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Research Article

Impact of socio-cultural factors on postpartum depression in South Indian women

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ABSTRACT

Background: The prevalence of postpartum depression (PPD) ranges from 7.6% to 39% in various areas of the world. In our mixed population of both educated and uneducated group, we cannot expect all delivered women to turn back to obstetrician after discharge. So detection of postpartum psychiatric disorders remains a major problem. Objectives of current study were to evaluate the prevalence of postpartum depression in immediate postpartum period in south Indian women and to evaluate the risk factors for postpartum depression.

Methods: A cross sectional study was done in 254 women before discharge from hospital. Details regarding socio-demographic characteristics, perinatal events, gender preferences, social support, and relationships within family members were collected. Chi square test was used to analyse the risk factors associated with PPD.

Results: Out of various factors analysed, type of marriage, recent stressful life event, addiction in husband, past history of psychiatric illness, order of pregnancy were significantly associated with PPD. In contrast to usual belief of parent's preference to male child, our study results show most of them preferred female child.

Conclusions: Parent's preference to female child in our study may be attributed to change in family type and increasing employment and high income among women. Evaluation of women before discharge will help to avoid missing PPD women. Early detection of symptoms can facilitate timely treatment, referral to appropriate mental health providers, and prevention of major depression.

Keywords: Postpartum depression, Risk factors, Gender preference

INTRODUCTION

The Prevalence of Postpartum Depression (PPD) ranges from 7.6% to 39% in various areas of the world. In most instances pregnancy and childbirth evoke joy and anticipation, but in a few women it could be a stressful event, occasionally severe enough to provoke mental illness such as postpartum blues, postnatal depression and postpartum psychosis.

Because there is no formal screening protocol for postpartum psychiatric disorders, recognition falls to obstetrician, who may only see the patient once as the patient comes at the 6th week postpartum check-ups, or to

paediatricians. Due to this, detection of postpartum psychiatric disorders remains a major problem.

In our mixed population of both educated and uneducated group, we cannot expect all delivered women to turn back to obstetrician after discharge. Even though all delivered women go to paediatrician for child care, that place may not be ideal for evaluating PPD in mother. So evaluation of women before discharge will help to avoid missing PPD women.

The assessment of depression during pregnancy can be confounded by the overlap in somatic complaints common to both conditions, such as sleep disturbances, eating disturbances, weight gain, irritability, and fatigue.

When traditional depression assessment scales such as the Beck Depression Inventory, the Hamilton Rating Scale for Depression, or the Centre for Epidemiological Studies Depression Scale were used even normal symptoms of pregnant women may be misidentified as symptoms of depression. Use of the ten-item Edinburgh Postnatal Depression Scale (EPDS) has been found to identify depression accurately in pregnant and postpartum women.¹ This brief screening scale has been validated in pregnant and postpartum populations and may be easily incorporated for standard practice use in obstetrical treatment settings.

Objectives

1. To evaluate the prevalence of postpartum depression in immediate postpartum period in south Indian women
2. To evaluate the risk factors for postpartum depression

METHODS

A cross sectional was done at Sri Manakula Vinayagar medical college and hospital, Pondicherry, India from September 2012 to December 2012. 262 women delivered in our hospital during study period. Each postnatal woman was explained about the study. 8 women refused to participate in the study. 254 women who gave consent were included in the study. Informed written consent was obtained from each postnatal woman.

They were personally interviewed using structured questionnaires. The interview was conducted before discharging from hospital. The following details were collected from the women. Socio-demographic characteristics, perinatal events, medical and family history, type of marriage, type of family (nuclear / joint), availability of social support, relationship with spouse and in-laws, whether current pregnancy was planned or not, whether a particular gender of infant was favoured, and about past and family history of psychiatric illness were recorded. Following collection of these data, 10-question Edinburgh Postnatal Depression Scale (EPDS) was used to detect postnatal depression. Questions 1, 2, and 4 were scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3. Questions 3, 5-10 were reverse scored, with the top box scored as 3 and the bottom box scored as 0. Maximum score was 30. A cut-off score of ≥ 13 was considered positive. Those who had EPDS score of ≥ 13 were referred to psychiatrist for further evaluation.

We calculated the prevalence of PPD. The risk factors were assessed by calculating relative risk for each factor and 95% confidence interval calculated. Chi-square test was used to assess the significance of these risk factors.

RESULTS

In our study most of the women belonged to 20 - 30 years, only 3.9% were <20 years, 7.1% belonged to >30 years. 3.1% of women were illiterate, 75.6% studied up to 12th standard and 21.3% completed degree. Most of them were house wives and only 16.5% were working. 2% of women belonged to SES II, 24.4% belonged to SES III, rest of them belonged to SES IV and V. 31.1% of women had family income <Rs 5000/month. Out of 254 women 72.4% belong to Hindu religion, 21.3% were Muslims, 6.3% were Christians. 89% of them had arranged marriage; only 11% had love marriage. 58.7% lived in joint family, whereas 41.3% lived in nuclear family. 82.7% had someone to help from family while remaining did not have any support. 88.2% had good relation with in-laws; others did not have good relationship. Out of 254 women evaluated for PPD, 26 (10.2%) had post-partum depression.

Table 1: Association between demographic factors and post-partum depression.

	PPD +	PPD -	P value
Age of women			
<20 years	2	8	0.577
20-30 years	22	204	
>30 years	2	16	
Religion			
Hindu	20	163	0.853
Muslim	5	52	
Christian	1	12	
Age of husband			
<35 years	22	197	0.802
>35 years	4	31	
Literacy of woman			
Illiterate	2	6	0.305
Upto 12 th	20	172	
Degree	4	50	
Husbands literacy			
Illiterate	1	4	0.176
Upto 12 th	22	161	
Degree	3	63	
Occupation of women			
Working	7	35	0.132
House wife	19	193	
Socio economic status			
LI	1	4	0.126
LII	2	60	
Lv	15	122	
V	8	42	
Family income			
<5000	13	66	0.082
5000-10000	11	102	
10000-20000	1	36	
>20000	1	24	

Association between demographic factors and post-partum depression is shown in Table 1.

It shows that factors like age of women, her religion, her husband's age, literacy of women and husband, occupation of women, her socio economic status, and her family income doesn't have impact on incidence of PPD.

Table 2: Association between social factors and post-partum depression.

	PPD +	PPD -	Relative risk	Confidence interval	P value
Marriage type					
Love marriage	6	22	2.421	1.063-5.517	0.038*
Arranged marriage	20	206			
Type of family					
Nuclear family	13	92	1.419	0.686-2.936	0.344
Joint family	13	136			
Available family support					
Not available	6	38	1.432	0.610-3.358	0.413
Available	20	190			
Relationship with spouse and in-laws					
Not good	6	24	2.24	0.978-5.132	0.06
Good	20	204			
Pregnancy planned or not					
Not planned	5	46	0.948	0.376-2.392	0.909
Planned	21	182			
Gender preference					
Yes	12	68	1.864	0.904-3.846	0.089
No	14	160			
Occupational stress					
Yes	2	24	0.731	0.183-2.917	0.652
No	24	204			
Recent stressful life event					
Yes	9	28	3.105	1.50-6.436	0.002*
No	17	200			
Addiction in husband					
Positive	12	46	2.90	1.419-5.911	0.003*
Negative	14	182			
History of psychiatric illness in the past					
Yes	3	5	4.011	1.512-10.64	0.01*
No	23	223			
Family history of psychiatric illness					
Yes	7	12	4.557	2.197-9.452	0*
No	19	216			

Association between social factors and post-partum depression is shown in Table 2. Those who had love marriage had significantly higher incidence of PPD (relative risk = 2.421; CI = 1.063-5.517; P = 0.038).

14.6% of women in study group had recent stressful life event. These recent stressful life events had positive association with occurrence of PPD (relative risk = 3.105; CI = 1.50-6.436; P = 0.002). 22.8% of women's husband had addiction to smoking or alcoholism. Addiction to smoking and alcoholism in spouse had significant influence on occurrence of PPD (relative risk = 2.90; CI = 1.419-5.911; P = 0.003). In study women 3.1% had history of psychiatric illness in past. None of them were on antipsychotics during pregnancy. Those with past history of psychiatric illness had significantly higher incidence of PPD (relative risk = 4.557; CI = 2.197-9.452; P = 0.01). 79.9% of women in study group had planned for pregnancy, 31.5% had preference for a specific gender, remaining did not anticipate for any specific gender. 10.2% had stress at work place either for women or for her husband, remaining did not have any occupational stress.

Table 3: Association between delivery factors and post-partum depression.

	PPD +	PPD -	Relative risk	Confidence interval	P value
Order of pregnancy					
Multi	19	120	1.388	1.066-1.808	0.047*
Primi	7	108			
Sex of the baby					
Female	8	115	0.473	0.214-1.049	0.057
Male	18	113			
Order of female child born in multiparous women					
Second or third female child	3	33	0.604	0.146-2.486	0.480
First female child	4	25			
Age difference with previous child					
≤ 2 years	5	57	0.444	0.169-1.164	0.084
>2 years	14	63			
Mode of delivery					
Lscs	13	136	0.705	0.341-1.458	0.541
Vaginal delivery	13	92			
Low birth weight					
<2.5	3	23	1.144	0.369-3.55	0.169
>2.5	23	205			
Pain after deliver					
Yes	14	93	1.603	0.773-3.325	0.201
No	12	135			
Breast feeding problem					
Yes	1	16	0.558	0.080-3.870	0.54
No	25	212			
Sterilised					
Yes	11	56	2.046	0.990-4.231	0.052
No	15	172			

In our study, factors like family type, availability of family support, relationship with spouse and in laws, plans about pregnancy, gender preference and occupational stress did not have positive association with occurrence of PPD.

Association between delivery factors and PPD is shown in Table-3. In them 54.7% were primipara, remaining had at least one previous delivery. In those who delivered previously 51.6% had previous male baby, others had female baby. 58.3% of them had LSCS, 39.7% had vaginal delivery and 2% had instrumental delivery. 48.4% delivered female baby, 51.6% delivered male baby in present pregnancy. Analysis shows that PPD is more common in multiparous women than primiparous women (relative risk = 1.388; CI = 1.066-1.808; P = 0.047). 42.1% had significant pain after delivery, remaining did not have any pain after delivery. Out of 254 deliveries 10.2% had babies weighting <2.5 kg, remaining delivered healthy baby weighing 2.5 kg to 4 kg. Factors like sex of previous child, mode of delivery, sex and birth weight of the present baby, pain after delivery, breast feeding problems and whether they underwent sterilisation or not, do not have any significant association with occurrence of PPD.

DISCUSSION

The prevalence of PPD ranges from 7.6% to 39% in various areas of the world and differs according to the population tested and screening tools used.²⁻⁵ Prevalence of PPD even varies based on the timing when screening was carried out. Canadian study attributes a lower prevalence of major PPDS (8.69%) to the timing of the EPDS survey, which was administered 5 to 14 months postpartum.⁶

A meta-analysis that analyzed several international studies found, at 6 weeks postpartum, the mean American prevalence rate of PPD to be 15.4% and the mean prevalence rate in the United Kingdom to be 12.8%.⁷

Most of the studies done in PPD were performed after 6 weeks postpartum. Very few studies were performed in first week of delivery. A France based study validated EPDS between the third and fifth day postpartum.⁸ In that study, EPDS and general information questionnaire were collected in first week of delivery and repeated in 8th postpartum week. It showed higher sensitivity and positive predictive value when screening was performed in 1st week postpartum.

Another study in 2004 by Dennis CL also proved that the EDPS administered in the 1st week postpartum was predictive of maternal mood at 4 and 8 weeks postpartum.⁹ So every delivered woman can be screened in the immediate postpartum period, to identify those at high risk for PPD. By performing in first postpartum week we would not miss any case of PPD.

There are conflicting results about the effect of age on PPD. A study from eastern Turkey¹⁰ and the prospective cohort study by Sword et al.² specify younger age at delivery as an important risk factor for PPD. However, similar to our results Breese McCoy et al. found no difference between age groups in regard to PPD.³

Similar to our study results Turkey based study¹¹ also shows that PPD was not associated with level of education. This differs from a study from Lebanon which shows a relationship between low educational level and risk of PPD.⁴ Being a housewife increased the risk of PPD nearly twofold. Other studies from Beirut and Greece show that PPD was more frequent among unemployed women.^{4,5}

In contrast to it, our study results show that working status of women does not affect the prevalence of PPD. Even though in our study difference is not statistically significant, there was a higher prevalence of PPD in those with low family income. Similarly a meta-analysis based on 59 studies, also found that a decreased household income was associated with a greater risk for PPD.¹²

This may partly be attributed to the increased amount of stress placed on a mother due to the availability of limited financial means necessary for raising an infant. In those not in good relation with in-laws had higher prevalence of PPD, though difference is not statistically significant. Similar to it Nielsen et al.¹³ in his study also showed social isolation as a strong risk factor associated with PPD.

A study by Roshni et al.¹⁴ showed that elective caesarean section does not protect women from postnatal depression. Neither emergency caesarean section nor assisted vaginal delivery is associated with an increased risk of postnatal depression. Josefsson et al. similarly reported that delivery mode was not effective on PPD.¹⁵ Similarly, our study results also show that no difference in prevalence of PPD with respect to route of delivery.

Studies have shown past episodes of depression⁴ and a family history of mood disorders¹⁶ as predictors of PPD, which is similar to our study result. A study by Hansal and Anjali¹⁷ showed that antenatal complications, intra natal and postnatal complications and neonatal problems were chief contributing factors for the occurrence of PPD. Whereas study by Wadhwa et al.¹⁸ & Nasiri et al.¹⁹ showed that maternal depression leads to an alteration in the mother's neuroendocrine axis and uterine blood flow, which may contribute to the premature delivery, low birth weight, and preeclampsia. So PPD may be a cause or effect of antenatal and postnatal problems.

Similar to our results, several literatures shows that there is high risk of recurrence with PPD. As the risk of recurrence of PPD is 25%,²⁰ preventive therapy after delivery should be considered for women with previous episodes of depression.

Gender preference in favour of boys is deeply ingrained in most of the Asian countries. Patel et al.²¹ in 2002 & Klainin and Arthur²² in 2009 have found an association between infants' gender and maternal PPD. This may be explained by the fact that having a girl is perceived to be a financial drain on the family and also the responsibility of male child to take care of parents during older ages. But our study shows no change in prevalence of PPD with respect to gender of new-born child. This may be explained by change in type of family and increasing employment and high income among women.

Due to high prevalence of PPD, there should be proper education and routine screening for it. Communities, as well as individuals, must be educated in regard to risk factors and symptoms of PPD.

Education about postpartum mood disorders begins with awareness. This can be done through prenatal classes, health clinics, and media. In our mixed population of both educated and uneducated group, we cannot expect all delivered women to turn back to obstetrician after discharge. Even though all delivered women go to paediatrician for child care, that place may not be ideal for evaluating PPD in mother. So evaluation of women before discharge will help to avoid missing PPD women.

CONCLUSIONS

Early detection of symptoms can facilitate timelier treatment, referral to appropriate mental health providers, and prevention of major depression. Universal screening will definitively improve early diagnosis and selected management regimens that lead to improved health as well as reduce the incidence of postpartum depressive disorders.

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