

Screening for postpartum depression in recently delivered mothers

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ABSTRACT

Objective: To identify the risk factors for postpartum depression and compare the rate and severity in abdominal versus vaginally delivered women at Fatima Hospital at Baqai Medical University using Edinburgh Postnatal Depression Scale (EPDS).

Methodology: It was a cross sectional comparative study conducted from 1st December 2007 to 28th February 2009. At Fatima Hospital total 393 women were interviewed using translated questionnaire of EPDS at 6-8 weeks postnatal, when they came for their post-delivery checkup in OPD. Women of all parities and age groups, who consented for the interview, were included in the study. Women who delivered stillborn, malformed and preterm babies were excluded. Additionally, women with complicated deliveries e.g. instrumental deliveries, extended episiotomies and with PPH were also excluded. Women were studied in two groups. Group-1 consisted of 195(47.3%) vaginally delivered women and group-2 consisted of 198(50.4%) abdominally delivered women. For convenience of patients EPDS was translated into Urdu. Statistical analysis was done by using SPSS version 15.

Result: Score of >12 out of 30-point scale was used to diagnose postpartum depression while score of >15 indicated severe postpartum depression. According to this criteria, over all 15% of women had confirmed PPD; while 22/195 (11.3%) vaginally delivered women and 35/198(17.8%) women delivered by caesarean section were found to have PPD. Risk of postpartum depression was higher in the women delivered by caesarean section compared to vaginally delivered women (p-value of 0.004). Both groups had the same chance of severity of symptoms.

Conclusion: By using EPDS criteria our study identified that 15% of delivered women at Fatima Hospital at Baqai Medical University had sign and symptoms of postpartum depression. Risk of post partum depression increased with traumatic birth experience, while the risk of severe postpartum depression was independent of mode of delivery.

KEYWORDS: Postpartum depression, Screening, Vaginal delivery, Caesarean section, Edinburgh postnatal depression scale.

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INTRODUCTION

Depression can be defined as the loss of pleasure or negative mood combined with a set of symptoms, which lasts more than two weeks and causes impairment in some or several areas of life.¹ Postpartum depression (PPD) is a term used to describe a heterogeneous group of depressive disorders specific to the postpartum period. Onset is usually within 6 weeks after childbirth, and symptoms last from 3 to 14 months.^{2,3} Past and present studies consistently found

that depression is far more common among females (42.2%) compared to males 18%.^{4,5} The prevalence of major depressive disorders in women increases during their reproductive years, as women are more likely to suffer from mood and anxiety disorders following childbirth than at any other time in their lives. The post partum mood and anxiety disorders i.e. baby blues, depression, psychosis obsessive-compulsive disorder and panic disorder are thought to affect as few as 10% and as many 80% of new mothers around the world, representing all ages, educational achievement and health status levels.

The typical symptoms include headaches, palpitation, hyperventilation, hopelessness, impaired concentration and thoughts of suicide, hallucination, no feeling for baby and irrational statements. These symptoms occur at a time when a great number of other emotional and physical demands are being made on the mother and at an early stage in the development of relationship with her child. Mothers are often reluctant to tell any one how they are feeling, a particularly common fear being that their baby may be taken away from them. Untreated postpartum affective illness places both the mother and infant at risk and is associated with significant and long-term effect on child development and behavior.

Individuals at greatest risk often have a prior history of PPD, personal or family history of mood disorder or depression during current pregnancy. Others possible risk factors are inadequate social supports, marital dissatisfaction or discord, and recent negative life events such as a death in the family, financial difficulties or loss of employment. Women who deliver by cesarean section differ significantly from those who deliver vaginally regarding their birth experience. Those who deliver by C/Section are often less satisfied with their experience, and with themselves. They experience a feeling of resentment towards the physicians, profound disappointment at the treatment expectation and loss of happy moment of natural birth leading to postpartum depression. Cesarean delivery carries considerable disadvantages in terms of pain and trauma of an abdominal operation and complication associated with it.⁶ Maternal fear during cesarean section not only fluctuates, but may be influenced by psychosocial factors, including their partner. Intervention that appropriately manages psychological and social factors during cesarean delivery may facilitate a more positive experience for mothers.⁷

Despite multiple contacts with medical professional during the postpartum period, puerperal psychiatric disorders are frequently missed, and many women go without treatment. Too, often PPD is dismissed as

a normal or natural consequence of childbirth. It needs a reliable way of systematically assessing maternal mood for every woman. The Edinburgh postnatal depression scale (EPDS) is a 10-item self-rated questionnaire, used extensively for detection of postpartum depression in western world. We conducted this study to find out the risk factors for Post Partum Depression in abdominal vs. vaginally delivered women.

METHODOLOGY

A cross sectional study was carried out at Fatima Hospital at Baqai Medical University during 15 months period from 1st December 2007 to 28th February 2009. Women were selected from postnatal clinic and vaccination clinic, where they were coming for follow up visit and vaccination of their babies. Total 393 women participated in the study. All participants were divided into two groups, group-1 consisted of 195(49.3%) vaginally delivered women and group-2 consisted of 198(50.4%) abdominally delivered women. Only those women were included in the study that delivered at this hospital and consented for interview. Majority of women who consented were illiterate so, investigators applied this questionnaire. Women who refused to give consent, having stillborn, preterm and malformed babies and complicated deliveries were excluded.

Translated questionnaire of Edinburgh post natal depression scale was used and interview was conducted in privacy. The EPDS includes, 10 statements that describe feelings reflective of postpartum depression symptoms during the past 7 days, rated on a scale from '0' (never) to '3' (quite often). For convenience the responses are lettered (a) representing a score of '0' and (d) representing a score of '3'. Response categories are scored 0, 1, 2, and 3 according to severity of the symptoms. Questions 3,5,6,7,8,9,10 are reverse scored (i.e. 3,2,1,0). A score of '12' on a 30-point scale was considered to represent postpartum depression. Statistical analysis was done by SPSS version 15. The hypothesis was tested by using test of proportion as appropriate test of significance.

RESULTS

In this study we interviewed 392 women in the 6-8 weeks postnatal period. These women were further subdivided in two groups on the basis of mode of delivery i.e. group-1 consisted of 195 (49.7%) vaginally delivered women and group-2 consisted of 198 (50.4%) women delivered by caesarean section. Postpartum depression was observed through scoring pattern and identified in 57(15%) of women (Table-I). Individual scores of both groups are

Table-I: EPDS scores distribution in the participants.

Scores	Vaginally delivered women	Women delivered by C/S	Total
01	02 (1.0%)	02 (1.0%)	4 (1.0%)
02	01 (0.5%)	03 (1.5%)	4 (1.0%)
03	20 (10.3%)	11 (5.6%)	31 (7.9%)
04	24 (12.3%)	13 (6.6%)	37 (9.4%)
05	11 (5.6%)	19 (9.6%)	30 (7.7%)
06	25 (12.8%)	13 (6.6%)	38 (9.7%)
07	26 (13.3%)	26 (13.3%)	52 (13.3%)
08	19 (9.7%)	19 (9.6%)	38 (9.7%)
09	19 (9.7%)	29 (14.7%)	48 (12.2%)
10	19 (9.7%)	18 (9.1%)	37 (9.4%)
11	07 (3.6%)	10 (5.1%)	17 (4.3%)
12	00 (0.0%)	09 (4.6%)	9 (2.3%)
13	07 (3.6%)	06 (3.0%)	13 (3.3%)
14	02 (1.0%)	05 (2.5%)	7 (1.8%)
15	02 (1.0%)	05 (2.5%)	7 (1.8%)
16	00 (0.0%)	02 (1.0%)	2 (0.5%)
17	04 (2.1%)	04 (2.0%)	8 (2.0%)
18	00 (0.0%)	01 (0.5%)	1 (0.3%)
19	01 (0.5%)	01 (0.5%)	2 (0.5%)
20	01 (0.5%)	00 (0.0%)	1 (0.3%)
21	04 (2.1%)	00 (0.0%)	4 (1.0%)
22	00 (0.0%)	01 (0.5%)	1 (0.3%)
23	01 (0.5%)	01 (0.5%)	2 (0.5%)
	195	198	393

($p < 0.016^*$). Showed statistical significance at $p < 0.05$.

classified and presented in this table. The linear relationship was observed between the groups using Spearman's Rank correlation $r = 0.121$. A significant correlation was found at $p < 0.016$.

The occurrence of postpartum depression was higher in C-section delivered women i.e. 35/198(17.8%) as compared to vaginally delivered women where post partum depression was observed in 22/195(11.2%) women. A significantly higher proportion of postpartum depression was found in the group of women delivered by caesarean section using z-test of proportions at $p < 0.004$ (Table-I).

Severe type of postpartum depression was observed by taking scores >15 . Out of all 57 women defined as having postpartum depression, 27 (47.3%) women had severe postpartum depression. In the group of vaginally delivered women, severe postpartum depression was found in 13 (22.8%) women, as compared to the other groups where postpartum depression was found in 14 (24.5%) women. The difference

Table-II(a): Parity status of all participants (N=393).

S.no.	Parity	Score < 12(n=336)	Score >12(n=57)
1	Primipara	67	16 (28.1%)
2	G ²	55	12(21%)
3	G ³	52	3(5.3%)
4	G ⁴	38	5(8.8%)
5	>G ⁵	124	11(19.3%)

in proportion of severity of postpartum depression was insignificant between two groups at $p < 0.5$. About 76% of the participants had not received any formal education and 10% women had educational qualification up to Matriculation. 74% of depressed mothers had never been to school. A significant correlation of postpartum depression was found with parity. Among the 57 recorded depressed mothers, 26(45.6%) were primipara (Table-II). Low socioeconomic status is also a risk factor for postpartum depression.

Forty one mothers (10.46%) gave history of using psychotropic medicines prior to pregnancy for relief of mood disturbance. Out of these 41 mothers 19(46.3%) had scores >12 on EPDS i.e. significant number of these women had reactivation of their symptoms during postpartum period.

DISCUSSION

Postpartum psychiatric and anxiety disorders are thought to affect as few as 10% and as many as 80% of mothers around the world, more likely following child birth.⁸ This has been studied in women of all ages; cultures, religions, socioeconomic status, educational achievement and health status level, but very few studies have been conducted in our local population so far.⁹ In our study scoring criteria of EPDS was used to identify post partum depression. Our result revealed a prevalence rate of 15% in recently delivered women at Fatima Hospital at Baqai Medical University. It was found to be slightly higher in women delivered by caesarean section as compared to women who delivered vaginally. Certain variables for PPD in both groups were analyzed i.e. age, parity status, educational status, socioeconomic status and past history of use of psychotropic medicines for the relief of mood disturbances.

There are different criteria's for screening of postpartum depression. Edinburgh postnatal depression scale was chosen as screening tool for this study because it has proved to be a valid tool for screening

Table-II(b): Educational status.

Education	Total	Depression	No Depression	chi-square Value	P-value
Literate	95	15	80	0.17	0.682*
Illiterate	298	42	256		

Table-II(c): Socioeconomic status.

<i>Socioeconomic Condition</i>	<i>Total</i>	<i>Depression</i>	<i>No Depression</i>	<i>chi-square Value</i>	<i>P-value</i>
Monthly Income Rs. <10000	373	57	316	3.57	0.058*
Monthly Income Rs. >10000	20	0	20		

of PPD both during pregnancy and especially postnatally in a number of studies. The measure was developed specifically for use in puerperal women. The principle feature of the scale, which designates it as a "postnatal" scale, is that it includes somatic symptoms of depression and excludes normal physiological symptoms of postpartum period. This feature of the scale was a major factor in its selection for our study, which aims to measure depression in postpartum period. A systematic review on validity of Edinburgh postnatal depression scale was conducted by Gibson et al, which defined high sensitivity (86%), specificity (78%) and positive predictive value of 73% at cut of points 12/13 in 6 week's postnatal women.¹⁰ For our study EPDS was translated in Urdu language for convenience of women. Previously validity of scale also has been proved in different languages,¹¹⁻¹³ including Urdu language also.¹⁴ EPDS is a self-completion form but in our study it was filled by doctors during their interviews from women, because most of the women were not literate. There is a possibility that result might be more significant if it was filled by women themselves. Despite this our study showed a significant prevalence of postpartum depression among local mothers. A meta-analysis of studies concluded that, many women suffer from some type of mood disturbance, but most of these symptoms are transient and relatively mild, however 13% of mothers experienced more disabling and persistent form of mood disturbance i.e. postpartum depression.¹⁵ We interviewed women at 6-8 weeks postnatal period as by this postnatal period most of the transient symptoms of mood disturbance regressed. In our study 15% of diagnosed depressed mothers according to EPDS scoring system were those who had persistence of their depressive symptoms continued up to 6-8 weeks. These women can be missed without screening and some of them may develop severe form of depression in the absence of treatment.

There is an important co-relation between PPD and traumatic stress, in our study we also recognized

greater prevalence of postpartum depression among women delivered by caesarean section than vaginally delivered women i.e. 17.8% compared to 11.2%. It is possible that women with operative delivery have more mood disturbance because they bear more trauma and pain during childbirth and in perinatal period. Keogh et al described in his study that maternal fear responses varied during the operation, in that fear was greatest at the point of the administration of the nerve block within mothers, preoperative negative expectation were related to fear experience during delivery, which was in turn related to their post-operative pain.¹⁶ In our study in group-2, most of women had emergency caesarean section after trial of labor and had to endure significant pain during labor and post-delivery. These women were not mentally prepared for operative delivery when they were admitted to hospital in labor. In one study author¹⁷ suggested that risk of PPD can be reduced by providing good quality of services during labor and in post-operative period e.g. good analgesic and nursing care. Borders N,¹⁸ concluded in his study that women who have spontaneous vaginal birth experience, having less short and long term morbidity than women who undergo assisted vaginal birth or C/section birth. To maximize postpartum health in women of traumatic birth experience, providers of obstetric care need to protect the perineum during vaginal birth and avoid unnecessary cesarean section.

One of the good things that we realized in our study is that in our set-up most of the time grandmothers were also taking care of babies, so these mothers had rest and improved. Women with caesarean section need more physical and mental support by family members. Yang and Xie et al also indicate the importance of family members at birth time and concluded that support from husband and parents had the largest impact on the risk of developing PPD.¹⁹ It seems that PPD is the result of a complex interaction between the biological, psychological, personal, demographic and social risk factors. High-risk women can be iden-

Table-II(d): H/O Psychotropic drug use.

<i>Use of Psch. drug</i>	<i>Total</i>	<i>Depression</i>	<i>No Depression</i>	<i>chi-square Value</i>	<i>P-value</i>
Yes	41	19	22	37.42	0.000**
No	352	38	314		

*Not Significant

** Significant

tified by possessing these typical risk factors.

In our study we also observed certain risk factors that were found in high frequency among depressed women. Every third depressed mothers gave history of using psychotropic medicines prior to pregnancy and statistically it is a significant risk factor for postpartum depression in our study. Previous research also suggested that those women who suffer from psychiatric problems like obsessive compulsive disorders prior to pregnancy may have intensification of their symptoms during postpartum period.^{20,21} It is possible that postpartum depression runs a remitting and recurring course in these women's life. They may not have any signs of depression for a long time prior or during pregnancy, but it can recur during postpartum period.²² Stowe ZN et al²³ supported this idea in their study that women with history of postpartum depression have a 50% risk for recurrence and 30% of women with a history of depression not related to childbirth have postpartum depression.

All of the mothers identified as having PPD in our study were from low socioeconomic status and 74% of them were illiterate. Many socio-demographic studies²⁴ have proved that low socioeconomic status can be a risk factor for contributing mental illness in community. In our study statistical analysis of both factors came insignificant because majority of participants were illiterate (76%) and from low socioeconomic status (94%). To prove these factors we require a different sample. Being a citizen of developing country with economic transition and high poverty level our mothers are prone to mental illnesses.

CONCLUSION

From this study we were able to screen out a significant number of women with postpartum depression, it also identified caesarean section, primiparity, and previous history of psychiatric problems, low socioeconomic status and illiteracy as predicting factors for PPD.

Author's Contribution:

MK and SA conceived and designed the study, as well as they did data collection and manuscript writing. KR did statistical analysis and Prof AZ reviewed the final manuscript.

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