Prevalence and associated factors of postpartum depression among women in putalibajar municipality.

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Abstract

Background

Postpartum depression (PPD) is the onset of a non-psychotic mood or mental disorder, which usually occurs among mothers, and it can persist for weeks or months after delivery. Although PPD has been widely studied globally, there is limited research in Nepal despite its significant impact on maternal health and child development. This study aims to identify the prevalence and factors associated with postpartum depression among women in Putalibajar municipality, Nepal.

Methods

A community-based cross-sectional study was conducted in between October 2019 to March 2020 among 263 married women of the extended postpartum period in Putalibajar municipality, Gandaki Province, Nepal. Data were collected by face-to-face interviews via an interview schedule. The Edinburgh Postnatal Depression Scale (EPDS) was used to measure postpartum depression. Chi-square test was performed to assess the association between PPD and independent variables, and regression was used to assess the strength of association.

Results

The prevalence of postpartum depression was 10.6%. Women whose husbands consumed alcohol (AOR=5.582; CI 95%:1.514-20.581) and women who faced intimate partner violence during pregnancy (AOR=9.134; CI 95%:2.709-30.792) were more likely to develop postpartum depression.

Conclusion

One out of ten women reported having postpartum depression. Husband's alcohol consumption and intimate partner violence during pregnancy were associated with postpartum depression.

Keywords

Edinburgh Postnatal Depression Scale, Nepal, postpartum depression.

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INTRODUCTION

Postpartum depression (PPD) is the onset of a non-psychotic mood or mental disorder, which usually occurs among mothers. It might begin from days or even months after delivery, and if untreated, it can persist for weeks or months[1]. It is estimated that the prevalence of postpartum depression ranges up to 60% globally. In developing countries, the prevalence of PPD is approximately, 31.7% [3], while in Nepal PPD ranges from 4.9% to 30% [4, 5].

Women who suffer from postpartum depression manifest symptoms like feeling unworthy, low self-esteem, sleeping and eating disorders, sadness, anxiety, and having negative thoughts[6]. Postpartum depression has a huge effect on the physical and mental health of the mother as well as on the growth and development of her child[7, 8].

Postpartum depression (PPD) has been extensively researched worldwide, but there is still little research on the topic in Nepal. "According to the World Health Organization, maternal depression is highly common in low- and middle-income nations and has a substantial detrimental impact on children's growth and development. Maternal depression is still not well understood and treated, which makes it imperative that more research be done in this field. [22]

Therefore, this study aims to identify the prevalence and factors associated with postpartum depression among women in Putalibajar municipality, Nepal.

METHODOLOGY

A cross-sectional study was conducted among 263 women in Putalibajar municipality, Syangja district, Nepal from October 2019 to March 2020. For this study, married women who gave birth in the last 12 months in Putalibajar Municipality were included, and mothers who refused to participate, who were temporary residents, who had no contact with their husband during the period of pregnancy, who could not answer, and who did not understand the Nepali language. Multi-stage random sampling technique was followed to select individual study participants. Face-to-face interview was conducted, and a pretested interview schedule was used to gather information.

Independent variable included socio-demographic characteristics of the study participants (Age, family type, ethnicity, religion, education, and involvement in income-generating activity). Husband's characteristics (Husband's age, education, involvement in income-generating activity, polygamy, alcohol, tobacco consumption, gambling, and intimate partner violence during pregnancy). Obstetric and reproductive health characteristics (Age at marriage, type of marriage, duration of marriage, gravida, presence of abortion/miscarriage, family support during pregnancy). Intimate Partner Violence (IPV) was measured through a structured questionnaire based on the instrument of the WHO multi-country study[9]. Postpartum depression was measured with the help of Edinburgh Postnatal Depression Scale (EPDS), which consists of 10 questions with a maximum score 30, where an EPDS score of 13 or more was recognized as depressed[10]. The EPDS scale was validated in the Nepali language with a Cronbach's alpha value of 0.74, sensitivity of 92% and specificity of 95.6%.[11] EPI-DATA was used for data entry and SPSS was used for data analysis. Descriptive statistics (like mean, range, frequencies, and percentages) was used to describe the study population. Chi-square tests was used to find out the association between PPD and independent variables and variables significant in the Chi-square test were further analyzed by using binary logistic regression to assess the strength of association.

The study was given ethical approval by Institutional Review Committee (IRC), Pokhara University. The participants were fully informed about the nature and benefits of the research and full informed consent was taken. Onsite counseling for depression was done and if the woman needed help, contact was made with support institutions after the woman's consent have been obtained.

RESULTS

The mean age of the participants was 27 years (S.D±4.9), which ranged from 17 to 44 years. About two-third of the participants 190(72.2 %) were not involved in any income generating activity (Table 1)

The mean age of the participants' husbands was 30 years (S.D±5.4), which ranged from 19 to 51 years. Almost all participants' husbands were involved in any type of income-generating activity 246, 93.5%). (Table 2)

The age at marriage of the respondents ranged from 15 to 35 years, with the mean age of 19.9 years (S.D ±2.9). Nearly half of the respondents were first time pregnant, 118(44.9%), 16% reported having an abortion or miscarriage. (Table 3)

Table 1 Socio-demographic characteristics of participants

Variable	Frequency (n)	Percent (%)
Women's Age		
15-24	92	35
25-34	146	55.5
≥35	25	9.5
Family Type		
Nuclear	125	47.5
Joint	115	43.7
Extended	23	8.7
Religion		
Hinduism	228	86.7
Buddhism	8	3.0
Muslim	25	9.5
Christianity	2	0.8
Ethnicity		
Upper caste group	117	44.5
Relatively advantaged Janajati	48	18.3
Disadvantaged Janajati	23	8.7
Religious Minorities	25	9.5
Dalit	50	19.0
Women's Education		
No formal education	7	2.7
Primary	17	6.5
Secondary	105	39.9
Higher Secondary	93	35.4
Bachelor and above	41	15.6
Involved in income generating activity		
Involved	73	27.8
Not involved	190	72.2

Table 2 Husband's characteristics

Variable	Frequency (n)	Percent (%)
Husband's Age		
≤24	25	9.5
25-34	168	63.9
≥35	70	26.6
Husbands Education		
No formal education	2	0.8
Primary	6	2.3
Secondary	132	50.2
Higher Secondary	70	26.6
Bachelor and above	53	20.2
Husband's involvement in income generating activity		
Involved	246	93.5
Not involved	17	6.5
Presence of Polygamy		
Yes	12	4.6
No	251	95.4
Husbands alcohol consumption		
Yes	117	44.5
No	146	55.5
Husband's tobacco consumption		
Yes	59	22.4
No	204	77.6
Presence of gambling		
Yes	61	23.2
No	202	76.8
Intimate partner violence during pregnancy		
Yes	79	30
No	184	70

Table 3 Obstetric and reproductive characteristics of participants

Variable	Frequency (n)	Percent (%)
Women's age at marriage		
≤19	129	47.9
≥20	137	52.1
Type of marriage		
Love marriage	95	36.1
Arrange marriage	168	63.9
Duration of marriage		
≤4	102	38.8
5-9	93	35.4
10≥	68	25.9
Gravida		
Primigravida	118	44.9
Multigravida	145	55.1
Presence of abortion/miscarriage		
Yes	42	16
No	221	84
Family support during Pregnancy		
Daily	75	28.5
Usually	78	29.7
Sometimes	84	31.9
Rarely	17	6.5
Never	9	3.4

Prevalence of postpartum depression

Out of 263 respondents, 28 (10.6%) were found to be suffering from postpartum depression by the EPDS cutoff point of ≥13, while 16 (6.1%) had suicidal thoughts. The mean EPDS score was 4.87 (S.D ± 5.24) with a minimum of 0 to a maximum 30, respectively.

Association between study variables and postpartum depression

Postpartum depression was significantly associated with participants' ethnicity; the main occupation of the family, women's involvement in income-generating activity, husband's educational status, and husband's working status, polygamy, husband's alcohol and tobacco consumption, presence of gambling, and intimate partner violence during pregnancy.

Table 4 Association between study variables and postpartum depression

Variable	Postpartum Depression		Total	p-value	UOR(95%CI)	AOR(95%CI)
	Yes (%)	No (%)				
Ethnicity						
Upper caste group	7(6.0%)	110(94.0%)	117	0.020*	1	1
Janajati	7(9.9%)	64(90.1%)	71		1.719(0.577-5.122)	3.335(0.743-14.977)
Dalit /Religious Minorities	14(18.7%)	61(81.3%)	75		3.607 (1.381-9.417)	3.659(0.924-14.480)
Main occupation of family						
Agriculture/Daily wage laborer	9(14.8%)	52(85.2%)	61	0.002**	1	1
Job	6(4.4%)	130(95.6%)	136		0.267(0.090-0.787)	0.261(0.044-1.532)
Business	13(19.7%)	53(80.3%)	66		1.417(0.558-3.599)	0.853(0.109-6.695)
Women's involvement in income generating activity						
Involved	13(17.8%)	60(82.2%)	73	0.020*	2.528(1.138-5.617)	2.714(0.860-8.567)
Not involved	15(7.9%)	175(92.1%)	190		1	1
Husband's education						
<10years of schooling	12(21.1%)	45(78.9%)	57	0.004**	3.133(1.385-7.087)	2.514(0.791-7.990)
>10 years of schooling	16(7.8%)	188(92.2%)	204		1	1

Husband's working status(n=246)						
Job	8(6.0%)	126(94.0%)	134	0.017*	1	1
Business	13(18.8%)	56(81.2%)	69		3.656(1.435-9.316)	0.934(0.194-4.496)
Daily wage laborer	6(14.0%)	37(86.0%)	43		2.554(0.833-7.829)	0.419(0.070-2.504)
Polygamy #						
Yes	4(33.3%)	8(66.7%)	12	0.033*	4.729(1.326-16.871)	6.688(0.921-4.496)
No	24(9.6%)	227(90.4%)	251		1	1
Husband's alcohol consumption						
Yes	23(19.7%)	94(80.3%)	117	<0.001***	6.900(2.534-18.788)	5.582(1.514-20.581)
No	5(3.4%)	141(96.6%)	146		1	1
Husband's tobacco consumption						
Yes	13(22.0%)	46(78.0%)	59	0.001**	3.561(1.585-8.001)	1.104(0.351-3.476)
No	15(7.4%)	189(92.6%)	204		1	1
Presence of gambling						
Yes	11(18.0%)	50(82.0%)	61	0.033*	2.394(1.054-5.437)	0.776(0.234-2.572)
No	17(8.4%)	185(91.6%)	202		1	1
Family support						
Daily	7(9.3%)	68(90.7%)	75	0.018*	1	1
Sometimes	14(8.6%)	148(91.4%)	162		0.919(0.355-2.380)	0.328(0.089-1.216)
Rarely/ Never	7(29.6%)	19(73.1%)	26		3.579(1.117-11.469)	1.392(0.275-7.052)
Intimate partner violence during pregnancy						
Yes	22(27.8%)	57(72.2%)	184	<0.001***	11.450(4.425-29.628)	9.134(2.709-30.792)
No	6(3.3%)	178(96.7%)	79		1	1

Adjusting for ethnicity; main occupation of the family, women's involvement in income generating activity, husband's educational status, husband working status, polygamy, husband's alcohol and tobacco consumption, presence of gambling, intimate partner violence during pregnancy.

Variables, which were statistically significant at bivariate analysis, were further analyzed in multivariate analysis. After adjusting for potential confounders, husband's alcohol consumption and intimate partner violence during pregnancy were associated with postpartum depression. Women whose husbands consumed alcohol were at five times more likely to develop postpartum depression (AOR=5.582; CI 95%:1.514-20.581) than women whose husband did not consumed alcohol. Similarly, women who faced intimate partner violence during pregnancy were nine times more likely to develop postpartum depression (AOR=9.134; CI 95%:2.709-30.792) than women did not face intimate partner violence during pregnancy. (Table 4)

DISCUSSION

This study reports a 10.6% point prevalence of Postpartum Depression out of 263 women. Despite being lower than earlier studies where the prevalence was reported to be 12% in Kathmandu [12], 12.7% among Rajbansi women in Nepal [13], 30% in a study conducted in Kathmandu, Nepal in 20155, 33.2% in Saudi[14], 20.9% in Ethiopia[15], 39.4% in Bangladesh[16], it remains higher than studies conducted in Lalitpur, Nepal (4.9%)[4], Canada(7.5%)[17]. Variation of the result might be due to the difference in the length of the postpartum as well as the research setting.

This study is significant because it adds context-specific evidence to a population with scant data, and findings emphasize the significance of relational and household factors, which are frequently overlooked in Nepalese maternal mental health studies. It highlights the need for maternal mental health interventions that go beyond individual and biological risk. In addition to assessing point prevalence, the study identifies intimate partner violence and the husband's alcohol use as important predictors of PPD. These relational and cultural aspects are generally overlooked in research on maternal mental health, but they are especially important in South Asian communities, where IPV is underreported[23].

PPD was five times more common in women whose husbands drank alcohol. This might increase the chances of IPV, financial strain, marital conflict, neglect of family responsibilities, and reduced emotional support, thus leading to postpartum depression. This finding is consistent with the study conducted in Lalitpur, Nepal[18] where a cross-sectional survey of 426 postnatal women assessed 5–10 weeks after delivery reported that husband's alcoholism was strongly associated with PPD when measured with the Edinburgh Postnatal Depression Scale (EPDS >12). Similarly, in Dhanusha, Nepal[13], a descriptive research conducted among 375 Rajbansi mothers showed a substantial correlation between maternal mental stress and postpartum depression and the husband's usage of alcohol

and tobacco. Despite the different settings—community and hospital-based in Lalitpur and rural Rajbansi communities in Dhanusha—these studies consistently found that a husband's alcohol use was a significant risk factor for depression symptoms using validated instruments and structured interviews. The argument that hazardous alcohol use among men is a significant cultural and family factor of PPD in Nepal is strengthened by the congruence of our findings with these Nepali studies.

Similarly, PPD was nine times more common in women who were subjected to intimate partner violence while pregnant. This might be because the violence induces behavioral and psychological impact on mothers, including chronic stress, loss of self-esteem and autonomy, social isolation due to stigma, financial strain, and disruption of mother–infant bonding leading to depression. This finding is similar to the study conducted in Ethiopia[19], Canada[17], Bangladesh[16], and Hawaii[20]. However, contradictory to our finding, a study conducted in Kathmandu, Nepal, showed that there was no association between these two variables.[21] The variation might be attributed to the difference in the study area.

Variables like ethnicity, women's involvement in income-generating activity, husband's education, polygamy, and family support did not show association in multivariate analysis, but they were associated in bivariate analysis and need to be taken into account.

Prenatal and postnatal screening and counseling services for depression should be designed and implemented, focusing on high-risk mothers. Moreover, identification and management of intimate partner violence and discouraging alcoholism are needed.

This study is enhanced by its random sample, community-based design, and utilization of validated instruments like the WHO IPV questionnaire and Nepali EPDS. It used multivariate analysis and took into account a variety of maternal, obstetric, and household characteristics. Similarly, informed consent was taken from participants.

Similarly, limitations include the cross-sectional design, the use of self-reported sensitive data that is subject to recall or reporting bias, the study's limitation to a single municipality, and the failure to address other variables, like alcohol consumption among women, which might be contributing factors for PPD. Furthermore, only point prevalence was obtained because PPD was evaluated at a single time point.

CONCLUSION

One out of ten women reported having postpartum depression. Husband's alcohol consumption and intimate partner violence during pregnancy were associated with postpartum depression.

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