

## Evaluation of Post Partum Depression in a Tertiary Hospital

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### Abstract

**Objective** To evaluate the association of different factors with postpartum depression.

**Methods** A prospective study conducted in the Department of Obstetrics and Gynecology, Medical College, Kolkata. Six thousand patients, 4–7 days postpartum, were interrogated using Edinburgh Postnatal Depression Scale (EPDS). Sociodemographic factors (age, parity, literacy, socioeconomic status, marital status and family structure), history of psychiatric disorder and abuse, mode of delivery and obstetric outcome were recorded. The results were analyzed statistically using Chi-square test.

**Results** Incidence of PPD was 25%. Significant association of PPD was seen with poor socioeconomic group ( $P < 0.05$ ), literacy ( $P < 0.001$ ), nuclear family structure ( $P < 0.05$ ), single mother ( $P < 0.001$ ), past history of psychiatric illness ( $P < 0.001$ ), history of abuse ( $P < 0.05$ ), and poor obstetric outcome ( $P < 0.001$ ). Age, parity and method of delivery showed no association.

**Conclusion** EPDS should be used routinely to screen for PPD among high risk cases.

**Keywords** Postnatal depression ·  
Edinburgh postnatal depression scale

### Introduction

Depression is very common, yet a neglected problem in new mothers, that can affect their own health as well as that of their children. The present study was carried out to evaluate the association of different sociodemographic and obstetric factors with postpartum depression, so that these women can be screened in their early puerperium while in the hospital and can be provided with special care.

### Methods

The prospective study was conducted in the Department of Obstetrics and Gynecology, Medical College and Hospitals, Kolkata. A total number of 6000 women in their 4th–7th day postpartum were interrogated using Edinburgh Postnatal Depression Scale (EPDS) [1]. This is a questionnaire comprising of ten questions. Mothers who score above 13 were taken to be suffering from depression.

The women were also classified according to their age, parity, literacy [illiterate, just literate (able to sign their name), primary (class I–IV), middle (class V–VIII), secondary (class IX–X), higher], monthly income [low (less than INR 2000), middle (INR 2000–5000), high (more than

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INR 5000)], marital status (married, widow, unmarried, separated), family structure (nuclear, joint), history of physical, mental or sexual abuse, past history of psychiatric illness, mode of delivery (vaginal delivery, Cesarean section) and obstetric outcome (healthy baby, sick baby, dead baby). Results were analyzed applying Chi-square test to evaluate the significance of association of these factors with postpartum depression.

## Results

Tables 1 and 2 show the distribution of women with (score >13) and without (score ≤13) depression in various subgroups of each parameter considered. Age, parity and mode of delivery showed no relationship with the occurrence of PPD. Low education, single motherhood, past history of psychiatric illness and poor obstetric outcome all had statistically highly significant relationship ( $P < 0.001$ ). Nuclear family structure, low socioeconomic status and history of abuse showed just significant relationship with PPD ( $P < 0.05$ ).

## Discussion

In the present study, age and parity showed no relationship with PPD. Mayberry et al. [2] have found young age to be a risk factor for PPD. However, Bjerke et al. [3] found that age ≥30 years to be associated with PPD.

Ho-Yen et al. [4], Mayberry et al. [2], Nielsen Forman et al. [5] have found an increased association of multiparity with PPD. However, Blackmore et al. [6] have found an association with primiparity. Josefsson et al. [7] have concluded that no association exists between the two.

In the present study, literacy bears a highly significant relationship with PPD. Illiterate and just literate groups collectively (56.4%) outnumbered the other groups. The studies conducted by Kosinska-Kaczynska et al. [8] and Mayberry et al. [3] also document the same conclusion. But Chaudron et al. [9] in their study found no association.

We have found just significant association between PPD and socioeconomic status with those having monthly income less than INR 5000 occupying a large proportion (51.1%) of PPD patients. Mayberry et al. [2] and Bergant et al. [10] drew similar inferences. Kosinska-Kaczynska et al. [8], however, found no relationship.

Marital status, in the present study, has a highly significant association with PPD with single mothers (widow-96%, unmarried-100%, separated-100%) showing higher preponderance. Adewuya et al. [11] also concluded single motherhood to be a risk factor for PPD, but Kosinska-Kaczynska et al. [8] had found no relationship.

**Table 1** Distribution of patients with (score >13) and without (score ≤13) postpartum depression with reference to age, parity, literacy, socioeconomic (S/E) status ( $N = 6000$ )

Parameter	Subgroup	Score ≤13	Score >13	Total	P value
Age (years)	<20	911	311	1222	>0.05
	20–<25	1388	467	1855	
	25–<30	1204	397	1601	
	30–<35	826	274	1100	
	>35	166	56	222	
Parity	1	2742	913	3655	>0.05
	2	996	327	1323	
	3	609	214	823	
	>3	148	51	199	
Literacy	Illiterate	505	201	706	<0.001
	Just literate	691	268	959	
	Primary	777	333	1110	
	Middle	1334	376	1710	
	Secondary	1031	273	1304	
S/E status	Higher	157	54	211	<0.05
	Low	1804	596	2400	
	Middle	2079	741	2820	
	High	612	168	780	

**Table 2** Distribution of patients with (score >13) and without (score ≤13) postpartum depression with reference to marital status, family structure, h/o abuse, h/o psychiatric illness, obstetric outcome, mode of delivery ( $N = 6000$ )

Parameter	Subgroup	Score ≤13	Score >13	Total	P value
Marital status	Married	4494	1411	5905	<0.001
	Widow	1	24	25	
	Unmarried	0	18	18	
	Separated	0	52	52	
Family structure	Nuclear	1385	512	1897	<0.05
	Joint	3110	993	4103	
Abuse	Yes	1580	580	2160	<0.05
	No	2915	925	3840	
Psychiatric disorder	Yes	1086	437	1523	<0.001
	No	3409	1068	4477	
Obstetric outcome	Healthy baby	4275	343	4618	<0.001
	Sick baby	214	880	1094	
	Dead baby	6	282	288	
Mode of delivery	Vaginal	2958	990	3948	>0.05
	Cesarean	1537	515	2052	

We have found just significant association between PPD and family structure with the patients coming from nuclear family suffering more frequently from PPD. The present study, in this aspect has been found to be supported by that

of Nielsen Forman et al. [5], who have found lower social support to be a risk factor.

The women having history of abuse constitutes a higher proportion of depressed mothers, the association being just significant. Records et al. [12] also found abused women to be more prone to develop PPD.

The present study shows that the women having pre-existing psychiatric disorder bears a highly significant relation with PPD. Kosinska-Kaczynska et al. [8] and Ho-Yen et al. [4] also found similar association.

Women having sick or dead baby bear a highly significant relationship with PPD. Kosinska-Kaczynska et al. [8] and Adewuya et al. [11] also found similar association. However, Nielsen Forman et al. [5] found no association with delivery complication.

The present study shows no association of PPD with mode of delivery. The studies of Josefsson et al. [7] and Chaudron et al. [9] support this finding. However, Adewuya et al. [11] and Bergant et al. [10] have found delivery by Cesarean section to be a risk factor.

## Conclusion

The present study was an effort to find out the risk factors of postpartum depression, which is a common problem found in new mothers, so that we can use EPDS routinely in this high risk sector, to screen for depressed mothers and a multidisciplinary approach including obstetricians and psychiatrists can be adopted for the care of the depressed mothers.

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