

Original Research Article

A cross sectional study to assess the prevalence and risk factors of post-partum depression in urban area of Indore district

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Received: 31 July 2021

Revised: 15 September 2021

Accepted: 16 September 2021

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ABSTRACT

Background: Pregnancy and childbirth are important events in the life of a woman. Life with the new born can be very rewarding but it can be very tough for some women. This phase of life brings about many hormonal, physical and emotional changes in the women during childbirth. Aims and objectives were to find out the prevalence and risk factors of post-partum depression (PPD) in urban area of Indore district and to assess the socio demographic profile of study population

Methods: The study was a cross sectional community-based study, conducted on women who had delivered within a period of 6 weeks to 3 months. 100 women from urban area were selected from Indore district through simple random sampling. Informed consent in written was taken from the mothers. The study tool was pre designed semi structured questionnaire and Edinburgh post-natal depression scale (EPDS) scale, data were entered in excel sheet and analyzed using SPSS software, appropriate statistical test were applied wherever necessary.

Results: In our study it was found that prevalence of PPD in urban Indore was 23%. We found that age at the time of marriage below 18 years, mode of delivery (LSCS), initiation of breast feeding (after 1 hour) and birth weight of baby less than 2.5 kg had a strong association with PPD. In our study 58% had normal vaginal delivery and 42% had LSCS in urban area. In urban areas 36% gave a history of birth weight of babies <2.5 kg.

Conclusions: Symptoms of PPD were significantly high in urban Indore mothers and they were strongly associated with risk factors.

Keywords: PPD, Mothers, EPDS

INTRODUCTION

Pregnancy and childbirth are important events in the life of a woman. Life with the new born can be very rewarding but it can be very tough for some women. This phase of life brings about many hormonal, physical and emotional changes in the women during childbirth. These changes, together with other compounding factors, may lead to a feeling of low mood, worry, anxiety and confusion among many mothers. For most mothers these feelings are temporary and disappear as quickly but for some unfortunate mothers, it may develop into a psychiatric disorder known as PPD.¹

Postpartum psychiatric disorders can be divided into three categories

Post-partum blues

Postpartum blues are very common with an incidence of 300-750 per 1000 mothers globally, have a peak incidence at the fifth day after delivery and may resolve in a few days to a week, common symptoms include mood swings, irritability, tearfulness, fatigue, and confusion. Antenatal depression, previous depression not related to pregnancy, and previous premenstrual dysphoria has been identified as risk factors.^{2,3}

Post-partum depression

PPD can begin soon after childbirth or as a continuation of antenatal depression. PPD is the most widespread psychiatric disorder observed in the postpartum period.

It is seen in 10-15% of postpartum women and, in addition to ‘postpartum time specifier’, the diagnostic criteria are difficult to differentiate from that of major depressive episode (MDD) characterized by pervasive depressed mood, low energy, disturbances of sleep and appetite, anxiety, and suicidal ideation. Additionally, there may be feelings of guilt or inadequacy about the new mother's ability to care for the infant, and a preoccupation with the infant's well-being or safety severe enough to be considered obsessional.^{3,4}

Post-partum psychosis

Postpartum psychosis is a serious condition which could lead to life-threatening behavior and thoughts.^{3,4} PPD is the most common complication of childbearing and as such represents a considerable public health problem affecting women and their families. The effects of PPD on the mother, her marital relationship, and her children make it a significant condition to diagnose, treat and prevent. The objectives of present study are to find out the prevalence and risk factors of PPD in Indore district and to assess the socio demographic profile of study population.

METHODS

The study was a cross-sectional community-based study to assess the prevalence and risk factors of PPD in urban area of Indore district (M. P.) from March 2018 to July 2019. Total 100 mothers from urban area belonging to various Anganwadi centers were selected through simple random sampling. Health worker and ASHA along with the help of Anganwadi worker, made a list along with addresses of all the women who had delivered within a period of 6 weeks to 3 months. Then house to house data was collected randomly. The diagnosed cases of PPD were referred for treatment. The ethical approval was taken from institutional review board and scientific review committee. Informed consent in written was taken from the mothers.

All the information collected through the questionnaire is kept confidential. The study tool of the study is pre designed semi structured questionnaire was prepared to collect the socio demographic profile of the study population and to find the prevalence, Hindi version of EPDS was used, cut-off score of ≥ 10 was used as high risk of PPD.

Then collection and compilation of data, after that analysis and interpretation of data, data were entered in Microsoft excel sheet and analyzed using SPSS software, and appropriate statistical test was applied wherever

necessary.⁵⁻⁸ Post-partum mothers from 6 weeks to 3 month after delivery and who were ready to give consent for participation in the study are included. Women who were pregnant or who were already on psychiatric treatment and who were not ready to give consent for participation in the study were excluded.

RESULTS

In this study prevalence of PPD in urban Indore was 23% (23/100) according to EPDS; ≥ 10 score was taken as cutoff value.

Table 1: Distribution of postpartum mothers according to severity of EPDS.

EPDS score	Urban	
	Frequency	Percentage (%)
<10	77	77
≥ 10	23	23
Total	100	100

Above Table shows that, in urban areas, 23% (23) were diagnosed with postpartum depression according to EPDS scale.

Table 2: Risk factors which were responsible for PPD, out of 23 depressed mothers.

Risk factors	Urban Indore	
	Frequency	Percentage (%)
Age (21-30 years)	(16/23)	69.5
Age at time of marriage (<18 years)	(7/23)	30.4
H/O any abortion/still birth/death of baby	(6/23)	26
Disease during pregnancy	(4/23)	17.3
Mode of delivery (LSCS)	(15/23)	65.2
Initiation of B/F (after 1 hour)	(9/23)	39.1
Any complication related to B/F	(3/23)	13
Birth weight of baby (<2.5 kg)	(12/23)	52.1
Relationship with their husband (Just ok)	(21/23)	91.3
H/O of any physically/disabled /mentally children in their families	(3/23)	13
Their interest in household activity	(19/23)	82.6

Above table shows that the risk factors which was found in our study-69.5% mothers between 21-30 year age, 30.4% mothers <18 year at time of marriage, 26% mothers had H/O any abortion/still birth/death of baby, 17.3% had H/O disease during pregnancy, 65.2% mothers delivered by LSCS, 39.1% mothers told about delayed initiation of B/F (after 1 hour), 13% told about any complication related to B/F, 52.1% mothers had low birth baby (<2.5 kg), 91.3% mothers had not good relationship with their husband (just ok), 13% mothers had H/O of any physically/disabled /mentally children in their families, 82.6% mothers told their interest in household activity was less.

In our study majority of mothers were in the age group 18-25 years of which, 49% (49) mothers were educated up to middle school and high school. In this study 68% mothers belonged to joint families and others belonged to nuclear families. The 14% were already employed and rests all were housewives.

In our study 84% had less than 2 children. The 67% had at least one male child and 33% had only female children. The 14% gave a history of abortion or still birth or death of a baby. The 14% mothers had a history of irregular menstrual cycle. The 12% had a history of diabetes/thyroid/T.B. or other diseases during pregnancy. Unplanned pregnancy was found 75%. In our study 58% had normal vaginal delivery and 42% had LSCS in urban areas. The 36% gave a history of birth weight of babies <2.5 kg. 5% had complications during and after delivery. The 73 percent of mothers started breastfeeding after 1 hour.

In our study only 8% had some history of unpleasant events in their family. The 74% had just ok relationship with their husbands. The 66% had good relationship with them in laws. The 86% mothers had some kind of support from their husbands as well as other family members during their pregnancy period. The 54% of husbands were doing business, 35% were in job. The 34% had some type of addiction. The 7% gave a history of physically/mentally disabled children in their families. Only 5% were over anxious about their children. 8% mothers had some kind of physical and mental health problem. The 42% mothers were facing some difficulty in focusing and making decisions. The 80% mothers could not sleep well, as well as were feeling tired. The 20% felt change in their weight following pregnancy. The 49% women reported they became either less attractive or obese after delivery. Only 10% females opined that they have less interest in house hold activities.

Logistic regression was applied on all the significant risk factors of depressed (≥ 10) post-partum mothers and we found that age at the time of marriage below 18 years, mode of delivery (LSCS), initiation of breast feeding (after 1 hour) and birth weight of baby less than 2.5 kg had a strong association with PPD.

DISCUSSION

In present study prevalence of PPD was found 23% in urban areas of Indore. The prevalence of PPD varies significantly in different parts of the country based upon the use of different measuring scale or other tools.

In a similar study done by Guin et al in Madhya Pradesh found that the prevalence of postpartum depression was 12.8% based on EPD scale. Another study conducted by Rathod et al Sehore, Madhya Pradesh also found that 8.8% of perinatal women in the community and 18.5% of women in the facility were positive for depression.^{9,10}

Another study conducted by Chandran et al Vellore Tamil Nadu India also found that the prevalence of PPD was 19.8%. Another study conducted by Dubey et al Delhi found that prevalence of PPD was 6% based on EPD scale. A study conducted by Nimisha et al Vadodara found that the prevalence of PPD was 12.5%.¹¹⁻¹³

In this study 30.4% depressed mothers were less than 18 years at the time of their marriage. According to NFHS 4 data (2015-16) women in the age group of 20-24 years who were married before 18 years age in Madhya Pradesh were 32.4%.¹⁴

In present study any history of abortion/still birth/death of baby in the depressed group was 26%, in a similar study conducted by Nimisha et al also found that still births and previous miscarriages were significantly associated with PPD.¹³

In our study 17.3% mothers had some kind of diseases during ante natal period. In a same kind of study conducted by Prosta et al also found that health problems in the ante partum period were associated with PPD.¹⁵

In present study mode of delivery by LSCS/C-section 65.2% in the depressed group, which was similar to a study conducted by Guin et al also found that 19.5% subjects who underwent caesarean section/LSCS had 2.26 times more chances of having PPD.⁹

In our study we observed 52.1% babies who are low birth weight and their mothers also developed PPD. In a similar study Patel et al showed that 56.6% mothers with low-birth-weight babies were depressed as compared to 35.3% mothers with >2.5 kg birth weight. Another analogous study conducted by Upadhyay et al found that preterm or low birth-weight babies were associated with PPD.^{16, 4}

In this study we observed that delayed initiation of breast feeding (after 1 hour) complication related to breast feeding related with PPD and among the total PPD mothers we observed that 52.1% in this category. Breast feeding gives a sense of satisfaction and completeness to mothers and also helps to deal with the hormonal changes occurring after the delivery of baby. In a similar study

conducted by Saldanha et al found that problems related to breastfeeding ($p \leq 0.001$) was associated with PPD.¹⁷

Relationship with husband is a risk factor of PPD. In present study we found that husband and wife not having satisfactory relation was associated with PPD. In a similar study conducted by Mehta et al showed that disturbed relationships with husband or marital conflicts were associated with PPD.¹⁸

In present study H/O physically disabled child in their family was 13% in depressed group, in a similar a study conducted by Kheirabadi et al who found that inborn malformations ($p=0.03$) were associated with PPD.¹⁹

In our study less interest in household activities was 82.6% in the depressed group. This was associated with PPD. In a similar study conducted by Bhuvana et al who found that disturbances in sleep, work and activities were more common among the postpartum women with depression. In present study any psychiatric illnesses in family, any unpleasant events in family were not associated with PPD, this could be due to lack of knowledge or cultural norms affecting women reporting of their symptoms.²⁰

In this study majority of depressed group 69.5% were in the age group of 21-30 years. The age of the mother was associated with PPD in present study. A similar study conducted by Bhuvana et al found that majority of the postpartum depressed mothers were between age group of 21-25 years (55.4%). Another study done by Kruthika et al Karnataka found in study that 28.4% post-partum mothers belonged to age group of 25-29 years.^{20, 21}

Limitation of the study was response bias and due to time and resource constraint, the sample size chosen seems not to be representative of the population of Indore district.

CONCLUSION

The prevalence of PPD in urban Indore was 23%. The risk factors are-Age at time of marriage below 18 years, mode of delivery, initiation of breast feeding after 1 hour and birth weight of baby less than 2.5 kg were all strongly associated with PPD. Other risk factors which were responsible in our study included age of mother (21-30 year), H/O abortion/still birth/death of baby, diseases during pregnancy like diabetes/thyroid/T.B. or others, complications related to breast feeding (B/F), H/O any physically/mentally disabled children in their families and not so satisfactory relationships with their husbands, which were also significantly associated with PPD.

Recommendations

Identification and screening-There should be regular screening of high-risk mothers during ante natal and post-natal check up to identify PPD. Legal frame work-Strict legislation to prevent child marriages should be enforced.

Marital and family conflict resolution and prenatal genetic counseling. Maternal and child health policies must integrate maternal depression as a disorder of public health significance especially in developing countries.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Bhaskar P, Yesikar V, Bansal SB, Waskel B. A cross sectional study to assess the prevalence and risk factors of post-partum depression in urban area of Indore district. *Int J Res Med Sci* 2021;9:3028-32.