A Cross- Sectional Study to Assess The Prevalence & Certain Associated Risk Factors For Postpartum Depression In Women In A Tertiary Care Hospital

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Abstract: Background: Postpartum depression (PPD) is the most common complication after delivery and may lead mothers to be inconsistent with childcare and may even progress to negative events. If diagnosed early it can be treated with support, medication etc. & prevented by screening for depression. The study was carried out to find the prevalence of postpartum depression in women and to identify & establish the associated risk factors involved. **Methods:** Cross sectional study on women in first week of postpartum period. Data was obtained by interviewing the mothers using a structured questionnaire, which included socio-demographic details. Edinburgh Postnatal Depression Scale (EPDS) was used to identify patients at risk for PPD. Questions were translated into Konkani according to local needs & validated by pilot study. **Results:** Study revealed 18.25% prevalence of PPD and significantly associated with relationship with In-laws, outcome of immediate previous & present delivery, neonatal complications in immediate previous pregnancy, which could be identified as potential risk factors. **Conclusion:** As postpartum depression can put the mother and child to certain risks, it is important that women are screened for PPD. Social support and interventions including counseling, various supportive interactions during the pregnancy can help in preventing PPD. This is an essential area of research that needs to be further developed in order to guide policy and clinical practice. [Kaser V et al NJIRM 2013; 4(6) : 97-101]

Key Words: Post partum depression, PPD

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Introduction: Women who have experienced postpartum depression are at risk of suffering further episodes of illness, both following subsequent deliveries and unrelated to childbirth[123]. After one postpartum episode the risk of recurrence, defined as criteria for Diagnostic & Statistical manual of Mental Disorders (DSM)-IV major depression, is 25% [4]. The effects of postnatal depression on the mother, her marital relationship, and her children make it an important condition to diagnose, treat and prevent. If detected at an early stage, it can be treated with support [56], medication, psychotherapy etc. screening for depression, stress, & whether the pregnancy was planned. Also proper assessment of various factors during first antenatal visit may prevent it.

This study was carried out to find the prevalence of postpartum depression in women and identify the certain associated risk factors.

Subjects and Methods: The cross-sectional study was conducted in a tertiary hospital setting , over a period of two months out in women in first week of postpartum period, who had delivered the baby irrespective of the period of gestation, mode & outcome of the delivery in terms of gender and live/dead fetus, admitted in obstetrics & gynecology wards. A total of 126 women were interviewed and data was obtained using a structured questionnaire, which included socio-demographic details like socioeconomic status, family structure, relationship with husband and in-laws, past obstetric history, gender of children, previous history of psychiatric illness, family history of psychiatric illness and outcome of current pregnancy in terms of mode of delivery, gender of newborn and neonatal complications.

As the study is hospital based, the EPDS (Edinburgh Postnatal Depression Scale)[4] scoring method was used, as so far this is a reliable method of assessing women's mental status in postpartum period objectively. This scale has a good sensitivity, specificity, and predictive value. It is safe, convenient, and acceptable to the target population & also cost-effective, easy to interpret, and readily incorporated into practice. It is accessible to the target population also. The PDSS (Postpartum Depression Screening Scale) is not used, as it is a scale primarily used for community-based study. In addition, postpartum women are usually discharged within a week of delivery

whereas the PDSS scoring is done in women between 2 weeks-3 months postpartum.

The EPDS is a validated scale & it includes 10 questions, which are valuable, and an efficient way of identifying patients at risk for postnatal depression. For better understanding by the study subjects, EPDS questions were translated by a qualified person into the local language. The translated version was validated by pilot study. The EPDS is easy to administer and has proven to be an effective screening tool. The scale indicates how the mother has felt during the previous week, not just how she feels today. According to the score mothers who scored 10 or above are likely to be suffering from a depressive illness.

After calculating the score, women were classified as possible non-depressed or depressed. The study was approved by the institutional research ethics committee. Confidentiality about the patient data was maintained viz; maintaining confidentiality, privacy, and security of data once collected and stored. Informed consent was obtained from the patient, their participation was voluntary, and they could withdraw at any time without prejudice. Final data was analyzed using Statistical Package for the Social Sciences (SPSS) a computer program used for survey authoring and deployment, data mining, text analytics, statistical analysis, and collaboration and deployment. The results are expressed in percentage and Pearson chi square test was used to determine the significance.

Inclusion criteria: All women who delivered during the study period in the Obstetrics ward were included in the study and the assessment of depression was done after first week of postpartum period.

Results: A total of 126 women (in the postpartum period) admitted in the obstetrics and gynecology wards over a period of two months were interviewed. Out of the 126 women, 23 (18.25%) of the women had an EPDS score of >10,which is suggestive of possible depression and 103 (81.75%) had an EPDS score of <10.The following variables were used as covariates associated with the prevalence of PPD namely: 1) Age of the mother, 2) Literacy level, 3) Years of marriage, 4) Parity, 5) Period of gestation, 6) Mode of delivery in past pregnancy, 7) Outcome of the delivery in past pregnancy, 8) Socioeconomic status, 9) Family structure, 10) Relationship with husband and in-laws, 11) Past obstetric history and gender of children, 12) Previous history of psychiatric illness, 13) family history of psychiatric illness, 14) outcome of current pregnancy, 15) Mode of delivery in present pregnancy, 16) Gender of newborn and 17) Neonatal complications.

There was significant association seen among the following variables namely, 1) Relationship with In-laws, 2) Outcome of immediate previous delivery, 3) Neonatal complications in immediate previous pregnancy and 4) Outcome of present deliveries. Other parameters did not show any significant association however, pattern of increase and decrease in number of cases was observed which may be significant if done on a large sample size. Data was analyzed using the SPSS version 11.0. The Pearson chi square (X^2) was used to calculate proportions. These data were expressed as percentages. A p value of ≤0.05 was considered statistically significant. Among 13.39% women experiencing discordant relationship with in-laws, a significant percentage of women (47.06%) had score >10 as compared to women with cordial relationship only 13.76% had score >10 out of 86.51 %.(Refer table 1)

Relationship with in-laws: Strong association has been observed between relationship within-laws and postpartum depression. Studies have consistently shown a negative correlation between

Table 1: EPDS Scoring with reference to relationship with In-laws

Relationship With In laws	EPDS Score				Total	
	Score < 10	Percentage	Score >	Percentage	Number	Percentage
Cordial	94	86.24	15	13.76	109	86.51
Discordant	9	52.94	8	47.06	17	13.49
Total	103	81.75	23	18.25	126	100

Table X^2 square value-3.841 P-value-0.000511

postpartum depression and emotional support [7910]. O'Hara and Swain [11] examined five studies in which overall levels of social support were measured during pregnancy. They found that there was a strong negative relationship between social support and postpartum depression. This suggests that women who do not receive good social support during pregnancy are more likely to develop postpartum depression.

An increase in the number of cases of women having score >10 has been observed in those women who had either delivered a dead baby or baby died after few days of life. 71.43% of women had score >10 who have delivered dead baby. Only 10.53% of women given alive birth had a score >10. (Refer table 2)

Outcome of immediate previous pregnancy: Study shows a highly significant association between postpartum depression and the outcome of the immediate previous delivery. As there was high prevalence of depression among those who had no living issues, which can be explained by the fact, that the women during her present pregnancy, could be in stress and fear of the outcome in the present pregnancy[12].

A high percentage of women (50%, stillbirth & 100%, dead baby) had a score >10. While 17.07% women, who gave birth to a live baby had score of >10. (Refer table 4)

Table 2: EPDS Scoring with reference to outcome of immediate previous delivery

Outcome	EPDS Score				Total	
	Score < 10	Percentage	Score > 10	Percentage	Number	Percentage
Alive	68	89.47	8	10.53	76	82.61
Still birth	3	33.33	6	66.67	9	9.78
Dead	2	28.57	5	71.43	7	7.61
Total	73	79.35	19	20.65	92	100

Table X^2 square value-5.991 P-value-0.000

Table 3: EPDS Scoring with reference to neonatal complications in immediate previous pregnancy

Neonatal Complications	EPDS Score				Total	
	Score < 10	Percentage	Score	Percentage	Number	Percentage
Present	10	58.82	7	41.18	17	18.48
Absent	63	84.00	12	16.00	75	81.52
Total	73	79.35	19	20.65	92	100

Table X^2 square value-3.841 P-value-0.012

Table 4: EPDS Scoring with reference to outcome of present pregnancy

Outcome	EPDS Score				Total	
	Score < 10	Percentage	Score	Percentage	Number	Percentage
Alive	102	82.93	21	17.07	123	97.62
Still birth	1	50.00	1	50.00	2	1.59
Dead	0	0.00	1	100.00	1	0.79
Total	103	81.75	23	18.25	126	100

Table X^2 square value-5.991 P-value-0.026

Outcome of present delivery: A significant association of outcome of the pregnancy and PPD has been observed and there is increase in the percentage of women who delivered either stillbirth baby or baby died within first week of life as compared to those who have delivered live baby. This is because death of the baby is equivalent to or more than death of the loved ones, which leads women into depression[313]. In addition, expectation of the family and their support plays a major role here, which either can

predispose to depression or can prevent depression.

Neonatal complications during previous delivery were noted to have a positive relation. 41.18% women who had previous child with neonatal complications had score >10 whereas 16% women who had previous child without any complications had score >10.
(Refer table 3)

Neonatal complications in present pregnancy: No significant relation between neonatal complications and PPD seen which is consistent with the observation of Warner et al [3]. However, its PPD is high among those who delivered baby with neonatal complications than without complications [11]. This relationship could be significant if done with large sample size.

Discussion: To date, there have been numerous studies regarding the prevalence and identification of risk factors. The results revealed much variability, mostly due to lack of guidelines and utilization of different patterns of screening. Using EPDS scale the prevalence of PPD in this study was found to be 18.25%, which is less as compared to the similar study done earlier at Goa possibly because it was a prospective study, community based with a large sample size [14]. Another study done in North America, Europe, Australasia and Japan, found overall prevalence rate of postpartum depression of 13% [11]. Prevalence of postpartum depression is seen to vary from place to place, also different for different population at same place. Among risk factors significant association is observed between postpartum depression with relationship with In-laws, outcome of immediate previous delivery, neonatal complications in immediate previous pregnancy & outcome of present deliveries.

Conclusion: As postpartum depression can put the mother and child to certain risks, it is important that women are screened for postpartum depression using a screening tool. Social support[5615]and interventions including psycho-educational strategies, cognitive behavioral therapy, interpersonal psychotherapy, non-directive counseling, psychological debriefing, various supportive interactions, and tangible assistance - delivered via telephone, home or clinic visits, or individual or group sessions antenatally and/or within the first month postpartum by a professional (nurse, midwife, childbirth educator, physician) or lay person (a specially trained woman from the community, a student)during the pregnancy can help in preventing postpartum depression. Unfortunately, the evidence supporting effective preventive interventions to ameliorate the impact of PPD on maternal-infant interaction and infant growth and development is limited. There are many gaps in the literature, which still must be explored before effective strategies can be incorporated into policy and practice. Clearly, this is an essential area of research that needs to be further developed in order to guide policy and clinical practice.

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