	43	32.0	6.56	0.58
Two	0	0	1	0.7	2	1.4		
Three and above	0	0	0	0	1	0.7		
Sex of the baby								
Male	2	1.4	5	3.7	10	7.4	14.5	0.06
Female	2	1.4	6	4.4	36	26.8		

Weight of the baby								
<1.0kg	0	0	1	0.7	0	0	11.6	0.47
1.1–1.5kg	0	0	2	1.4	5	3.7		
1.6–2.0kg	0	0	6	4.4	24	17.9		
2.0–2.5kg	4	2.9	2	1.4	17	12.6		
Any complication at the time of delivery for mother and fetal								
Yes	1	0.7	3	2.2	10	7.4	4.24	0.93
No	3	2.2	8	5.9	36	26.8		

significant at 0.05

Table 4.7 reflect that there is no significant association between stress with the selected obstetrical variable except for mothers and weeks of gestation (c2=8.46, P=0.07) and sex of the baby (c2=14.5, P=0.06).

Table 4.8 Association of Anxiety score among antenatal mothers on pregnancy induced non communicable diseases with the selected socio demographic variable (n=134)

Socio demographicVariables	Anxiety Score								Chi Square Test	
	Mild Anxiety		Moderate Anxiety		Severe Anxiety		Very severe anxiety			
	F	%	F	%	F	%	F	%	x^2	P
Age in years										
21-25 years	0	0	7	5.2	8	5.9	0	0	7.77	0.25
26-30 years	8	5.9	21	15.6	37	27.6	2	1.4		
31-35 years	1	0.7	15	11.1	34	25.3	1	0.7		
Educationalstatus										
No formal education	0	0	0	0	1	0.7	0	0	11.1	0.74
Primary education	0	0	1	0.7	3	2.2	0	0		
High school education	2	1.4	2	1.4	13	9.7	0	0		
Higher secondary education	2	1.4	10	7.4	59	44	0	0		
Under graduate	5	3.7	28	20.8	3	2.2	3	2.2		
Post graduate	0	0	2	1.4	1	0.7	0	0		
Occupation										
Home maker	4	2.9	20	14.9	26	19.4	1	0.7	8.83	0.45
Self-employee	1	0.7	6	4.4	10	7.4	0	0		
Daily wagers	2	1.4	3	2.2	4	2.9	0	0		
Private employee	2	1.4	14	10.4	39	29.1	2	1.4		
Government employee	0	0	0	0	0	0	0	0		
Monthly income										
Rs5,000-10,000/-	0	0	0	0	2	1.4	0	0	5.09	0.82
Rs10,001-15,000/-	1	0.7	6	4.4	8	5.9	0	0		
Rs15,000-20,000/-	4	2.9	11	8.2	22	16.4	0	0		
Above Rs20,000/-	4	2.9	26	19.4	47	35	3	2.2		
Types of family										
Nuclear family	7	5.2	35	26.1	68	50.7	3	2.2	1.31	0.72
Joint family	2	1.4	8	5.9	11	8.2	0	0		
Resistance										
Urban	5	3.7	13	9.7	27	20.1	0	0	3.69	0.29
Rural	4	2.9	30	22.3	52	38.8	3	2.2		
Body mass index										
<18.5	0	0	0	0	2	1.4	0	0	3.50	0.94
18.5 -24.9	3	2.2	13	9.7	21	15.6	1	0.7		
25.0-29.9	6	4.4	25	18.6	45	33.5	2	1.4		
>30	0	0	5	3.7	11	8.2	0	0		
31.0-35.0	0	0	0	0	0	0	0	0		

significant at 0.05

Table 4.8 showed that there is no significant association between anxiety with the selected demographic variable except for mothers and weeks of gestation (c2=8.46, P=0.07) and weight of the baby (c2=16.9, P=0.03).

Table 4.9 Association of Anxiety score among antenatal mothers on pregnancy induced non communicable diseases with the selected socio demographic variable (n=134)

Obstetrical variables	Anxiety Score								Chi Square Test	
	Mild Anxiety		Moderate Anxiety		Severe Anxiety		Very severe anxiety			
	F	%	F	%	F	%	F	%	□2	P
Planned pregnancy										
Yes	4	2.9	28	20.8	45	33.5	1	1.7	2.358	0.50
No	5	3.7	15	11.1	34	25.3	2	1.4		
Week of gestation										
28-31Weeks	0	0	5	3.7	10	7.4	0	0	8.16	0.22
32-35Weeks	2	1.4	21	15.6	44	32.8	2	1.4		
36-38Weeks	7	5.2	17	12.6	25	18.6	1	1.7		
Gravida										
Primi gravida mothers	4	2.9	20	14.9	46	34.3	3	2.2	4.42	0.21
Multi gravida mothers	5	3.7	23	17.1	33	24.6	0	0		
PAST OBSTETRICAL HISTORY										
Mode of delivery										
Spontaneous vaginal delivery	3	2.2	17	12.6	24	17.9	0	0	19.3	0.25
Assisted vaginal delivery	0	0	4	2.9	2	1.4	0	0		
LSCS	2	1.4	0	0	9		0	0		
Number of children										
One	5	3.7	20	14.9	32		0	0	7.46	0.96
Two	0	0	1	1.7	2	1.4	0	0		
Three and above	0	0	0	0	1	1.7	0	0		
Sex of the baby										
Male	1	1.7	6	4.4	10	7.4	0	0	72.5	0.00*
Female	4	2.9	15	11.1	25		0	0		
Weight of the baby										
<1.0kg	0	0	1	1.7	0	0	0	0	20.5	0.66
1.1–1.5kg	2	1.4	4	2.9	1	1.7	0	0		
1.6–2.0kg	2	1.4	4	2.9	24	17.9	0	0		
2.0–2.5kg	1	1.7	12	8.9	10	7.4	0	0		
Any complication at the time of delivery for mother and fetal										
Yes	0	0	6	4.4	8	5.9	0	0	7.54	0.99
No	5	3.7	15	11.1	27	20.1	0	0		

significant at 0.05

Table 4.9 revealed that there is no significant association between anxiety with the selected obstetrical variable except the sex of the baby (c2=72.5, P=0.00) in the groups.

IV. Discussion

Section -1: Socio-Demographic, Obstetrical Variable Of Pregnancy-Induced Non-Communicable Diseases.
Table4.1: Frequency and percentage distribution of demographic variables of the antenatal mothers:

Table 4.1 showed that majority 50.7% (68) mothers in the age group of 26-30 years, regarding education status 70.9% (95) were Under graduates,42.5% (57) were private employees, 59.7% (80) were having monthly income above20,000/-Rs, 84.3% (113) were belong to nuclear family, 89(66.4%) were from Urban, 78 (58.2%) had BMI between 25.0-29.9.

Table4.2: Frequency and percentage distribution of obstetrical variables of the antenatal mothers

Table4.2 In aspects obstetrical variable 58.2% (78) mothers had planned pregnancy, 51.2% (69) were in their 32-35 weeks of gestation, past obstetrical history regarding Gravida 54.5% (73) were primi gravid mothers, regarding mode of delivery 32.8% (44) had normal vaginal delivery and 8.2% (11) had LSCS , regarding the number of children 42.5% (57) mothers have one living child, among those who have previous child 22.4% (30) most of them born weighing 1.6 -2.0 kg ,10.4 % (14) mothers had complication at the time of delivery

Section:2 Differentiate The Diseases Type Of Antenatal Mothers With Pregnancy-Induced Non-Communicable Diseases

Figure 4.1: Prevalence of pregnancy-induced noncommunicable diseases among antenatal mothers

Figure 4.1 shows the majority of pregnant women 53% (71) of antenatal mothers had gestational diabetes mellitus, 32.1% (43) had pregnancy-induced hypertension, 10.4% (14) had thyriodism, and 4.5% (6) had anemia.

A similar cross-sectional study conducted on Prevalence of Gestational Diabetes Mellitus and Associated Risk Factors Among Pregnant Women Attending Antenatal Care A total of 384 pregnant women were recruited, the highest percentage 114 (29.7%) of them aged 26 to 30 years old, 35% were overweight and 24.5% were obese, and 72.4% were multi-parity (Turki Alharbi 2021)

Figure4.2: Frequency and percentage distribution of stress on pregnancy-induced noncommunicable diseases

Figure4.2 shows the majority 73.1% (98) of antenatal mothers with pregnancy-induced noncommunicable diseases had severe stress, 22.4% (30)had moderate stress, and 4.5%(6)had mild stress.

Figure4.3: Frequency and percentage distribution of anxiety on pregnancy-induced noncommunicable diseases

Figure 4.3 shows the majority58.9% (79) of antenatal mothers with pregnancy-induced noncommunicable diseases had severe anxiety, 32.0% (43)had moderate anxiety, 6.7% (9) had mild anxiety, 2.2% (3) had very severe anxiety.

A similar Study conducted on Assess the Prevalence of Stress and Anxiety Among Antenatal Mothers.Results revealed that 48% of antenatal mothers had severe level of stress,38.6% had moderate level of stress and 13.3% had mild level of stress. In case of pregnancy related anxiety ,61% of antenatal mothers had severe anxiety,32% had moderate anxiety and 7% had mild anxiety (Jalajaran.Aet.al 2022)

Section-3: Correlation Of Stress And Anxiety Of Antenatal Mothers With Pregnancy-Induced Noncommunicable Diseases

Table 4.3 the table represents that there was a strong positive correlation between stress and anxiety of antenatal mothers on pregnancy-induced noncommunicable diseases (r=0.67) (p>0.00)

Section-4: Association Of Stress Of The Antenatal Mothers With Pregnancy-Induced Noncommunicable Diseases Type

Table4.4: associate stress with pregnancy-induced noncommunicable diseases

The table 4.4 showed that among 71 antenatal mothers with GDM , 40.2% (54) mothers had severe stress ,12.6% (17) mothers had moderate stress , among 43 antenatal mothers with PIH ,19.4% (26) had severe stress where as 4.4% (6) had mild stress ,8.9% (12) mothers with thyroid ,4.4% (6) mothers with anemia reported severe stress.

The chi square showed that there was a significant association of stress and pregnancy induced non communicable diseases.

Table 4.5: Associate anxiety with pregnancy-induced noncommunicable disease

Table4.5 the result revealed that among 71 antenatal mothers with GDM ,34.3% (46) mothers had severe anxiety, 2.2% (2) had mild anxiety ,among 43 antenatal mothers with PIH ,14.9% (20) had severe anxiety,2.9 % (4) mild anxiety , 8.9% (10) mothers with thyroid ,2.2% (3) reported severe anxiety.

The chi square revealed that there was a significant association of anxiety and pregnancy induced non communicable disease.

Section-4: Stress And Anxiety Score On Pregnancy-Induced Non-Communicable Diseases With The Selected Demographic Variables Of Antenatal Mothers.
Table 4.6 Association of stress on pregnancy-induced noncommunicable diseases with the selected demographic variables of Antenatal mothers

The above table 4.6 showed that there is no significant association between stress with the selected demographic variable except age (c2=10.4, P=0.03).

Table 4.8: Association of anxiety on pregnancy-induced noncommunicable diseases with the selected demographic variables of Antenatal mothers

In the above table 4.8 showed that there is no significant association between anxiety with the selected demographic variable except for mothers and weeks of gestation (c2=8.46, P=0.07) and weight of the baby (c2=16.9, P=0.03).

Table4.7: Association of stress on pregnancy-induced noncommunicable diseases with the selected obstetrical variables of Antenatal mothers
The above table 4.7 reflect that there is no significant association between stress with the selected obstetrical variable except for mothers and weeks of gestation (c2=8.46, P=0.07) and sex of the baby (c2=14.5, P=0.06).
Table 4.9: Association of anxiety on pregnancy-induced noncommunicable diseases with the selected obstetrical variables of Antenatal mothers

In the above table 4.9 revealed that there is no significant association between anxiety with the selected obstetrical variable except the sex of the baby (c2=72.5, P=0.00) in the groups

A similar study cross-sectional study conducted on Coping with Stress among Pregnant Women with Gestational Diabetes Mellitus. The result revealed that (108) 86.5% of the pregnant women stress with GDM lived in a city, and the self-confident approach, as one of the effective coping styles, was found to be in a statistically significant negative linear relationship with weight gain during pregnancy (r: –0.342, P<0.01). (Hamdiye Arda Sirica et.al 2018)

Another study conducted on Antenatal Anxiety in Pregnant Women with Gestational Diabetes Mellitus.The study findings revealed that A total of 281 pregnant women were enrolled in the study and 133 (47.33%) were healthy, whereas 148 (52.67%) had GDM. The mean age of the participants was 30.17 ± 5.62 years and gestational age was 202.71 ± 56.31 days. According to educational status, 178 (66.90%) of the participants were primary school graduates. The mean scores of anxiety sub scale and depression sub scale were determined as 9.16 ± 2.88 and 9.05 ± 2.42, respectively. (Ekrem Orbay 2017)

The results of the present study imply that Helps to identify the level of stress and anxiety of antenatal mothers on pregnancy-induced noncommunicable diseases, which further help us teach to antenatal mothers pregnancy induced noncommunicable diseases and reduce stress and anxiety coping strategies

V. Conclusion

The aim of the study was to assess stress and anxiety of antenatal mothers with pregnancy-induced noncommunicable diseases.the result of the study showed that at majority of the mothers had severe stress and anxiety on pregnancy induced non-communicable diseases and dieaseas type. Therefore, the research hypothesis was accepted and the null hypothesis educate pregnant women about the stress and anxiety of pregnancy-induced noncommunicable diseases reducing coping strategies and health.

References

[1]   World Health Organization. Definition Of Pregnant Women.2017. Available From: Http://Www.Who.Int/Topics/Pregnancy/En/ [Accessed 5 April 5, 2020]. National Academic Of Digital Ethopia Obstetrics And Gynaecology Nursing Meselech Assegid (2003).
[2]   Links Between Maternal Health And Ncds Best Practice Research Clinicalobstetrics & Gynaecology Volume 29, Issue 1, January 2015, Pages 32-42. World Health Organization Of Noncommunicable Diseases (2015).
[3]   Deepika Singh Saraf 2019 Lessons For Addressing Noncommunicable Diseases Within Primary Health Care System From Ballabgarh Project, India
[4]   Haring M., Smith Je, Misri S, Ryan D.Coping With Anxiety During Pregnancy And Following The Birth: A Cognitive Behavior Therapy-Based Self-Management Guide Women And Health Care Providers 2013.S
[5]   Binod Kumar Deo1, Nidesh Sapkota2, Rajesh Kumar3 , Dhana Ratna Shakya4 , Achala Thakur5 , Sami Lama6 A Study On Pregnancy, Perceived Stress And Depression Bpkihs 2020; 3(1): 79-87.

[6] Binita Sapkota Et.Al. Prenatal Anxiety Among Pregnant Women Visiting In Antenatal Care Outpatient Department At Paropakar Maternity And Women's Hospital International Journal Of Health Sciences & Research (Www.Ijhsr.Org) 173 Vol.9; Issue: 3; March 2019.

[7] Michael T. Kinsella 2013 Impact Of Maternal Stress, Depression & Anxiety On Fetal Neurobehavioral Development Obstet Gynecol. 2009 September ; 52(3): 425– 440. Doi:10.1097/Grf.0b013e3181b52.

[8] Www.National Health Mission.Com.

[9] Tang X, Lu Z, Hu D, Zhong X. Influencing Factors For Prenatal Stress, Anxiety And Depression In Early Pregnancy Among Women In Chongqing, China. Journal Of Affective Disorders. 2019 Jun 15; 253:292-302.

[10] World Health Organization Of Mental Health (2018).The Unseen Side Of Pregnancy: Non-Communicable Diseases And Matehealth Sarah B Barners 2020.

[11] Raddi Sudha A,2 Nayak Baby S, 3prakash Ratna, 4randhir Puri, 5mc Metgud Stress, Coping Strategies, Quality Of Life And Lived Experiences Of Women With Pregnancy-Induced Hypertension January -April 2009 1(1) 65-68.

[12] Yu Y, Lm Pu L, Wang S, Wu J, Ruan L, Jiang S, Jiang W. Sleep Was Associated With Depression And Anxiety Status During Pregnancy: A Prospective Longitudinal Study. Archives Women's Mental Health. 2017.

[13] Www. University Of Edinburgh.Com.

[14] Kai Wee Lee Kw, Ching Sm, Hood Fk, Ramachandran V, Chong Sc, Tasmin Mcnorton Nm. Prevalence And Factors Associated With Depressive, Anxiety And Stress Symptoms Among Women With Gestational Diabetes Mellitoxin Tertiary Care Centers In Malaysia: A Cross-Sectional Study. Bmcpregnancy And Childbirth. 2019 Dec;19(1):1-1.

[15] Pantha S, Hayes B, Yadav Bk, Sharma P,Shrestha A, Gartoulla P. Prevalence Of Stress Among Pregnant Women Attending Antenatal Care In A Tertiary Maternity Hospital In Kathmandu. Journal Of Women's Health Care. 2014; 3 (183).

[16] A. Sarani (Msc) 1 , S. Azhari (Msc) * 2 , S.R. Mazlom(Phd) 3 , H.M. Aghamohammadian Sherbaf (Phd) 4 The Relationship Between Coping Strategies During Pregnancy With Perceived Stress Level In Pregnant Mothers J Babol Univ Med Sci Vol 1 8, Issu 7; Jul 201 6. P: 7 - 1 3.

[17] Nigus Alemnew Engidaw1*, Alemayehu Gonie Mekonnen1 And Fetene Kassahun Amogne Perceived Stress And Its Associated Factors Among Pregnant Women In Bale Zone Hospitals, Southeast Ethiopia: A Cross-Sectional Study Engidaw Et Al. Bmc Res Notes (2019) 12:356 Https://Doi.Org/10.1186/S13104-019-4383-0.

[18] Hamdiye Arda Sirica Et.Al (2018) Descriptive Cross-Sectional Study On Coping With Stress Among Pregnant Women With Gestational Diabetes Mellitus. Mayuri Khare Et.Al Correlation Between Stress And Thyroid Function In Patients Suffering With Hypothyroidism International Journal Of Therapeutic Applications, Volume 11, 2013, 24-28.

[19] Shanchun Zhang Association Between Mental Stress And Gestationalhypertension/Preeclampsia: A Meta-Analysis Obstet Gynecol Surv2013 Dec;68(12):825-34.

[20] Vijaya Bagade1, Bhavana Mhatre2 2021 Revalence Of Pregnancy Related Anxiety In Pregnant Women In Southern Fringes Of Pune, Indiainternational Journal Of Health Sciences And Research (Www.Ijhsr.Org)

[21] Dutta Dc. Text Book Of Obstetrics. 6th Ed. Calcutta: New Central Book Agency; 2004.

[22] Suresh K.Sharma Nursing Research And Statistics ,Third Edition Elsevier. Relx India Pvt Ltd 2018.

[23] Sudha R Research And Bio Statistics For Nurses First Edition Jaypee Health Sciences Publisher.