Original Article

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Perceived Stress and Coping Strategies among Pregnant Women at a Tertiary Hospital, Bharatpur

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ABSTRACT

Introduction: *Pregnancy is a transitional phase of women's life in which pregnant women experiences physiological, psychological and social changes causing varying forms and levels of stress in all trimesters and they need to adopt different coping strategies for managing the stress for better pregnancy outcome. Thus, this study assessed the perceived stress and coping strategies among pregnant women in their third trimester.*

Methods: *A cross-sectional research design was adopted. A total 345 pregnant women in their third trimester were included by using purposive sampling technique. Data was collected during August 7th 2022 to September 22nd 2022 at Bhartpur hospital. Pre-tested tool was used to collect the data for assessing perceived stress and Brief-COPE scale was used to measure coping strategies. Data was analyzed using descriptive statistics and inferential statistics specifically Chi square test and Fisher's exact test was used to find out the association between level of stress and selected variables. Further, spearman's rank correlation coefficient was used to find out the relationship between level of stress and coping strategies.*

Results: *One fifth (19.7%) of the respondents had high level of perceived stress during third trimester of pregnancy. Presence of perceived stress was highest on childbirth process dimension with median percentage (32.0%) followed by followed by stress of newborn baby's health status and care with median percent (25%) and Stress about postpartum health conditions and support (20%). Majority (65%) of the respondents had used emotional focused coping strategies for dealing with stress followed by problem focused coping strategies with median percent (62.5 %.*

The level of perceived stress of respondents was significantly associated with respondent's spouse educational status (p=.007) and gestational age (p=.024). Perceived stress and coping strategies had weak positive correlation (r =.111).

Conclusion: *One fifth of the pregnant women had high level of perceived stress. Level of perceived stress is highest in the childbirth process dimension and care of new born. Perceived stress is significantly associated with educational status of spouse. Regarding coping strategies, emotional focused coping strategies were more likely to be used for dealing with stress. There is weak positive relationship between perceived stress and coping strategies.*

Keywords: *Coping Strategies, Perceived Stress, Pregnancy, Women*

INTRODUCTION

Pregnancy is a transitional phase in which pregnant women experiences physiological, psychological, hormonal and social changes leading to stress.[1] Some form of stress is common among all pregnant women in all trimesters which is higher during third trimester.[(2)] Among different stressors, raises in the level of placenta mediated stress hormone may increase the stress level during pregnancy.[3] Specifically, physical discomfort during pregnancy and psychological

stress related to child birth process rises during the last trimester.[4] Literature had shown that stressed-out mothers were more likely to give preterm birth.[5] Significant level of stress was associated with number of stressful life events like negative parenting, postnatal depression.[6] Stress is also associated with the degree of satisfaction with antenatal care and services.[7]

The effective coping strategies may help pregnant women to cope with stressors during pregnancy.[8] Prevalence of stress during pregnancy in underdeveloped countries ranges from 6% to 52.9%, with a high degree of stress seen in the third trimester.[9, 10] In Nepal prevalence of stress during pregnancy in third trimester was 34.2%.[11] Regardless of the high prevalence of stress and its adverse effect on mother and child, there is still a dearth of information from underdeveloped nations like Nepal. So, this study finds out perceived stress and coping strategies among pregnant women.

METHODS

The descriptive cross-sectional research study design was used. The study was carried out at Bharatpur Hospital, Chitwan. The total 345 women of third trimester were included by using purposive sampling technique using the formula: $n = z^2 pq / d^2$ (Cochran, 1977) where p, prevalence (p=0.34). [11] The women with low-risk pregnancy were included.

Perceived stress in this study referred to the feelings that antenatal woman perceived regarding their pregnancy and outcome in the last one month. The stress level was measured by using self-developed instrument through extensive literature review which consisted of 32 items having five dimensions. The ratings for each item ranged from 0 (not at all) to 4 on a 5-point Likert scale. The antenatal perceived stress score was calculated as the sum of the scores for each item; greater values indicated the higher felt antenatal stress. The obtained content validity CVI of the instrument was 0.99**.** The perceived stress level was categorized as; Low stress: score from 0-64 ($\leq$ 50%score) and High stress: score from 65-128 ($>$ 50 % score).[13]

Here, coping strategies which referred to the efforts made by pregnant women to manage the stressful situation on problem focused, emotion -focused and dysfunctional coping strategies respectively was measured by BRIEF COPE Inventory developed by Craver (1997) having 28 items in three major domains such as religion, positive reframing, use of emotional support, acceptance, and humor are under emotion-focused coping strategies. [12] Likewise, use of instrumental support, active coping, and planning are under problem-focused coping strategies. Self-distraction, denial, venting, substance use, behavioral disengagement and self-blame are under dysfunctional coping strategies.[12] It was a 4-rating Likert scale with 4 options for each item (1-not doing at all to 4 -doing this a lot). The score of coping strategies was categorized as: Maladaptive coping: score from 28-56 and adaptive coping: score from 57-112.[13]

Ethical clearance was obtained from Institutional Review Committee (IRC) of Institute of Medicine, Maharajgunj Ref.14 (6-11) E2. Administrative permission to collect data was obtained from Bharatpur Hospital, Chitwan. The written informed consent was obtained from each respondent before data collection. Confidentiality of the information was maintained by not disclosing the information of the respondents with others and using the information only for the purpose of study.Dignity of the respondent's was maintained by giving right to reject or discontinue from the research study at any time. Privacy was maintained by interviewing respondents in separate room of the hospital. Data was collected by the researcher herself through in-person structured interview by using interview schedule in Nepali version. Data was collected from August to September 2022. Data was analyzed by using descriptive statistics (i.e frequency, percentage, median and inter quartile range) and inferential statistics (chi square test and Spearman's rank correlation coefficient).

RESULTS

Most of the respondents (88.7%) had planned pregnancy and (89.6 %) of them were in between 28-37weeks of gestation. Half of them (51%)

were multi gravida. Regarding smoking habit of pregnant women, only 0.6 % had smoking habit and all of them had regular smoking during pregnancy (table excluded)

Table 1 : Perceived Stress Score on Stress Dimension (n =345)

Variables	No. of items	Maximum possible score	Obtained score range	Median score	(Q1-Q3)	Median percent
Stress from alteration in physical appearance and function	5	20	0-19	3	(2,6)	15
Stress from management of resources	10	40	0-31	6	(2,15)	15
Stress from childbirth process	7	28	0-26	9	(5,14)	32
Stress from newborn baby's health status and care	5	20	0-17	5	(3,9)	25
Stress about postpartum health conditions and support	5	20	0-20	4	(2,8)	20
Total	32	128	1-102	28	(17,44)	21.87

Table 1 depicts that out of total respondents, median score of stress was 28 and median percentage of stress was (21.87%). Among five dimensions of stress, stress of childbirth process was high median percent (32 %) followed by stress of newborn baby's health status and care with mean percent (25%) and Stress about postpartum health conditions and support (20%).

Table 2 : Level of Perceived Stress among Respondents

Level of stress	Number	Percent
Low stress (≤ 50%)	277	80.3
High stress (> 50%)	68	19.7
Total	345	100.0

Maximum score: 128

Table 2 depicts that about one fifth (19.7 %) of the antenatal women had high level of perceived stress.

Table 3 : Association between Perceived Stress Level and Selected Variables (n=345)

Variables	Perceived Stress level No.(%)	No.(%)	χ^2 value	*p*-value
Age in completed years	**Low**	**High**		
≤ 26	156(82.1%)	34(17.9%)	0.881	.348
>26	121(78.1%)	34 (21.9%)		
Educational status				
Can read and write	261(81.3%)	60(18.7%)		.107f

Cannot read and write	16 (66.7%)	8(33.3%)		
Education Status of spouse				
Can read and write	266(81.8%)	59 (18.2%)		.007f
Cannot read and write	11(55.0%)	9(45.0%)		
Type of Family				
Joint	180(83.3%)	36 (16.7%)	3.381	.066
Nuclear	97 (75.2%)	32 (24.8%)		
Occupational status				
Non -employee	245(79.3%)	64 (20.7%)	1.878	.171
Employee	32 (88.9%)	4 (11.1%)		
Occupational status of spouse				
Employee	108(75.5%)	35 (24.5%)	3.661	.160
Non -employee	109(84.5%)	20 (15.5%)		
Foreign employment	60 (82.2%)	13 (17.8%)		
Type of Marriage				
Arrange marriage	167(81.1%)	39 (18.9%)	0.196	.658
Love marriage	110(79.1%)	29 (20.9%)		

Table 3 shows that there was significant association between educational status of respondent's spouse (p=.007) with respondent's level of perceived stress.

Table 4 : Association between Perceived Stress Level and Selected Obstetrical Variables (n=345)

Variables	Perceived stress level		χ^2 vale	p-value
	No.(%)	No.(%)		
Pregnancy type	**Low**	**High**		
Planned	250(81.7%)	56(18.3%)	3.398	.065
Unplanned	27 (69.2%)	12(30.8%)		
Gestational Age				
27-37 weeks	243(78.6%)	66(21.4%)	5.089	.024*
38-40 weeks	34(94.4%)	2 (5.6%)		
Gravida				
Primi gravida	142(84.0%)	27(16.0%)	2.918	.088
Multi gravida	135(76.7%)	41(23.3%)		

Note: **Chi square test: Significant ($p < 0.05$ at 95 % confidence level)*

There was significant association between gestational age of the respondents with perceived stress level (p=.024) (Table 4).

Table 5 : Respondents' Scores on Different Domain of Coping Strategies (n = 345)

Types of Coping Strategies	Possible Range	No of items	Max. possible score	Obtained Range	Median score	(Q1, Q3)	Median Percent
Problem Focused Coping	1-4	6	24	6-23	**15**	13,18	62.5
Emotional Focused Coping	1-4	10	40	12-36	**26**	23,29	65.0
Dysfunctional Coping	1-4	12	48	12-35	**21**	18,24	43.7
Total	1-4	28	112	31-87	62	56,68	55.35

Table 5 shows that emotional focused coping strategies were more likely to be used for dealing with stress (65%) followed by problem focused coping strategies with median percent (62.5 %).

Table 6 : Relationship between Perceived Stress and Coping Strategies (n = 345)

Coping	Stress Spearman's Rank Correlation	*p*-value
Problem focused Coping	0.107*	0.048
Emotion focused coping	0.005	0.926
Dysfunctional coping	0.184**	0.001
Overall coping	**0.111***	**0.039**

***Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)*

Table 6 depicts that there is a weak positive relationship between perceived stress and coping strategies among pregnant women (r=0.111).

DISCUSSION

The current study showed that the median percentage of perceived stress was (21.87%). Most (80.3 %) of respondents had low level of perceived stress. One fifth (19.7 %) of the respondents had high level of perceived stress. This findings was supported with the study conducted in Bale zone hospital, Southeast part of Ethiopia, in which study showed that among pregnant women the prevalence of perceived stress was (11.6%) and perceived stress among pregnant women was relatively low .[14] However, this finding was lower than the study's findings in a selected tertiary hospital of Udpi District, India in which more than two third of (33.1%) antenatal women had moderate or severe stress and majority of (66.9%) respondents had or mild stress.[10] The differences in the various studies might be due to differences in population under studied and the assessment tools used.

Among five dimensions, stress from childbirth process had greater median percentage (32 %). This result was consistent with the study conducted in Taiwanese pregnant women in which study revealed that among five dimensions of PSRS , maternal fetal attachment contributed to stress from seeking "safe passage for herself and her child through pregnancy, labor and delivery".[15]

The findings of this study showed that major coping strategies used by Pregnant women was emotion focused at median percentage (65.0%) followed by problem focused coping at median percentage (62.5%) and dysfunctional coping at median percentage (43.7%). This finding was supported with the study findings conducted at Health Centre in Mashhad which showed that most of pregnant women used positive spiritual strategies under emotion focused domain (mean

percentage 7.5±3.17) and planned preparedness strategies under problem focused domain (mean percentage 3.12±9.34).[16]

This study showed that there was no significant relationship of emotion focused (r=.005) coping strategies with perceived stress at 95% confidence interval while dysfunctional domain (r=.184) and problem-focused (r=.107) are significantly related with perceived stress. The study findings were consistent with the study conducted in Eastern part of Nepal in which study revealed that there was no significant relationship of emotion-focused (r=.05) coping strategies with stress at 95.0% confidence interval while dysfunctional domain (r=.131) and problem-focused (r=-.124) are significantly related with stress.[13] Likewise, study findings by Sarani et al showed planned readiness strategy and positive spiritual strategy had a significant inverse correlation with the perceived stress levels but the dysfunctional domain had a direct and significant relationship with perceived stress which is consistent with current study.[16] The findings of this study showed a positive relationship between perceived stress and coping strategies among antenatal women (r=.111) however, this findings was contradicting with the findings of study conducted at two teaching hospitals of Babol University of Medical Sciences, Iran in which study found that there was no significant relationship between ways of coping and pregnancy specific stress.[17]

The limitation of the study was that study was conducted among antenatal women in third trimester of pregnancy only at antenatal clinic of Bharatpur Hospital, (governmental hospital). The study site and sample were purposively selected. Hence, this limits the generalizability of the findings.

CONCLUSION

One fifth of the pregnant women had high level of perceived stress. Level of perceived stress is highest in the childbirth process dimension and care of newborn. Perceived stress is significantly associated with the educational status of the spouse. Regarding coping strategies, the majority of the respondents had used emotional focused coping strategies for dealing with stress followed by problem focused coping strategies. There is a weak positive relationship between perceived stress and coping strategies.

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