PREDICTORS OF POSTPARTUM DEPRESSION AMONG PAKISTANI WOMEN DELIVERING IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Postpartum depression affects at least 10% to 13% of all mothers. It is a major health issue with negative health consequences.

Objective: To determine the frequency of postpartum depression (PPD) among recently delivered women and factors associated with this condition.

Study Design: Cross sectional study

Settings: Postnatal ward and outpatient postnatal follow up clinic of Maternal and Child Health Center, PIMS, Islamabad.

Study Duration: 1st May to 20th July, 2009.

Methodology: During the study period, recently delivered women were interviewed using a specially designed questionnaire. The Edinburgh Postnatal Depression Scale (EPDS) was used for evaluation of postpartum depression. Based on EPDS score of =12, the frequency of postpartum depression was ascertained. Chi square test was used to determine the relative significance of various risk factors for postpartum depression.

Results: A total of 108 women were interviewed. The frequency of postpartum depression was 29.6 %(n =32).Postpartum depression was more frequent among women with older age at delivery (p=0.03), history of depressive illness (p=0.005) and intrapartum complications (p =0.001) and was least among exclusive breastfeeding mothers. A significant association was found between health status of the newborn (p =0.00) and PPD. There was no significant

association with education and employment status, parity, previous alive issues, mode of delivery, time since delivery and newborn's gender.

Conclusion: One in three women reported symptoms of postpartum depression**.** The subset of women with significant risk factors for PPD should be considered for extra psychological support during postpartum period. Further research is needed to replicate these findings in a more diverse sample.

Key Words: Postpartum depression.

INTRODUCTION

Postpartum depression (PPD) affects at least 10% to 13% of all mothers.[1] It is a major health issue with negative health consequences. The World Health Organization has identified major depression as the fourth leading cause of burden among all diseases, and the leading cause of years lived with disability.[2]

Postpartum psychiatric disorders refer to those mental disturbances, which occur in women of childbearing age within four weeks of childbirth.[2] Postpartum depression often goes unrecognized due to its remarkable similarity with usual puerperal symptoms (eg, fatigue, difficulty in sleeping and low libido). For this reason, and possibly because of societal expectations of the new mother, women suffering from PPD are often neglected. Postpartum psychiatric illness can impair women's ability to cope with the care of the infant, thus disturbing mother-infant relationship and bonding in short term and child's cognitive and emotional development in the long run.

The prevalence of PPD varies across different cultures.[3] The disorder is thought to occur three times more commonly in the developing than in developed countries .[4] The prevalence of PPD among Pakistani women has never been a subject of extensive research despite the reported high prevalence of 28 to 33% in various studies.[5,6] In rural Pakistan, infants of depressed mothers are at 4 times higher risk of being malnourished and stunted at 6 months of age compared to infants of psychologically well mothers.[7]

Scarcity of data available on the prevalence and risk factors associated with development of postpartum depressive illness among Pakistani women as well as benefits of early recognition and appropriate care provided an initiative to conduct this study. The aim was to determine the frequency of postpartum depression (PPD) among recently delivered women and its association with maternal socio-demographic, obstetric and neonatal factors.

METHODOLOGY

This cross-sectional comparative study was undertaken from 1st May 2009 to 31st July 2009 at Unit II, MCH Centre, Pakistan Institute of Medical Sciences, Islamabad. The MCH Centre is a 150 bedded tertiary care Obstetrics and Gynaecology postgraduate teaching hospital in the capital city of Islamabad. During the study period, recently delivered women (Day2-28 postpartum) were randomly interviewed in postnatal ward and outpatient postnatal follow up clinic, using a specially designed questionnaire. The Edinburgh Postnatal Depression Scale (EPDS) was used for evaluation of postpartum depression. The EPDS consists of 10 questions. Responses are scored as 0, 1, 2, or 3 according to increasing severity of the symptoms. Questions 3 to 10 are reverse scored (i.e., 3, 2, 1, and 0). The total score is determined by adding together the scores for each of the 10 items. Based on EPDS score of =12, the frequency of women at a risk of postpartum depression was ascertained. The secondary outcome measures included association of PPD with factors such as maternal age, education status, employment status, parity, history of depressive illness and gestational age at delivery, route of delivery, intrapartum complications and breast feeding. The relationship between various neonatal factors such as gender of the new born, NICU admission and incidence of PPD was also studied. Chi square test was used to determine the relative significance of various risk factors for postpartum depression and a P value <0.05 was considered significant.

RESULTS

In this study, 108 women were interviewed and screened for possible depression using EPDS. The participants in this study had an age range of 16 to 40 years with a mean (SD) of 24.32± 4.1 years. The mean gestational age at delivery was 36 weeks with a range from 30-42 weeks. Of the study population 51 (47.2 %) were multiparous while, 57 (52.8%) were primiparous. Spontaneous vaginal deliveries occurred in 41 (38 %) women, 6 (5.5%) had instrumental vaginal delivery while 61(56.50%) women underwent caesarean delivery. Of the 108 women studied 32 (29.6%) were found to have EPDS score of >12 signifying actual or possible PPD. The Socio demographic characteristics described in Table 1 show that older age at delivery (p=0.03) and previous history of depressive illness (p=0.005), increase the risk of PPD. Parity, education and employment status did not predict the risk of PPD.

On analysis, prevalence of PPD was nearly three times higher in women who had any intrapartum complications (p=0.001), compared with those who had an uneventful childbirth. Gestational age at delivery and mode of delivery were not found to have a significant relationship with the risk of PPD. The prevalence of PPD was significantly associated with

well being of infants and was higher in women whose babies required NICU admissions for various indications (p= 0.00).Postpartum depression was less common among women who breast fed their infants (p <0.011), Table 2.

Table 1. Demographic and Psychological Risk Factors for Postpartum Depression

VARIABLE	EPDS >12 (n=32)	EPDS <12 (n=76)	P VALUE
Mean Age	26.4±7yrs	23±6yrs	0.03*
Primipara	50%	53.9%	0.40
Multipara	50%	46.1%	__
Education			
• Yes	2468.8%	6476.3%	0.19
• No	831.3%	1223.7%	__
Working	418.8%	27.9%	0.06
House wife	2881.3%	7492.1%	__
History of depressive illness	(13)40%	(12)15.7%	0.005*

Table 2. Obstetric Risk Factors for Postpartum Depression

VARIABLE	EPDS>12 n=32(%)	EPDS <12 n=76 (%)	P VALUE
Mean Gestational Age	36±6	37±5	0.27
Mode of delivery			
• Abdominal	15(46)	48(63)	0.08
• Vaginal	17(54)	28(37)	
Intrapartum Complications	10(31.0)	4(5.2)	0.001*
Infant's gender			
• Male	13 (40)	35 (46.0)	0.38
• Female	19 (60)	41 (54.0)	
NICU Admission	11 (19.4)	4 (10.5)	0.00*
Breast feeding	10 (32)	55 (72.4)	0.011*

DISCUSSION

The prevalence of PPD assessed through an EPDS score of 12 or above was 29.6% in the current study. The worldwide prevalence of PPD varies from 10-13%.[1] The reported prevalence of PPD among Pakistani women is in the range of 28-36% among rural population and 24-42% in urban settings.[8,9] The frequency of persistent depression among screen positive women is reported to be as high as 56%.[10]

In the present study, EPDS was used as a screening tool for PPD. In general, EPDS validation studies report high sensitivity and specificity, as well as high positive predictive value, both as a screening instrument and as a diagnostic test.[11] NICE suggests reserving longer validated tools such as the EPDS or nine-item Patient Health Questionnaire (PHQ) for assessment of women at the risk of PPD.[1]

The mean age of the women in screen positive group was significantly higher than the control group. This finding is contrary to another hospital based study conducted in Karachi which concluded that being young and having to meet the demands of motherhood significantly correlates with the risk of PPD.[8] Still another study by Tannous et al did not find an association between maternal age and risk of PPD.[12] Association of PPD with older age observed in this study might be related to increased incidence of maternal and neonatal complications and thus maternal depression, with advancing maternal age.

Results of our study did not reveal any significant association between parity, education status and mode of delivery. A higher proportion of women in our study group underwent LSCS. This is because women delivered through LSCS are more likely to return for follow up. PPD was found to be more prevalent among women experiencing intrapartum complications and difficult birth experience. It has been suggested by various studies that the relative risk of PPD was higher among multiparous women, those having difficult birth experience and those undergoing emergency LSCS, however, maternal education status was not a significant predictor of PPD.[13]

According to our study 52% women in the screen positive group had a previous history of depressive illness. Various other studies have reported that history of depressive illness is a significant risk factor for development of PPD.[14] Prevalence of PPD among women with a history of depressive illness is reported to be as high as 35%. [14] There is a strong possibility that an existing depressive illness has increased women's sensitivity to stress of childbirth and new born care.

According to previous literature, preterm delivery increases the risk of PPD.[16] Our

observation did not confirm this finding. The risk of PPD is directly related to neonatal health problems and neonatal NICU admission compounds the risk of maternal depression.[15] Women whose newborn babies had physical illness were more likely to be depressed. This could be due to the uncertainty about the survival of the newborn and stress of looking after an ill newborn child. It is worth noting that depressed women may have pessimistic concern about the health of their newborn compared with those women who are psychologically well. Gender of the baby did not affect mental health of the women according to our observation. The reason for this response was not clear from this study although one would have expected overall preference of the male child in this patrilineal society where the issue of a male child is considered of great importance. Xie et al however, found that the rate of postpartum depression was higher in women who gave birth to a female infant compared with those giving birth to male infant (24.6% vs 12.2%). [17] The results from this study suggest that women with depressive symptomatology in the early postpartum period may be at increased risk for negative infant-feeding especially difficult in initiation of breast feeding. However, the group of women who were screen positive for depression may have other risk factors of depression such as neonatal ill health or intrapartum complications which affect the maternal attitude towards breast feeding .[18]

The major limitation of this study is the fact that it was tertiary care hospital based and may have determined the prevalence of PPD in a highly selected group of respondents. It may therefore, be difficult to generalize the findings to the general population of childbearing women.

CONCLUSION

Depressive symptomatology in the postpartum period negatively influences maternal and neonatal well being. The prevalence of PPD among Pakistani women is higher than many other regions in the world. More than half of the cases however go unrecognized. This observation carries important clinical implications and supports the need for early identification and treatment of women with depressive symptomatology. However, to ensure appropriate and timely treatment strategies to address barriers to help-seeking are needed. Research to determine effective interventions to support depressed postpartum women is warranted.

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