

Predicting and Identifying Postpartum Blues may be the key to implementing Preventive Approaches in Perinatal Mental Health: Findings from a Prospective, follow up Study in India

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Abstract

Objective: The present study aimed to estimate the prevalence of post-partum blues and investigate the correlates of the disorder. An additional objective was to study the correlation of blues with subsequent development of psychiatric disorders.

Methods: A prospective study design was adopted and a total of 73 women were included. Those who developed maternity blues were compared with those who hadn't on multiple socio-demographic, obstetric, psychiatric and psychosocial variables.

Results: The prevalence of post-partum blues was estimated to be 28.8 %. Of the women with blues 14.2% went on to develop post-partum depression whereas none of the women who had not experienced blues developed depression. It was found that there was a significant correlation between post-partum blues and the following variables in decreasing order of significance: poor marital quality, pre-menstrual dysphoric disorder, past history of psychiatric illness, higher scores on stressful life events in the past one year, fear of labour and upcoming events, perinatal complications to the mother, unplanned pregnancy and family history of psychiatric illness.

Conclusions: The study highlights the importance of post-partum blues as these women are at higher risk of developing post-partum depression. Psycho-social variables that can contribute to the development of blues such as stressful events experienced during pregnancy and poor marital quality should be assessed and interventions planned accordingly to reduce the impact of these on women.

Keywords: maternity blues, post-partum, maternal mental health

Introduction

Post-partum blues refers to the tearfulness, irritability, hypochondriasis, sleeplessness, impairment of concentration, headache that occurs in the 10 days or so postpartum. A peak in symptoms occurs around the fourth to fifth day after delivery, coinciding with maximal hormonal changes. A recent systematic review and meta-analysis estimated the prevalence of blues as 39.6 % in 5667 women.¹ Predictors of postpartum blues from existing literature are a previous history of post-partum depression and lower education level whereas normal delivery has been found to be protective.² A study from Japan found that availability of social support and living with parents following delivery negatively

predicted blues.³ As many as 20 % of women with blues go on to develop post-partum depression.⁴ In India, to the best of our knowledge there has been only one previous study⁵ that has investigated the phenomenon of blues and there is a paucity of literature on this topic worldwide. This study was therefore planned to further understand maternity blues so that vulnerable women can be identified early and pre-emptive measures taken so that the downstream path to post-partum depression and its devastating consequences can be potentially averted.

Materials and Methods

This was a prospective, follow up study and 73 women who delivered a healthy baby at Haji

Abdullah Municipal Maternity and Child Health Centre, Udupi were included. Informed consent was taken from the participants. The study was approved by the Ethics Committee of Kasturba Medical College, Manipal.

Instruments used

1) General Health Questionnaire- 5⁶

This is a 5 item self-rated questionnaire widely used as a screening tool for mental disorders. The cut-off score of 1 produced optimum indices of validity.

2) Blues Questionnaire⁷

It is a self-rated 28 items self-rated questionnaire valid for detecting and measuring specific brief psychological disturbances occurring in a few days after childbirth. For the calculation of the cut-off point for severe maternity blues the authors suggest that the mean peak score of all women should be used. The highest score on any of the days of observation is considered the peak score for each woman.

3) The Marital Quality Scale⁸

It is a multidimensional measure of marital quality that gives global and specific scores. It is a 50 item self-report standardized scale. Higher scores are indicative of poorer quality of married life.

4) The Lubben Social Network Scale⁹

It is a self-report 10 item scale to assess the level of social support available to a person. The minimum score is 0 and maximum is 50, with higher scores indicating greater level of social support.

5) Presumptive Stressful Life Events Scale (PSLES)¹⁰

The PSLES comprises 51 life events relevant to the Indian setting which is standardized for 2 frames: past 1 year and lifetime. The scores can be calculated according to two formats- number of life events and weighted stress scores.

6) MINI PLUS- International Neuro-Psychiatric Interview.¹¹

The MINI Plus is a short structured diagnostic interview. A total of 19 psychiatric disorders are included. The instrument has a good inter rater and retest reliability.

Procedure

The first assessment was carried out in the third trimester after admission for safe confinement. Scales that were administered at this time were the General information proforma, GHQ-5, Marital Quality Scale, The Lubben Social Network scale, Presumptive Life Events Scale. All women who scored 2 or above on GHQ-5 were then interviewed using MINI-PLUS and those with syndromal psychiatric disorders were excluded at this point. For those women who did not have any psychiatric illness following interview with MINI-PLUS, Blues Questionnaire was administered on the 5th day following delivery. A follow-up assessment was carried out at 6 weeks using GHQ-5 and MINI-PLUS to look for development of post-partum psychiatric disorders with the main focus being identifying women with post-partum depression and anxiety.

Statistics

The participants were divided into two groups for statistical analysis. The first group comprised of women with post-partum blues and the second group without post-partum blues. Data was analyzed descriptively to determine the basic characteristics of the sample like age, parity, type of delivery. Independent t-test was used to compare the groups on continuous variables for data that was normative like social network scale, marital quality scale. For comparing the groups in case of life events score, Mann Whitney U test was used as the data was non-normative. The Chi-square test was used to know if there was a significant association between the two groups on categorical variables such as socio-demographic details, obstetric history, past and family history.

Results and Discussion

A total of 73 women completed both the baseline assessment and the Blues Questionnaire. As suggested by the authors, the mean peak blues score of all the women was calculated which was 4.3, hence the cut-off for diagnosing maternity blues was taken as 5. A total of 21 women (28.8 %) were found to have blues. A 6 week follow up was carried out and a total of 70 women were interviewed. Four women were lost to follow-up at this point.

Prevalence of Post-Partum Blues

Prevalence of post-partum blues was found to be 28.8 %. In most prior studies the prevalence quoted is between 40-60%^{12, 13} with the lowest prevalence rates of 15.3% being reported for Asian countries like Japan.¹⁴ The present study also has a relatively low prevalence rate compared to Western authors and is more proximal to the rates reported in Japan. A similar socio-cultural milieu in both countries where women return to their maternal home for delivery and have extensive social support in view of living in large joint families¹⁴ may be the reason for this.

Socio-Demographic Details:

Variable	Group	Postpartum blues present n(%)	Postpartum blues absent n(%)	Total	Chi square χ^2	p
Planned pregnancy	Yes	15(20.5%)	49(67.1%)	64(87.6%)	7.196	.007**
	No	6(8.2%)	3(4.1%)	9(12.3%)		
Antenatal complications	Hypertension	2(2.7%)	4(5.4%)	6(8.2%)	1.342	.719
	Diabetes	0(0%)	3(4.1%)	3(4.1%)		
	Others	2(2.7%)	4(5.4%)	6(8.2%)		
	None	17(23.2%)	41(56.1%)	58(79.4%)		
Delivery Type	Normal	11(15.06%)	29(39.7%)	40(54.7%)	.069	.792
	Caesarian	10(13.6%)	23(31.5%)	33(45.2%)		
Perinatal Complications	Post-partum hemorrhage	1(1.4%)	0(0%)	1(1.4%)	10.479	.005**
	Infection	3(4.1%)	0(0%)	3(4.1%)		
	None	17(23.2%)	52(71.2%)	69(94.5%)		
Parity	Primi	13(17.8%)	36(49.3%)	49(67.12%)	.930	.628
	Second	8(10.9%)	15(20.5%)	23(31.5%)		
	Third	0(0%)	1(1.4%)	1(1.4%)		
Fear of labor and upcoming events	Yes	16(21.9%)	20(27.3%)	36(49.3%)	8.519	.004**
	No	5(6.8%)	32(43.8%)	37(50.6%)		

** $p < 0.01$

The present study found that unplanned pregnancy ($p=0.007^{**}$), fear of upcoming events in late pregnancy ($p=0.004^{**}$), perinatal complications in the mother ($p=0.005^{**}$) significantly predicted the development of post-partum blues. This would indicate that it is necessary to ask expecting mothers about whether the pregnancy was planned or not, and address any anxiety related to the same to reduce their vulnerability. Similarly, towards the end of pregnancy, sensitizing obstetricians about the importance of asking mothers about their thoughts and emotions regarding the upcoming delivery and clarifying any doubts they may have may go a long way towards allaying their anxiety which in turn may prevent the development of blues.

Table 2: Obstetrics variables pertaining to child as predictors of blues

Variable	Group	Postpartum blues present n(%)	Postpartum blues absent n(%)	Total	Chi square χ^2	p
Gender of the child	male	8(10.9%)	25(34.2%)	33(45.2%)	.602	.438
	female	13(17.8%)	27(36.9%)	40(54.7%)		
Gender expected as	yes	18(24.6%)	46(63%)	64(87.6%)	.104	.747
	no	3(4.1%)	6(8.2%)	9(12.3%)		
Postnatal Complications	yes	5(6.8%)	4(5.4%)	9(12.3%)	3.595	.058
	no	16(21.9%)	48(65.7%)	64(87.6%)		

In our study the gender of the newborn, parity, gender of the child contrary to expectation and type of delivery was not found to have any significant association with the development of blues.

The finding that the gender of the newborn was not found to predict the subsequent development of blues is in contrast to another study from West

Nigeria by Adewuya¹⁵ where the birth of a female child had been shown to contribute significantly towards development of blues. Such a finding may reflect increasing levels of awareness and a gradual shift of the mindset at least in parts of our country from a conservative, patriarchal outlook to one that is more gender-neutral.

Table 3: Past and family history as predictors of blues

Variable	Group	Postpartum blues present n(%)	Postpartum blues absent n(%)	Total	Chi square χ^2	p
Past History of Mental Illness	yes	6(8.2%)	2(2.7%)	8(10.9%)	9.372	.002**
	no	15(20.5%)	50(68.4%)	65(89.04%)		
Family history of mental illness	yes	4(5.4%)	1(1.3%)	5(6.8%)	6.876	.0098**
	no	17(23.3%)	51(69.8%)	68(93.1%)		
Pre-menstrual dysphoric disorder (PMDD)	yes	7(9.5%)	2(2.7%)	9(12.3%)	12.033	.001***
	no	14(19.1%)	50(68.4%)	64(87.6%)		

** $p < 0.01$

*** $p \leq 0.001$

In our study, amongst those women with a past history of mental illness, a greater proportion went on to develop blues and this association was significant. ($p = 0.002^{**}$) Although history of several types of mental illnesses were enquired into, all the women with blues having significant past psychiatric history reported having experienced depression. Previous studies have also found a link between past history of depression and blues. Stein¹⁶ reported that the most severe symptoms in the first postpartum week occurred in women with a history of "neurotic

depression" or a previous postnatal depressive episode. O'Hara et al.¹⁷ found that women with blues were more likely to report depressive symptoms during pregnancy. This points to the importance of enquiring into the past history of psychiatric disorders especially depression during antenatal visits.

We also found that past history of pre-menstrual dysphoric disorder significantly predicted the development of post-partum blues. ($p = 0.001^{***}$). Earlier studies have also consistently reported the

link between PMDD and post-partum blues^{18,19,20}. There is a massive reduction in levels of circulating estrogen following delivery that may mimic the sort of estrogen fall that occurs during the pre-menstrual phase. This would explain why women who have experienced depressive symptoms during the latter may also develop maternity blues after having a baby.

A majority of those with family history of mental illness in a first degree relative went on to experience blues and this relationship was significant. (p=0.009**). This finding has been replicated in previous studies.^{17,18}

Table 4: Social support as a predictor of blues

Variable	Postpartum blues	Mean	SD	t	df	p
Social Support	yes	26.83	6.91	1.56	30	.128
	no	30.25	5.36			

There was a difference in the mean scores on Lubben’s Social Network Scale in women with blues (Mean 26.8, SD 6.91) and those without (Mean 30.25, SD 5.37) with higher scores indicating higher level of social support in women who did not develop blues. However, this association was not significant.

Table 5: Marital quality as a predictor of blues

Variable	Postpartum blues	Mean	SD	t	df	p
Marital quality	Yes	90.23	24.93	3.73	31	.001***
	No	66.05	12.14			

***p<0.001

On the Marital Quality Scale, a significant difference (p=0.001***) was seen in the mean scores of women in the group with post-partum blues and those without. When the mean scores were compared across the groups, the women with blues had higher scores (Mean 90.23, SD 24.93) than those without blues (Mean 66.05, SD 12.14) indicating poorer quality of marital life. One previous study has found an association of reported discontent with the quality of the marital relationship and development of blues.²¹ An Indian study⁵ had also found that poor marital relationship was found to significantly predict blues. Therefore, given that marital quality has been found to consistently predict blues, it is important to enquire about the health of the marital relationship when a woman is pregnant. This can even be gauged informally by observing how involved the lady’s partner is during antenatal visits. Emphasizing to expecting fathers how importance

their support is during the post-partum period can go a long way to improving a mother’s psychological well-being which will have a positive impact on their infant’s health and development as well.

Table 6: Stressful life events as a predictor of blues

Variable	Postpartum blues	Mean Rank	Mann Whitney U	Z, p value
Stressful life events	yes	47.62	323.000	Z= -2.905, p=.004**
	no	32.71		

**p<0.01

Women who developed blues had higher weighted scores (47.62) on stressful life events in the past one year compared to those who did not develop blues (32.71) and this difference was significant. (p=0.004**). Financial difficulties were the most common stressor reported. This echoes the findings of O’Hara et al.¹⁷ who found that women who had more severe blues were more likely to have experienced negative life-events during pregnancy than those who did not. Economic insecurity specifically has been found to be related to the development of blues in a recent study from Greece.²²

Outcome of Post-Partum Blues

In our study it was found that 21 women developed blues out of a total of 73 and of these, 3 women went to develop major depression that was diagnosed at 6 weeks post-delivery. None of the women who had not experienced blues developed depression later on. Thus, in our sample 14.2 % of women with blues went on to develop depression. Previous studies have reported that approximately 20% of women suffering from maternity blues are diagnosed as having major depression in the first year following delivery.¹⁷ The fact that our figure is slightly less can be explained by the fact that in our study the follow-up was limited to 6 weeks’ post-partum. A longer duration of follow-up may have been ideal to look for any such association.

Conclusions

In conclusion, our study was a prospective follow-up study that estimated the prevalence of post-partum blues to be 28.8 %. Of the women with blues 14.2% went on to develop post-partum depression whereas none of the women who had not experienced blues developed depression. The study highlights the importance of early post-partum mood changes or post-partum blues and the need to identify these

women as they are at higher risk of developing postpartum depression. Some of the variables identified as risk factors such as history of pre-menstrual dysphoric disorder and past history of mental illness should be carefully enquired into during routine antenatal assessments. Psycho-social variables that can contribute to the development of blues such as stressful events experienced during pregnancy and poor marital quality should also be assessed and interventions planned accordingly to reduce the impact of these on the women. It is hoped that more studies of this kind will further expand on this important area and aid in formulating comprehensive management plans for women's mental health in pregnancy and the puerperium.

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Conflict of Interest - Nil

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