Stress and Coping Strategies among Postnatal Mothers

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ABSTRACT

Background: Maternal mental health problems are globally considered as a major public health challenge. Postnatal stress affects mothers and children's physical as well as mental wellbeing. The objective of the study is to assess stress and coping strategies of postnatal mothers.

Methods: A cross-sectional descriptive study design was carried out at Immunization clinic of Lumbini Provincial Hospital. Purposive sampling technique was used to collect data among 152 mothers. Data was collected through a structured interview questionnaire using Perceived stress scale and Brief Cope. Data analysis was done through descriptive and inferential statistics.

Results: Findings of the study revealed that 25.7% mothers had mild stress; 72.4% had moderate stress, and only 2% had severe stress. Regarding coping mechanism, mostly used coping strategies were problem focused coping strategies and 90.1% mother adopted adaptive coping. While there was statistically significant between stress and age (p=.016), residence (p=.022) and occupation (p=<.001). Likewise, there was statistically significant between coping and age (p=.003), residence (p=.045), occupation (p=.018), sex of the baby (p=.005) and living during postnatal periods (p=.023).

Conclusions: The majority of the postnatal mothers had some form of stress. However, most of the postnatal mothers managed their stress through adaptive and problem based coping strategies in their own ways. Thus, there was a prime need to pay attention for promotion of their coping strategies that definitely enhance the mental status of the postnatal mothers.

Keywords: Coping; postnatal mothers; stress.

INTRODUCTION

Postnatal is one of the most important stage in a woman's life.[1] Following major changes in delivery and the transition to parenthood, postnatal mothers undergoes major physical, social, and psychological changes.[2] The study conducted in India showed 63% of mothers with parents had mild stress, 33% had moderate stress, and only 4% had major stress. Many mothers have used problem-focused engagement as a strategy to deal with problems.[3] Prashanthi & Dorathydevakirubai [4] suggested that overall perceived stress was found to be mild among 48 (34.29%) postnatal mothers, a majority of 38% postnatal mothers exhibited good coping and many used emotion focused coping engagement to cope with stress.

A study in Dhanusa district in Nepal suggested that, prevalence of distress among postnatal mothers was 9.8%, factors that predicted distress were severe food insecurity, having a multiple birth, caesarean section, perinatal health problems, no schooling, fewer assets, five or more children, poor or no antenatal care, having never had a son, not staying in parental home in postnatal period, having a husband with no schooling and lower maternal age.[5] Mathew pointed out that postpartum depression is a

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cause of postnatal stress and is an incurable physical and mental illness but it is treatable and avoidable.[3] Most of the research conducted in Nepal focuses on postpartum depression where postpartum stress and their coping strategies seem neglected. Therefore, the researcher aims to assess stress and coping strategies among postnatal mothers attending Provincial hospital in Nepal.

METHODS

A descriptive cross-sectional design was adopted to conduct the study among 152 postnatal mothers attending Lumbini Provincial Hospital. The study population were postnatal mothers after delivery up to 6 months with live child attending Lumbini Provincial Hospital. Due to unavailability of sampling frame, all postnatal mothers till 6 months of delivery, who didn't have any birth complications were included in this study. Non probability purposive sampling technique was used for data collection from 10 February 2021 to 10 March 2021.

Based on objectives of the study, a structured interview schedule was prepared in order to assess stress and coping strategies among postnatal mothers. Perceived Stress scale and BRIEF Cope tool was used to measure stress and coping strategies. The structure interview schedule consists three parts:

Part I: Sociodemographic variables and obstetrics variables of respondents

Part II: Perceived stress scale. It was used to measure stress among postnatal mothers which was developed by Sheldon Cohen. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes several direct queries about current levels of experienced stress. PSS contains 10 items. The total score is 40.[6] Stress is categorized as: Low stress: Scores ranging from 0-13; Moderate stress: Scores ranging from 14-26 and Severe stress: Scores ranging from 27-40.[7]

Part III: It consists of items of Brief cope scale. It was used to measure coping adopted by postnatal mothers. This scale was developed by Charles C. Carver. The Brief-COPE is a 28 item self-report questionnaire designed to measure adaptive and maladaptive ways to cope with a stressful life event. Brief cope scores are obtained by reversing responses (e.g., 1 = 4, 2 = 3, 3 = 2 & 4 = 1) to the seven negatively stated items (items 3, 4, 8, 11, 13, 16 & 26) and then summing across all scale items. There are 14 subscales containing two items i.e. Self-distraction ; Active coping ; Denial; Substance use ; Emotional support ; Use of informational support; Behavioral disengagement; Venting; Positive reframing; Planning; Humor; Acceptance; Religion and Self-blame.[8] It contains three types of coping strategies are: Emotion focused- It contains 9 times; Problem focused – It contains 7 items; Avoidance/Dysfunctional- It contains 12 items.[9] According to Tripathi & Devkota,[10] total score of coping is 112 and level of coping strategies is categorized as: Adaptive coping: score ranging from 57-112; Maladaptive coping: score ranging from 28-56.

Perceived stress scale and Brief cope scale both are widely used and validated standard tool to measure stress and coping strategies. Both had been translated in Nepali was used in previous study in different setting and population was used in this study. The internal consistency of the PSS was acceptable (Cronbach's α = 0.70) [11] and Brief Cope scale was acceptable (Cronbach's α = 0.78).[12] Questionnaire was pretested in 10% sample size i.e 15 postnatal mothers in Tribhuvan University Teaching Hospital and internal consistency of the tool was tested with Cronbach's alpha coefficient in SPSS 16. Cronbach's alpha coefficient, for Likert scales was 0.71 for Perceived Stress Scale and 0.76 for Brief COPE Scale.

Ethical approval was taken from Institutional Review Committee of Tribhuvan University, Institute of Medicine (Ref no. 269/(6-11)E^2/077/078) on Feb 1,2021. All the respondents were informed briefly regarding the objectives of the study, time taken for the study and verbal and written consent was taken from the respondents before the study. Data was collected by researcher during their waiting period in Immunization Clinic by maintaining privacy. The respondents were given full authority to withdraw from the study at any time during the investigation without any fear or explanation. Face to face interview was conducted from 10 am to 3 pm on working days, average of 8-12 respondents were interviewed every day and took 20-25 minutes for each. To maintain privacy, interview space was covered with screen inside immunization room. Confidentiality was maintained by using code number for all the questionnaires and by assuring the respondents that the collected information was used for the study purpose only.

Data was entered into the software EPI-DATA 3.1 and export to SPSS- 16 version for data analysis. Data analysis was done through descriptive and inferential statistics. Descriptive analysis was used to assess the level of stress, types of coping and level of coping. Correlation was used to determine relationship between stress and coping strategies. Chi-square test was used to find the

association between stress and coping strategies with selected variables of postnatal mothers. The p value below 0.05 was considered to be statistically significant at 95% CI.

RESULTS

The mean age of the respondents was 26.43±5.021 years. Regarding residence, 85.5 percent were from urban area while 14.5 percent were from rural area. The mean duration of marriage was 5.26±4.627 yeras, 65.7 percent were graduate among who can read and write and 55.3 percent were homemaker. Out of total, 59.9 percent were primigravida. Majority (75.7%) of respondents had wanted pregnancy. Whereas, 69.7 percent of respondents does not had sex preference of baby. Majority of baby were male (52.6%) and female (47.4%). Regarding mode of delivery, 54.6 percent of the respondents had normal delivery, 43.3 percent had caesarean section and two percent has instrumental delivery. Majority (40.8%) of the respondents were living with their parents during postpartum period.

Table 1. Level of Stress of the Respondents.

		95% Confidence Interval	
Stress level	**Number(%)**	**Lower**	**Upper**
Mild stress (0-13)	39(25.7)	19.7	32.3
Moderate stress (14-26)	110(72.4)	66.3	78.4
Severe stress (27-40)	3(2)	0	4.6

Table 1 shows that majority (72.4%) of the respondents had moderate stress, 25.7 percent had mild stress and 2 percent had severe stress.

Table 2. Respondents response regarding subscale of Brief Cope.

Subscale	**Mean(SD)**
Acceptance	7.41(.87)
Emotional Support	7.01(1.59)
Instrumental support	6.97(1.65)
Planning	6.67(1.42)
Positive reframing	6.53(1.71)
Self-distraction	5.94(1.83)
Active coping	5.80(1.60)
Religion	5.75(1.76)
Venting	5.45(1.87)
Self-blame	5.15(1.69)
Behavioral disengagement	4.89(1.03)
Denial	4.50(2.13)
Humor	2.28(.85)
Substance use	2.20(.73)

Table 2 reveals the mean and standard deviation of each subscale of brief cope scale. It was found that the mean and standard deviation of the mostly frequently used coping subscale was acceptance with a mean score (7.41 ± 0.87) followed by emotional support (7.01 ± 1.59) and Instrumental support (6.97 ± 1.65).

Table 3. Coping strategies of Respondents.

Coping strategies	**Total mean**	**Obtained Mean(SD)**
Avoidance/Dysfunctional	30	28.15(5.24)
Emotion focused	22.5	25.46(2.86)
Problem focused	17.5	22.99(3.17)

Table 3 shows that respondents used more problem focused (22.99±3.17) following emotion focused (25.46±2.86) and avoidance or dysfunctional coping strategies (28.15± 5.24).

Table 4. Level of Coping Strategies of Respondents.

		95% confidence interval	
Level of Coping	**Number(%)**	**Lower**	**Upper**
Maladaptive(28-56)	15(9.9)	5.3	14.6
Adaptive(57-112)	137(90.1)	85.4	94.7

Maximum score: 112

Table 4 represents the level of coping strategies in which 90.1 percent of the respondents had adaptive coping strategies.

Table 5. Relationship between stress and coping strategies of Respondents.

Coping	**Stress**	
	Spearman's Rank Correlation	***p*-value**
Emotion focused coping	-.079	.336
Problem focused coping	.137	.093
Avoidance/Dysfunctional coping	.173	.033*
Total score	.130	.110

Table 5 reveals that there was no relationship between total score of stress and total score of coping strategies (r=.130, p=.110). There is positive relationship between

total score of stress and avoidance /dysfunctional coping strategies (r=.173, p=.033).

Table 6. Association between Level of Stress and Socio demographic variables.

Variables	Stress Level		Total	*x2*	*p*-value
	Mild $N_{0.}$(%)	Moderate to severe $N_{0.}$(%)			
Age in Completed years					
≤26	16(18.2)	72(81.8)	88	6.124	**.013***
>26	23(35.9)	41(64.1)	64		
Residence					
Urban	29(22.3)	101(77.7)	130	5.285	**.022***
Rural	10(45.5)	12(54.3)	22		
Duration of marriage					
≤5 years	24(22.6)	82(77.4)	82	1.671	.196
>5years	15(32.6)	31(67.4)	31		
Educational Status					
Unable to read and write	1(16.7)	5(83.3)	6		1.00#
Able to read and write	38(26)	108(74)	146		
Occupation					
Unpaid working	35(35)	65(65)	100	13.374	**<.001***
Paid working	4(7.7)	48(92.3)	52		
Gravida					
Primigravida	22(24.2)	69(75.8)	91	.261	.609
Multigravida	17(27.9)	44(72.1)	61		
Choice of pregnancy					
Yes	27(23.5)	88(76.5)	115	1.177	.278
No	12(32.4)	25(67.6)	37		
Sex preference for child					
Yes	14(30.4)	32(69.6)	46	.789	.374
No	25(23.6)	81(76.4)	106		
Sex of baby					
Male	22(27.5)	58(72.5)	80	.300	.584
Female	17(23.6)	55(76.4)	72		
Miscarriage					
0	29(24.2)	91(75.8)	120	.665	.415
1 or more	10(31.3)	22(68.8)	32		
Mode of delivery					
Normal Delivery	24(28.9)	59(71.1)	83	1.017	.313
CS/Instrumental	15(21.7)	54(78.3)	69		
Living during postnatal period					
With parents	13(21)	49(79)	62	1.208	.272
Without parents	26(28.9)	64(71.1)	90		

*x2: Pearson's Chi-square Test, *p-value statistically significant at <.05, #: Fisher's Exact Test*

Table 6 depicts that there was statistically significant association between stress with age (*p* =.016)., residence (*p* =.022) and occupation (*p* =<.001)

Table 7. Association between Coping strategies and Socio demographic variables.

Variables	Coping strategies		Total	*x2*	*p*-value
	Maladaptive $N_{0.}$ (%)	Moderate to severe $N_{0.}$ (%)			
Age in Completed years					
≤26	14(15.9)	74(84.1)	74	8.574	**.003***
> 26	1(1.6%)	63(98.4)	63		
Residence					
Urban	10(7.7)	120(92.3)	130		**.045#***
Rural	5(22.7)	17(77.3)	22		
Duration of marriage					
≤5 years	12(11.3)	94(88.7)	118		.555#
>5 years	3(6.5)	43(93.5)	34		
Educational Status					
Unable to read and write	1(16.7)	5(83.3)	6		.470#
Able to read and write	14(9.6)	132(90.4)	146		
Occupation					
Unpaid working	1(1.9)	51(98.1)	52	5.610	**.018***
Paid working	14(14)	86(86)	100		
Gravida					
Primigravida	11(12.1)	80(87.9)	91	1.256	.262
Multigravida	4(6.6)	57(93.4)	61		
Choice of pregnancy					
Yes	10(8.7)	105(91.3)	115		.363#
No	5(13.5)	32(86.5)	37		
Sex preference for child					
Yes	5(10.9)	41(89.1)	46		.773#
No	10(9.4)	96(90.6)	106		
Sex of baby					
Male	13(16.3)	67(83.8)	80	7.733	**.005***
Female	2(2.8)	70(97.2)	70		
Miscarriage					
0	14(11.7)	106(88.3)	120		.196#
1 or more	1(3.1)	31(96.9)	32		
Mode of delivery					
Normal Delivery	10(12)	73(88)	83	.977	.323
CS/Instrumental	5(7.2)	64(92.8)	69		
Living during postnatal period					
With parents	2(3.2)	60(96.8)	62	5.195	**.023***
Without parents	13(14.4)	77(85.6)	90		

x2: *Pearson's Chi-square Test, *p-value statistically significant at <0.05, #: Fisher's Exact Test*

Table 7 shows that there was statistical significant association between coping and age (*p* =.003), residence (*p* =.045#), occupation (*p* =.018), sex of baby (*p* =.005) and living during postpartum period (*p* =.023).

DISCUSSION

Regarding stress, out of total 152 women, 39(25.7%) had mild stress, 110(72.4%) had moderate symptoms and 3(2%) had severe symptoms. One hundred thirteen (74.2%) were diagnosed with stress using PSS score >14 in the study. These findings are in line with the other studies [7,13] Whereas it is inconsistent with the findings of the study conducted in Chennai, India.[14] The difference may be due to women experience stress in different way in different country.

Regarding coping, the most frequently used coping subscale was acceptance 7.41 ± 0.87. Likewise, it is supported by the study conducted in spain and Croatia.[15,16] However, the mostly used coping strategies was problem focused coping strategies (22.99±3.17). This finding is similar to study of AIIMS, India.[17] Likewise it is contradicted to the other studies.[9,18] The study showed that almost all of the mothers had adaptive coping 137(90.1%) and 15(9.9%) had maladaptive coping. Similar findings were noted in study conducted in India.[4]

Further, this study showed that there was no relationship between total score of stress and total score of coping (r=.130, p=.110). There is a positive correlation between total score of stress and total score of dysfunctional/ avoidance coping strategies (r=.173, p=.033) i.e dysfunctional/avoidance coping increase with increase in severity of stress. This finding is contradicted to the study conducted in India.[4]

The present revealed that there were significant associations between stress and age (p=.016), residence (p=.022) and occupation (p=<.001). While there was insignificant association between stress with education, duration of marriage, family income, gravida, parity, wanted pregnancy, sex preference, sex of baby, miscarriage, mode of delivery and living during postpartum period of respondents. The possible reason might be due to study conducted had homogeneous population i.e majority of respondents were with the range of age from 20-30 years. Similarly, study in India showed association between stress and age of the respondents (p=.007).[17] This findings vary with the study of India which showed insignificant association between age (p=.212), residence (p=.255) and occupation (p=.770).[4]

In the present study, result showed significant association between coping and age, residence, occupation, sex of the baby and living during postpartum. The finding of the study is similar to study conducted in India showed significant association between coping and occupation (p=.01).[19] The study shows insignificant association between coping and duration of marriage, education status, family income, gravid, parity, wanted pregnancy, sex preference, sex of baby, miscarriage, mode of delivery. This finding is supported by study conducted in India showed insignificant association between education, occupation, family income, gravid, parity, miscarriage, mode of delivery.[4] This may be due to postnatal mothers of different cultures and groups can adopt different sets of coping strategies.

In this descriptive cross-sectional study conducted at a single site, several limitations must be acknowledged. Firstly, the sample size was relatively small, which may affect the statistical power of the findings and limit the ability to detect smaller effect sizes. Additionally, conducting the study at a single site restricts the generalizability of the results to other settings or populations, particularly those with different demographic or socio-economic characteristics. The cross-sectional design of the study inherently limits the ability to establish causal relationships or examine changes over time. The data represents a single point in time, providing a snapshot that may not capture temporal variations in the variables of interest. Lastly, the specific context and characteristics of the study site mean that the results should be interpreted with caution when considering other populations or settings.

The implication is the study findings will help maternal health service providers and mothers for better recognition of different factors contributing stress during postpartum period and to conduct awareness and health promotion programs regarding maternal mental health. Study has showed a clear indication that priority should be given to maternal mental health counselling to mitigate the severity of postnatal stress among mothers. The findings of the study may also add information for further research in this area.

CONCLUSIONS

This study concluded that majority of the postnatal mothers who attended Lumbini Provincial Hospital had moderate stress and almost all postnatal mothers used adaptive coping strategies. The most accepted coping sub scale and coping strategies was acceptance and problem based coping strategies respectively. There is no relationship between total score of stress and total score of coping strategies. There is positive relationship between total score of stress and avoidance /dysfunctional coping strategies which revealed that avoidance /dysfunctional coping increase with increase in severity of stress.

Stress is significantly associated with age, residence and occupation. Coping strategies is significantly associated with age, residence, occupation, sex of baby and living during postnatal.

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CONFLICT OF INTEREST

There are no conflicts of interest.

REFERENCES

1. Bener A, Gerber LM, Sheikh J. Prevalence of psychiatric disorders and associated risk factors in women during their postpartum period: A major public health problem and global comparison. International Journal of Women's Health. 2012;4(1):191–200.doi: https://doi.org/10.2147/IJWH.S29380

2. Bahadoran P, Mohseni M AH. Mothers' experience of postpartum period:a phenomelogical study. Iranian Journal Of Nursing And Midwifery Research. 2008;13(3):110–5.[Download PDF]

3. Mathew RM, Anju Philip T, Sreejamol MG. Perceived postpartum stress and coping strategies among postnatal mothers at aims, Kochi. Asian Journal of Pharmaceutical and Clinical Research. 2017;10(12):116–9.doi: https://doi.org/10.22159/ajpcr.2017.v10i12.21257

4. Prashanthi S, Dorathydevakirubai T. A Study to Assess the Perceived Stress and Coping Strategies of Postnatal Mothers. IOSR Journal of Nursing and Health Science. 2020;9(3):15–26.[Donload PDF]

5. Clarke K, Saville N, Shrestha B, Costello A, King M, Manandhar D, et al. Predictors of psychological distress among postnatal mothers in rural Nepal: A cross-sectional community-based study. J Affect Disord [Internet]. 2014;156:76–86. doi: https://doi.org/10.1016/j.jad.2013.11.018

6. S Cohen, T Kamarck RM. A global measure of perceived stress. J Health Soc Behav. 1983;24(4):385–96.doi: https://doi.org/10.2307/2136404

7. Friedrich VR, Guerreiro MPP, Benetti ER. Evaluation of Pain, Stress and Coping in Puerperal Women After Cesarean Section. Rev Fund Care Online. 2019;11(2):270.doi: https://doi.org/10.9789/2175-5361.2019.v11i2.270-277

8. Carver CS. You want to measure coping but your protocol's too long: Consider the brief COPE. International Journal of Behavioral Medicine. 1997;4(1):92–100.doi: https://doi.org/10.1207/s15327558ijbm0401_6

9. Azale T, Fekadu A, Medhin G, Hanlon C. Coping strategies of women with postpartum depression symptoms in rural Ethiopia: A cross-sectional community study. BMC Psychiatry. 2018;18(1):1–13. doi: https://doi.org/10.1186/s12888-018-1624-z

10. Tripathi P, Devkota G. Stress and Coping Strategies among Pregnant Women attending Antenatal Clinic of a Teaching Hospital in eastern Nepal. Nep J Obstet Gynecol [Internet]. 2020 Nov 15 [cited 2021 Feb 9];15(31):28–33. doi: https://doi.org/10.3126/njog.v15i2.32899

11. Aihara Y, Shrestha S, Kazama F, Nishida K. Validation of household water insecurity scale in urban Nepal. Water Policy. 2015 Dec 1;17(6):1019–32.doi: https://doi.org/10.2166/wp.2015.116

12. Tripathi P, Devkota G. Stress and Coping Strategies among Pregnant Women attending Antenatal Clinic of a Teaching Hospital in eastern Nepal. Nep J Obstet Gynecol. 2020 Nov 15;15(31):28–33.doi: https://doi.org/10.3126/njog.v15i2.32899

13. Shenoy HT , Remash k SS. Screening for perceived stress among pregnant women availing antenatal care at a tertiary care teaching institution in Kerala, India. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2020;9(8):3279.doi: https://doi.org/10.18203/2320-1770.ijrcog20203309

14. Selvaraj K, Jayaseelan J, Kalabarathi S, Jagadeeswari J GM. Assess the perceived stress among postnatal mothers at a selected Hospital , Chennai . International Journal of Advanced and Innovative Research. 2018;7(7).

15. Gutiérrez-Zotes A, Labad J, Martín-Santos R, García-Esteve L, Gelabert E, Jover M, et al. Coping strategies for postpartum depression: a multi-centric

study of 1626 women. Archives of Women's Mental Health. 2016 Jun 1;19(3):455-61.doi: https://doi.org/10.1007/s00737-015-0581-5

16. Rados SN, Sawyer A, Ayers S, Burn E. Coping styles associated with post-traumatic stress and depression symptoms following childbirth in croatian women. Psihologijske Teme. 2018;27(3):543-59.doi: https://doi.org/10.31820/pt.27.3.10

17. Mathew RM, Anju Philip T, Sreejamol MG. Perceived postpartum stress and coping strategies among postnatal mothers at aims, Kochi. Asian Journal of Pharmaceutical and Clinical Research. 2017;10(12):116-9.doi: https://doi.org/10.22159/ajpcr.2017.v10i12.21257

18. Khuzaimah SA. Depression and Coping Strategies Used by Postnatal Mothers During the Postpartum Period. MJP Online Early ORIGINAL. 2014;(December 2014).[Article]

19. Nayak S, Shey PK. A Study on Challenges Faced by Mothers and the Coping Strategies Adopted by Them During the Postpartum Period. International Journal of Nursing Education. 2015;7(4):160.doi: https://doi.org/10.5958/0974-9357.2015.00211.1