

# Prevalence of premenstrual dysphoric disorder in women suffering from postpartum depression - A study from tertiary care hospital

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## Abstract

**Background:** While most cases of postpartum depression occur beyond 2 weeks, there are women that are at risk develop within 2 weeks of delivery. A wealth of empirical research suggests that factors such as age, education, breast feeding status, family/past history of depression are risk factors of postpartum depression but data regarding other syndromes that may reflect the individual hormonal sensitivity such as premenstrual dysphoric disorder (PMDD) is scarce and of importance. **Methods:** 239 women that visited obstetric department in tertiary medical college were screened and 100 were selected by convenient sampling and were assessed for postpartum depression (PPD) at 10 to 14 days after childbirth. They were retrospectively screened for prevalence of premenstrual syndrome (PMS) and those that qualified for moderate to severe PMS were confirmed by using DSM5 criteria. All Patients provided written informed consent. **Results:** The prevalence of post partum depression in our study was 13%. Age <25 years and unplanned pregnancies had significant statistical correlation with risk of developing post partum depression. The prevalence of premenstrual syndrome is 15% in our study and among mothers with PPD, it's 69%, showing significant association with postpartum depression. **Conclusion:** Postpartum depression not only effects the mother but also the child care and upbringing. With knowledge of risk factors, early detection and treatment can be educated upon. **Key Words:** Premenstrual dysphoric disorder, Premenstrual syndrome, Postpartum depression.

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Received Date: 01/12/2017 Revised Date: 16/12/2018 Accepted Date: 12/01/2018

DOI: <https://doi.org/10.26611/107512>

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Accessed Date:  
15 January 2018

## INTRODUCTION

Depression during pregnancy and in postpartum period is an area of much needed research, in terms of evaluation of risk factors, pathophysiology and treatment. While most cases of postpartum depression (PPD) develop after

the first 2 weeks postpartum, however considerable percentage may develop PDD during the first 2 weeks postpartum<sup>1,2</sup>. Thus, knowledge of risk factors that predispose women to early PDD symptoms may enhance early identification of those who require professional help for prevention or successful early treatment.<sup>3</sup> A wealth of empirical research suggests that factors such as age, education, marital and breast feeding status<sup>4,5,6</sup>, and psychopathology (e.g., history of depression), personal history of mental illness<sup>7,8</sup>, PPD in the past<sup>9</sup>, or a family history of depression may be significantly associated with PPD. While the blues is a well-established risk factor for PPD little data exist regarding other syndromes that may reflect individual hormonal sensitivity, researchers in the field have hypothesized that some women has emotional and physical sensitivity during such times of hormonal changes, making them prone to the development of

depressive symptoms during vulnerable periods<sup>10,11,12</sup>. Most women of reproductive age experience emotional and physical symptoms premenstrually<sup>13</sup> accompanied by significant functional impairment in social and work domains<sup>14</sup> Such symptoms generally has onset in late-luteal phase of the menstrual cycle (e.g.,7 to10 days prior to menses), and remit within the first three days of menses.<sup>15</sup>

**MATERIALS AND METHODS**

Study Population-Post natal ward of ASRAM medical college, Andhra Pradesh Sample Size-100 by convenient sampling

Study type: Cross sectional study, Retrospective analysis for PMS

Study Period: October 2016-March 2017

**Study Tool**

- a. MINI PLUS battery (MINI PLUS)
- b. Edinburgh Postnatal Depression Scale (EDPS)
- c. Premenstrual syndrome screening tool (PSST)
- d. Diagnostic Statistical Manual 5 diagnostic criteria (DSM5)

**Inclusion Criteria**

All women in the age group of 18 to 30 years, who are booked case and underwent delivery (Normal Vaginal Delivery, Lower Segment Cesarean Section) in ASRAM Medical college

**Exclusion Criteria**

- Any co-morbid psychiatric illness
- Past or family history of psychiatric illness
- Serious medical illness
- Any obstetric complications
- Post partum hemorrhage
- Any NICU Admissions for the baby

**Methodology:** A total of 239 women that came into antenatal outpatient department, ASRAMS were screened for any existing psychiatric illness by using MINI PLUS and details of family history were taken.100 of those that did not have any, were selected by convenient sampling and were assessed for PPD at 10 to14 days after childbirth in ASRAM Hospital. They were retrospectively screened for prevalence of PMS by using PSST and those that qualified for moderate to severe PMS were confirmed by using DSM5 diagnostic criteria. All patients provided written informed consent. We assessed potential differences between the PPD group and the postpartum non-depression group in sociodemographic characteristics (age, education, socioeconomic status) obstetric characteristics (breast feeding, scheduled pregnancy, mode of delivery), and past medical history.

**Edinburgh Postnatal Depression Scale (EPDS):** The EPDS is the most widely used and researched screening tool for PPD<sup>14</sup>. It is a 10- item self-report questionnaire

designed to measure emotional and cognitive symptoms of PPD, and excludes the somatic symptoms of depression(which might be confused with normal changes of puerperium).Women were asked to choose the statement that most closely described how they had been feeling during the past 10 to14 days, with each item ranging from 0 to 3 according to severity. Cut-off scores can differ between cultures and studies; this study used a cut-off of  $\geq 10$  to detect probable depression in postnatal women.

**DSM5:** For PMS, questionnaire based on DSM5 criteria, mothers were asked specify if one or more disturbing affective or somatic symptoms have occurred during the 5 days before menses in each of the three previous menstrual cycles, that occurred retrospectively. These symptoms must be relieved within 4 days of menses onset without recurrence until at least cycle day 13.

**RESULTS**

Table 1:

	Depression(n)	Non – Depressed(n)	Chi - square	P- Value
Age				
< 25 Years	9	29	6.18	0.01*
>25Years	4	58		
Education				
below 12th	11	55	2.30	0.12
Above12th	2	32		
Socio economic status				
low	4	25	0.02	0.8
Middle/upper	9	62		
Mode of delivery				
NVD	5	25	0.50	0.475
LSCS	8	62		
Breast feeding				
no	1	2	1.15	0.28
yes	12	86		
Planned pregnancy				
No	11	7	44.9	0.00*
yes	2	80		

Table 2:

Pre menstrual syndrome	Post partum depression	Yes	no
yes		9	6
no		4	81

chi square -34.46 ; p value -0.000

**DISCUSSION**

The prevalence of post-partum depression in our study is 13%, which is in approximation to a rural study done by sashi rai *et al*<sup>16</sup>, where as a lot of other Indian studies has shown prevalence ranging from 10-20%<sup>17,18,19</sup>. Age<25 years (p values 0.01) and unplanned pregnancy (p values 0.00) had a significant association with the prevalence of

postpartum depressive disorder. This is probably due to apprehension and lack of knowledge about baby care and pressures from the family. Postpartum psychiatric syndromes are seen more commonly (81%) in patients below 25 years of age which is similar to findings of the current study. The prevalence of premenstrual syndrome is 15% among the sample collected, which is not higher than general population. Among the depressed women, the occurrence of PMS is 69% (9/13) which shows a strong association compared to 7.4% (6/81) non depressed Women ( $p$ -value  $< 0.000$ ). This is probably due to hormonal fluctuations (window of vulnerability for women) to experience pre menstrual disorders and depression during the post partum and menopausal transition<sup>20</sup>. By the end of pregnancy, estradiol levels are as much as 50 times the maximum menstrual cycle level and drop to early follicular phase levels within the first three days following childbirth<sup>21</sup>. The rapid decline in estradiol levels immediately following childbirth may interact with serotonin transmission, leading to a woman's increased susceptibility to experience depression in the postpartum period. Researchers have shown a link between lowered estrogen levels during the first 3 to 4 days postpartum and MAO-A synthesis, identifying elevated MAO-A levels in the early postpartum period as a marker for a monoamine-lowering process that may contribute to the mood dysregulation characteristic of the postpartum blues<sup>22</sup>. This estrogen-serotonin interaction model is supported in the PMDD literature as well<sup>14</sup>.

## CONCLUSION

Postpartum period is demanding period characterized by overwhelming biological, physical, social, and emotional changes. It requires significant personal and interpersonal adaptation. Pregnant women and their families have lots of aspirations from the postpartum period, which is coloured by the joyful arrival of a new baby. Unfortunately, women in the postpartum period can be vulnerable to a range of psychiatric disorders like postpartum blues, depression, and psychosis. Perinatal mental illness is largely under-diagnosed and can have far reaching ramifications for both the mother and the infant. Early screening, diagnosis, and management are very important and must be considered as mandatory part of postpartum care. Since premenstrual syndrome is a well established risk for postpartum depression and also to daily functioning of adolescent girls, it has to be identified, educated upon, intervened immediately.

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Source of Support: None Declared  
Conflict of Interest: None Declared

