STRESS AND ANXIETY AMONG PREGNANT WOMEN ATTENDING TERTIARY CARE HOSPITAL AT POKHARA, NEPAL

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ABSTRACT

Pregnancy is a period of great joy, also great stress to women both physically and mentally. Even in healthy women pregnancy may give rise to much anxiety because of anticipated uncertainty associated with it. The study aimed to assess the stress and anxiety among pregnant women. A descriptive cross-sectional research design was used. The study population consists of pregnant women who were 12-38wks pregnant and attending to Gynae/Obs OPD for regular checkup at Gandaki Medical College Teaching Hospital and Research Centre. Data were collected from Falgun 6 to Chaitra 25, 2080. A purposive sampling technique was used. Pregnancy Stress Rating Scale (PSRS) and Perinatal Anxiety Screening Scale (PASS) was used to collect the data. Collected data were entered, coded and edited into SPSS (16) and analyzed using both descriptive and inferential statistical methods. Of total 33.9% moderate, 32.6% had severe and 33.4% Eustress (normal stress) level of stress. There were no any statistically significant association between level of stress and selected variables. Similarly, 74.2% had minimal, 23.4% mild to moderate and 2.4% respondents have severe level of anxiety. Family support was statistically significant with level of anxiety during pregnancy (p=0.05). There was statistically significant of average positive correlation between stress and anxiety (r=0.605, p=0.001) among pregnant women. In majority of pregnant women have higher stress which reflect the higher anxiety.

KEYWORDS

Anxiety, pregnant women, stress

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INTRODUCTION

Pregnancy and child birth are special event in a women's life and indeed in the lives of their family. Though, pregnancy is a normal physiological process. A pregnant woman is "like a ship on a stormy sea", out of balance seeking an equilibrium in the waves of the physiological changes.[1]

Stress is a perceived when there is an imbalance between demands of life and the adaptive capacity of an individual which can lead to series of stress response mechanisms in different domains like psychological, physiological and behavioral.[2] Anxiety is a dimension of stress that across in response to internal or external stimuli and can result in physical, emotional, cognitive and behavioral symptoms.[3]

Female as a gender is itself susceptible for stress, anxiety and depression, and there may be dread of childbirth are vulnerability for surgical intervention and subsequent psycho-social issue.[4] As the modern medical model develops, psychological health has been increasingly given more attention.[5] Perinatal mood and anxiety disorders have been the most common mental health problems among these women, and they have been associated with increased risks of maternal and infant mortality and morbidity and been recognized as significant patient safety issue.[6]

In developing countries, mental health has not received much attention from the research community. Depression and anxiety rates among women are less well known, but presumably higher.[7] Stress is very common among women during pregnancy, and it can cause adverse birth outcomes such as low birth weight.[8]

The perinatal period is of particular importance as maternal mood and anxiety difficulties are associated with adverse pregnancy outcomes, compromised parenting, impaired affect and behavior regulation, and insecure attachment in offspring.[9] Stress during pregnancy is more among the teenagers, low educational status, discriminated group of population or with low socioeconomic status.[10]

Pregnancy is the most crucial time in a person's life, for both the mother and her unborn child. Pregnancy may induce a lot of anxiety in healthy women because of the unknowns that come with it. Anxiety over pregnancy, including labour and delivery, the fetus and mother's well-being, the availability of high-quality healthcare services, and the capacity to parent.[11]

The various study findings indicate that there is need for further research and support for these women, to prevent negative consequences for both mother and child.

MATERIALS AND METHODS

A descriptive cross-sectional research design was used. The study population consists of pregnant women who were 12-38 weeks pregnant and attending to Gynae/Obs OPD for regular checkup at Gandaki Medical College Teaching Hospital and Research Centre from Falgun 6 to Chaitra 25, 2080. A purposive sampling technique was used. Pregnancy Stress Rating Scale (PSRS).[16] And Perinatal Anxiety Screening Scale (PASS) was used to collect the data.[17] Since the scale was obtained through open assess journal no permission was required for using these scales. The socio-demographic, obstetric, child and perception related questionnaire was developed by the researcher. The questionnaire was developed and pre tested before using it in the research. Ethical approval was taken from Gandaki Medical College Institutional Review Committee (GMC- IRC) with Ref. No. 35\080\ 081- F.

Verbal and written consent was obtained from each respondent by clarifying the purpose of the study prior to the data collection. Confidentiality was maintained by not disclosing information to anyone except for research purpose. Collected data were entered, coded and edited into SPSS-16 and analyzed using both descriptive (frequency, mean, and standard deviation) and inferential statistics (chi-square) methods. The findings were presented in the different tables.

RESULTS

Table 1 shows that majority of the respondents (86.1%) belong to age group 20-35 with the Mean ± SD age of 23.6 ± 3.82. The minimum age of the respondents was 16 years whereas maximum age was 40 years. Regarding ethnicity 43.4% were *Brahmin/Chhetri*. Two third of the respondents' (69.5%) belong to joint family. In terms of religion majority respondents (84.5%) belong to Hinduism. In terms of education, majority of the respondents (98.9%) were literate. Around two third of the respondents (64.5%) were from rural area. Concerning occupation 61.0% respondents were engaged in house hold work. Concerning total family income near about two third of the

Table 1: Characteristics of the Study Population (n=380)

Characteristics	n	%
Age (in years)		
≤20	50	13.1
20-35	327	86.1
≥35	3	0.8
Mean ± SD=23.6±3.82 Min=16 years Max=40 years		
Ethnicity		
Brahmin / Chhetri	165	43.4
Janajati	151	39.7
Dalit	50	13.2
Madheshi	8	2.1
Others[a]	6	1.6
Type of family		
Joint family	264	69.5
Nuclear family	116	30.5
Religion		
Hinduism	321	84.5
Buddhism	44	11.6
Buddhism	44	11.6
Christian	15	3.9
Education		
Literate	376	98.9
Cannot read and write	4	1.1
Occupation		
House hold work	232	61.0
Agriculture	57	15.0
Service	55	14.5
Business	36	9.5
Residence		
Rural	245	64.5
Urban	135	35.5
Family income (NPR/Year)		
<200,000	89	23.4
200,000 to 600,000	243	64.0
>600,000	48	12.6

[a]Others: *Giri* and *Puri*

respondents' family (64.0%) had NRs. 200,000-600,000 income per year.

Table 2 shows that more than half of the respondents (52.1%) were primi-gravida. Regarding the parity 78.1% respondents were primi parous. Majority of the respondents (87.4%) never had an abortion. Regarding duration of pregnancy, near half of the respondents (48.2%) was in their third trimester. Most of the respondents (95.0%) were planned pregnancy. Very least of the respondents (0.26%) had suffered from minor disorder during pregnancy. There were 72.5% respondents have no any minor disorder in present pregnancy.

Table 2: Obstetric, child and perception related information of the study population (n=380)

Characteristics	n	%
Gravida		
Primi gravid	198	52.1
Multi gravid	182	47.9
Parity (n=182)		
Nulli para	25	13.7
Primi para	142	78.1
Multi para	15	8.2
History of abortion (n=182)		
Yes	48	26.4
No	134	73.6
Duration of pregnancy		
First trimester	44	11.6
Second trimester	153	40.2
Third trimester	183	48.2
Planned pregnancy		
Yes	361	95.0
No	19	5.0
Minor disorders in present pregnancy		
Yes	22	27.5
No	358	72.5
Minor disorders in previous pregnancy (n=157)		
Yes	6	3.7
No	151	96.2
Minor disorders in previous pregnancy (n=157)		
Yes	6	3.7
No	151	96.2
Major disorders in previous pregnancy (n=157)		
Yes	2	1.26
No	155	98.73
Method of delivery (n=157)		
Vaginal delivery	124	79.0
Instrumental or assisted deliver	10	6.4
Cesarean section	23	14.6
Delivery status (n=157)		
Complicated	14	8.9
Normal	143	91.1
Last delivery outcome (n=157)		
Live	151	96.2
Dead	6	3.8
Deformity in previous child (n=151)		
Yes	5	3.3
No	146	96.7
Desired sex of child		
Don't mind	239	62.9
Boy	78	20.5
Girl	63	16.6
Financial support during pregnancy		
Family	354	93.2
Self	20	5.3
Maternal family	6	1.6
Domestic violence		
Yes	15	3.9
No	365	96.1

Table 3: Information related to pregnancy stress rating scale (PSRS) of the respondents (n = 380)			
Statements	**Mean**	**Standard Deviation**	**Mean%**
Worry about safe delivery	2.78	1.02	69.5
Worry about the premature labor	3.32	0.92	83.0
Worry about possibility of abnormal labor	3.04	1.01	76.0
Worry that doctor may not arrive on time.	3.53	0.86	88.2
Worry about labor pain	3.22	0.98	80.5
Behaviors may affect the unborn baby	3.22	0.93	80.5
Worry about the baby's birth weight	3.14	0.92	25.0
Worry aboutbaby may not be attractive	3.08	1.02	77.0
No one will take care duringlabor	3.77	0.63	94.2
Worry about the baby's future	2.67	1.09	66.7
Worry aboutrecuperatethe baby	3.51	0.87	87.7
Worry about finding good babysitter	3.77	0.64	94.2
Worry about the to give up work	3.85	0.53	96.2
Family members not liking the baby	3.91	0.45	97.7
Difficulty of naming the baby	3.95	0.31	98.7
Decreased interest in social activities	3.88	0.47	97.0
Baby not being the right sex.	3.41	0.91	85.2
Physiological changes during pregnancy.	3.19	0.91	79.7
Worry about darkened spotting on face	3.71	0.70	92.7
Worry about getting too fat	3.69	0.67	92.2
sexual activity might hurt the baby	3.33	0.89	83.2
Worry about physical distress	3.29	0.84	82.2
Worry about emotional instability	3.45	0.78	86.2
Worry about job and career	3.02	0.95	75.5
Worry about money to pay bills	3.64	0.68	91.0
Worry about changes in living patterns	3.66	0.74	91.5
Total	**89.01**	**11.75**	**85.58**

*Higher the score lowers the stress

Very least 0.26% of respondents have major disorder during present pregnancy. Most of the 96.2% respondents had no any minor disorder in previous pregnancy. Likewise, majority of the respondents (98.7%) were not suffered from major disorders in previous pregnancy. Regarding method of delivery 79.0% respondents had vaginal delivery. Among multi parous women's very least of the respondents (3.3%) child had deformity in previous birth. Regarding desired child of the recent pregnancy around two third respondents (62.9%) had no preference only 20.5% had preferred boy. Most of the respondents (93.2%) take financial helps from family. Regarding domestic violence most of the respondents (96.1%) were not exposed to any types of violence. Hundred percentages of the respondents had single pregnancies which were not shown in table. Husband and family support during pregnancy had hundred percentage which were not shown in table.

Table 4: Level of stress of the respondents during pregnancy (n =380)		
Level of stress	**n**	**%**
Eustress score (≥97)	127	33.5
Moderate stress score (84-97)	129	33.9
Severe stress score (≤84)	124	32.6
Total	**380**	**100.0**

Table 5: Information related to perinatal anxiety screening scale (PASS) of the respondents (n =380)

Statement	Mean	Standard Deviation	Mean%
Feeling detached	0.53	0.73	17.6
Losing track of time	0.59	0.81	19.6
Difficulty adjusting to recent changes	0.63	0.77	21.0
Racing thoughts making it hard to concentrate	0.31	0.63	10.3
Fear of losing control	0.24	0.55	8.0
Feeling panicky	0.20	0.51	6.6
Feeling agitated	0.28	0.57	9.3
Harm will come to the pregnancy	0.93	0.87	32.0
Something bad is going to happen	0.83	0.88	27.6
Worry about many things	0.38	0.66	12.6
Feeling overwhelmed	0.33	0.62	11.0
Strong fears about things e.g. needle, blood	0.97	1.06	32.3
Sudden rushes of extreme fear	0.14	0.47	4.6
Repetitive thoughts that difficult to stop	0.19	0.50	6.3
Difficulty sleeping	0.55	0.72	18.3
Having to do things in a certain way	1.01	0.87	33.6
Needing to be in control of things	1.00	0.86	33.3
Checking things over and over	0.40	0.69	13.3
Feeling jumpy or easily startled	0.43	0.60	13.3
Being 'on guard' or needing to watch out for things	0.38	0.65	12.6
Upset about repeated thoughts	0.63	0.69	21.0
Embarrass in front of others	0.52	0.75	17.3
Others will judge me negatively.	0.40	0.67	13.3
Feeling really uneasy in crowds	0.53	0.69	17.6
Avoiding social activities	0.33	0.68	11.0
Total	**12.72**	**9.22**	**16.9**

Table 3 reveals that information related to pregnancy stress rating scale (PSRS) of the respondents. The score for each item ranged from 1-4 and highest score meant respondents agree not at all with the item. The items with highest score for Eustress aspects were "Difficulty the naming the baby" (3.95 ± 0.31, 98.7%) and item with lowest score were "Worry about the baby's future" (2.67 ± 1.09, 66.7%) which mean there was severe stress.

Table 4 shows the level of stress of the respondents during pregnancy. Among 380 respondents, 33.9% had moderate level of stress. Similarly, 33.5% had eustress and 33.6% had severe stress.

Table 5 shows that the anxiety regarding pregnancy among respondents. The score of each item ranged from 0-3 and highest score meant pregnant women's have severe anxiety and vice-versa for lowest score of anxiety regarding pregnancy. Higher score lies on the items "Having to do things in a certain way" (1.01 ± 0.87, 33.6%), and lowest value lies on "Sudden rushes of extreme fear" (0.14 ± 0.47, 4.6%).

Table 6 shows that level of anxiety during pregnancy of the respondents more than two third of the respondents (74.2%) had minimal anxiety, which was followed by very least

Table 6: Level of anxiety during pregnancy of the respondents (n =380)

Level of anxiety	n	%
Minimal anxiety (0-16)	282	74.2
Mild to moderate anxiety (17-33)	89	23.4
Severe anxiety (34-75)	9	2.4
Total	**380**	**100.0**

Table 7: Association between level of stress and selected variables of the respondents (n=380)					
Selected variables	**Level of stress**			**c^2**	**p-value**
	Severe n (%)	**Moderate n (%)**	**Mild n (%)**		
Age					
<20	15 (30.0)	23 (46.0)	12 (24.0)	3.98	0.13
≥20	112 (33.9)	106 (32.1)	112 (33.9)		
Residence					
Urban	47 (34.8)	42 (31.1)	46 (34.1)	0.75	0.68
Rural	80 (32.7)	87 (35.5)	78 (31.8)		
Education					
Up to secondary	96 (31.7)	107 (35.3)	100 (33.0)	3.26	0.19
Above secondary	31 (42.5)	20 (27.4)	22 (30.1)		
Type of family					
Nuclear	46 (39.7)	37 (31.9)	33 (28.4)	3.04	0.21
Joint	81 (30.7)	92 (34.8)	91 (34.5)		
Gravida					
Primi gravid	68 (34.3)	69 (34.8)	61 (30.8)	0.62	0.73
Multigravida	59 (32.4)	60 (33.0)	63 (34.6)		
Abortion					
Yes	15 (31.2)	11 (22.9)	22 (45.8)	4.3	0.11
No	44 (32.8)	49 (36.6)	41 (30.6)		
Planed pregnancy					
Yes	121 (33.5)	122 (33.8)	118 (32.7)	0.07	0.96
No	6 (31.6)	7 (36.8)	6 (31.6)		
Domestic violence					
Yes	5 (33.3)	7 (46.7)	3 (20.0)	1.55	0.46
No	122 (33.4)	122 (33.4)	121 (33.2)		

* *Significance level at p≤0.05*

Table 8: Association between level of anxiety and selected variables of the respondents (n=380)					
Selected variables	**Level of anxiety**			**Chi-square**	**p-value**
	Minimal n (%)	**Mild to moderate n (%)**	**Severe n (%)**		
Residence					
Urban	101 (74.8)	31 (23.0)	3 (2.2)	0.04	0.97
Rural	181 (73.9)	58 (23.7)	6 (2.4)		
Education					
Up to secondary	226 (74.6)	70 (23.1)	7 (2.3)	0.34	0.84
Above secondary	52 (71.2)	19 (26.0)	2 (2.7)		
Type of family					
Nuclear	80 (69.0)	35 (30.2)	1 (0.9)	5.6	0.05*
Joint	202 (76.5)	54 (20.5)	8 (3.0)		
Gravida					
Primi gravid	148 (74.7)	46 (23.2)	4 (2.0)	0.23	0.89
Multigravida	134 (73.6)	43 (23.6)	5 (2.7)		
Abortion					
Yes	33 (68.8)	13 (27.1)	2 (4.2)	0.97	0.61
No	101 (75.4)	30 (22.4)	3 (2.2)		

**Significance level at p≤0.05*

(2.4%) of the respondents had severe anxiety during pregnancy.

Table 7 shows that there was no statistically significant association between level of stress and selected variables of the respondents, such as age group (p=0.13), residence (p=0.68), education (p=0.19), type of family (p=0.21), gravida (p=0.73), abortion (p=0.11), planned pregnancy (p=0.96), domestic violence (p=0.46), of the respondents.

Table 8 shows that there was no statistically significant association between level of anxiety and selected variables of the respondents, such as residence (p=0.97), education (p=0.84), type of family (p=0.05), gravida (p=0.89), abortion (p=0.61) of the respondents.

Table 9: Relationship between level of stress scores and anxiety scores of the respondents (n=380)

Variables	Correlation	P-value
Stress score and anxiety	0.605	0.001*

* *Significance level at p≤0.05*
Spearman correlation coefficient

Table 9 depicts that relationship between respondents' level of stress scores and level of anxiety scores of the respondents by Spearman's correlation coefficient. There was statistically significant of strongly positive correlation between stress and anxiety (r=0.605, p=0.001) among pregnant women. Findings shows that those pregnant mother presence of higher stress which reflect the higher anxiety among those mothers.

DISCUSSION

The study aimed to find out the assess stress and anxiety among pregnant women. In this study, one third of respondents (33.4%) have Eustress. It means "good stress" where stress enhance function, another one third (33.9%) had moderate level of stress and rest of the (32.6%) respondents had severe level of stress. This finding is contradictory to the study reported that (2.1%) respondents had mild stress, (1.4%) had moderate stress and (0.7%) had severe stress level of the pregnant women.[18] Another study conducted in China, in this study also contradictory findings to the study showed that (4.8%) had no stress, (87.9%) had mild level of stress, (7.3%) had moderate level of stress.[19]

In this study, about three fourth (74.2%) of respondents had minimal anxiety while 23.4% had mild to moderate level of anxiety whereas 2.4% had severe level of anxiety. This study is contrast to the study conducted in Kathmandu University School of Medical Sciences, Nepal in which (32.33 %) of the respondents had mild to moderate level of anxiety.[1]

Findings of the study present that there were no any statistically significant associated between level of stress of the pregnant women with age, residence, education, type of family, gravida, abortion, planned pregnancy and domestic violence. Similarly, there were no any statistically significant associated between level of anxiety of the pregnant women with residence, education, gravida and abortion. This result is similar to the study conducted in Nepal in which gravida, education and abortion has no statistically significant associated with level of anxiety.[1] Family support was statistically significant with level of anxiety during pregnancy (p=0.05).

Findings of the present study reported that there is positive relationship (r=0.605, p= 0.001) between stress and anxiety score regarding pregnancy among respondent. This finding is statistically significant. This indicates that the pregnant women who had higher stress score possessed the higher anxiety.

Based on the findings of the study, it is concluded that one third of the respondents were suffered from different levels of stress respectively very least of the respondents were suffered from anxiety. There is strong positive correlation was found between stress and anxiety score. So, there is a need to the routine screening, management, and health education regarding antenatal stress and anxiety in routine maternal care. The concerned authority should develop policies to measure effectiveness of the antenatal care package including psychological component. Family members as well as have compassionate and supportive caring actions during the pregnancy.

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