Prevalence & related factors to postnatal depression: A comparison between NVD & LSCS mothers

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ABSTRACT

Postnatal depression is a critical and neglected phase in the life of mother and babies. Early detection of depression will reduce the morbidity & mortality among postnatal mother, says WHO as ‘Depression let’s talk.’ The assessment for postnatal depression after delivery is not a routine practice in many of the hospitals of Odisha. Hence in view of this, the current study was designed. The primary objective is to assess the prevalence of postnatal depressive cases and to find out the related factors responsible for the same. The secondary objective is to determine the level of depression & its association with the demographic variables and the regression analysis of both the cases. This was a comparative study conducted among 200 postnatal mothers, out of whom 100 were normal delivery (NVD) & rest 100 were lower segment caesarean section (LSCS) mothers admitted in the postnatal ward of IMS & SUM Hospital, Bhubaneswar, Odisha. The subjects were interviewed through a self-structured demographic Performa & Edinburgh postnatal depression scale (EPDS) within three days post-delivery. As per the survey result, depression was more among mothers having a cesarean delivery. The major factors contributing to depression were age and complications during the antenatal and intra-natal period. However, a high level of depression was associated with normal delivery cases with poor economic background and lack of family support. This study may bring light to the prevalence & related factors to depression among postnatal mothers in IMS & SUM Hospital so that healthcare professionals can focus more on counseling to the mothers on parenthood & other aspects so that the depression among the mothers not only can be early detected rather can be prevented.

INTRODUCTION

Depression is a serious mental illness twice as common in female than in male (WHO, 2014). Postnatal depression is a global public health concern in low to middle economy countries with an incidence as high as 10-15% (Upadhyay et al., 2017; Almond, 2009). This condition has received little attention & very least research conducted on both normal & cesarean mothers to compare the severity of depression. In India the incidence range from 7.5-21.5% (Upadhyay et al., 2017; Saldanha et al., 2014; Shriram et al., 2019). The strong predictor to depression in a female are stress during the childbearing period, nerve-racking life events, poor support from society...
and a past record of depression.

Fully committed maternal mental health care facilities were greatly lacking in majority health-care centers of India and lack of mental healthcare training to healthcare providers makes them unaware of the severity & early detection of such cases (Baron et al., 2016).

Literature suggests children born to depressive mothers have higher cognitive, behavioral and interpersonal problems than non-depressed mothers (Upadhyay et al., 2017). Severely depressive mothers have suicidal thoughts & also thoughts of harming their own children if neglected (Paris et al., 2009). Somewhere there is lacuna till day that the mothers, their family members neither the healthcare providers are aware of the harshness of postnatal depression & its impact on both mother & baby.

In India, the rate of maternal mortality is sharply declining, which is why the focus on mortality due to mental illness may also shift. Also, there is a lack of strong research evidence on the overall burden of the postpartum depression along with its associated factors (Organization and UNICEF, 2015). Hence for the researcher has chosen the topic to establish an overall burden & contributing factor for postnatal depression in Odisha to a possible extent.

MATERIALS AND METHODS

The current study is a comparative descriptive study under a quantitative approach where a total of two hundred numbers of the sample were taken, out of which 100 were Normal vaginal delivery (NVD) & rest 100 were lower segment caesarean section (LSCS) mothers. The data were collected by using self-structured demographic Performa & Edinburgh Postnatal Depression Scale Score (EPDS) from the postnatal ward of IMS & SUM Hospital, BBSR, Odisha from 7th January to 30th March 2019. Institutional permission & informed consent were taken prior to data collection. Information gathered through a face to face interview with the mother within the first 72hr of delivery by using a convenient sampling technique. The interview took around 20min. The data were analyzed using SPSS version 20.

RESULTS AND DISCUSSION

A total of 200 mother participated in the study. The mean age of the normal delivery mother was 21.5yr, whereas the mean age for the caesarean mothers were 30.5yrs. Maximum of NVD mothers were primigravida (66%), delivered to male child(66%), completed primary education(44%), housewife(72%), Hindu(90%), belong to joint family(63%), had planned pregnancy(51%), having no paternal history of depression(90%) & are getting family support(88%) whereas in caesarean mothers all criteria are same with NVD except for higher educational qualification of graduation & above(40%) Table 1.

The prevalence of postnatal depression in NVD & LSCS mothers are 16% & 20% respectively (Table 2). Data on the level of depression shows in NVD, 14%, 13% & 21% were having mild, moderate & severe depression respectively, whereas in cesarean section mothers 20%, 10% & 31% were having mild, moderate & severe depression respectively (Table 3).

In Independent sample test level of postnatal depression shows the significant difference with education, occupation, the gender of baby, religion, economic status, paternal history of depression, family support among NVD & LSCS mothers (Table 4).

Chi-square analysis shows strong association of level of depression with all except for religion &
### Table 1: Socio-demographic data

| Age (Yr) | NVD Mothers (%) | LSCS Mothers (%) |
|----------|-----------------|------------------|
| 18-25    | 49              | 38               |
| 26-35    | 47              | 60               |
| >35      | 4               | 2                |

| Order of pregnancy                             | NVD Mothers (%) | LSCS Mothers (%) |
|------------------------------------------------|-----------------|------------------|
| 1st                                             | 66              | 64               |
| 2nd                                             | 26              | 26               |
| 3rd or more                                     | 8               | 10               |

| Gender of child                                  | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Male                                            | 66              | 60               |
| Female                                          | 34              | 40               |

| Education of mother                             | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Primary                                         | 44              | 28               |
| Secondary                                       | 27              | 28               |
| Graduation & above                              | 29              | 40               |
| Illiterate                                      | 0               | 4                |

| Occupation of mother                             | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Housewife                                       | 72              | 80               |
| Daily wages                                      | 4               | 0                |
| Govt. Employee                                   | 8               | 12               |
| Private Employee                                 | 16              | 8                |
| Housewife                                       | 72              | 80               |

| Religion                                         | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Hindu                                           | 90              | 90               |
| Muslim                                          | 8               | 6                |
| Christian                                       | 2               | 4                |

| Type of family                                   | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Nuclear                                         | 37              | 42               |
| Joint                                           | 63              | 58               |

| Planned pregnancy                                | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Yes                                             | 51              | 60               |
| No                                              | 49              | 40               |

| Paternal h/o depression                          | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Yes                                             | 10              | 7                |
| No                                              | 90              | 93               |

| Getting Family support                           | NVD Mothers (%) | LSCS Mothers (%) |
|-------------------------------------------------|-----------------|------------------|
| Yes                                             | 88              | 80               |
| No                                              | 12              | 20               |

### Table 2: Data on level of depression

| Level of depression | NVD (%) | LSCS (%) |
|---------------------|---------|----------|
| No depression       | 52      | 39       |
| Mild                | 14      | 20       |
| Moderate            | 13      | 10       |
| Severe              | 21      | 31       |
### Table 3: Data on independent sample t test

| Demographic variable          | NVD (P value) | LSCS (P value) |
|------------------------------|--------------|--------------|
| Age                          | .349         | .981         |
| Order of pregnancy           | .102         | .066         |
| Gender of baby               | .315         | .000         |
| education                    | .015         | .235         |
| Occupation                   | .017         | .026         |
| Religion                     | .008         | .640         |
| Type of family               | .179         | .263         |
| Economic status              | .024         | .000         |
| Planned pregnancy            | .309         | .613         |
| Paternal h/o depression      | .000         | 000          |
| Family support               | .000         | .000         |

### Table 4: Data on chi square test

| Demographic variable          | NVD | P-value | LSCS | P-value |
|------------------------------|-----|---------|------|---------|
| Age                          | 65  | .004    | 75.2 | .004    |
| Order of pregnancy           | 76.6| .000    | 62.8 | .050    |
| Gender of baby               | 62.6| .000    | 34.4 | .058    |
| education                    | 79  | .000    | 104.8| .003    |
| Occupation                   | 111.9| .000   | 72.3 | .008    |
| Religion                     | 46.8| .153    | 105  | .000    |
| Type of family               | 33.4| .021    | 34.7 | .055    |
| Economic status              | 51.4| .000    | 55.6 | .000    |
| Planned pregnancy            | 26.7| .110    | 22.7 | .457    |
| Paternal h/o depression      | 74  | .000    | 47.1 | .002    |
| Family support               | 65.2| .000    | 50.2 | .001    |

### Table 5: regression analysis for NVD mothers

| Mode | R Square | Adjusted R Square | Std. Th | R Squa | Change Statistics | Durbin-Watson |
|------|----------|-------------------|---------|--------|-------------------|--------------|
| I    | .666     | .444              | .374    | .970   | .444              | 6.385        |
| F    |           |                   |         |        | df1               | 11           |
|      |           |                   |         |        | df2               | 88           |
|      |           |                   |         |        | Sig. F            | .000         |
|      |           |                   |         |        | Change            | 2.176        |
planned pregnancy in normal delivery. In caesarean section, age, occupation, religion, education, economic status, paternal h/o depression, gets family support show significant association with the level of depression (Table 5).

Finally, Multiple regression analysis In normal delivery cases revealed that after adjusting for Family Support, Religion, Education, Age, Type of Family, Economic Status, Gender of Child, Planned Pregnancy, Order of Pregnancy, Occupation, Paternal h/o depression for 44% the level of depression changes significantly ($R^2=44.4\%$; Std Err= 0.97; $p=0.001$; CI 95%) (Table 6) (Figure 1). In addition, for c section delivery the level of depression changes for 24% ($R^2=24\%$; Std Err= 1.18; $p=0.008$; CI 95%) (Figure 2). The findings suggest that high demographic changes in normal delivery would express depression while the low change in demographics of patients undergone c section would express more depression.

In the current study, the prevalence of depression was found out to be high among caesarean mothers (20%) than normal delivery (16%), which shows some similarity with a study by Saldanha D, where the overall prevalence of depression among all postnatal mother was 21.51% (Almond, 2009). In another study, the maternal psychological distress in Odisha was 11.5% (Prost et al., 2012).

The mean age of NVD & LSCS mothers were 21.5yr & 30.5yr resp. This finding is nearly similar to two studies, where the mean age of the sample was 24.5 (Shiriraam et al., 2019; Gupta et al., 2013).

In current study, 14%, 13% & 21% of NVD cases were having mild, moderate & severe depression respectively, whereas in caesarean section 20%, 10% & 31% were having mild, moderate & severe depression respectively which is contrast in a study done by Shiriraam V (level of moderate to severe depression is 11% & 7.4% resp.) (Shiriraam et al., 2019).

The risk of postnatal depression shows a strong association with a primigravida, having a female baby, low educational and economic status, having a positive family history of depression, complications in the antenatal period, not getting any family support during the perinatal period. The current study shows similarity to Bener A, 2017, showing financial difficulties, poor family support & dissatisfaction in marital life, pregnancy complications are the major predictor of depression in postnatal mother (Bener et al., 2012; Gupta et al., 2013).

**CONCLUSIONS**

The present study confirms a high prevalence of depression in all postnatal mothers, a bit high among caesarean section cases. Simultaneously the health-seeking behavior for maternal depression is demonstrated to be very low. Henceforth this is the high time for the health care providers to take necessary steps to include maternal mental health in reproductive and child health programs.

Postnatal depression cannot be neglected & the mothers should be educated on the same since antenatal period so that the incidence & complication to depression can be reduced. And most importantly, the EPDS scale must be used for every mother routinely after delivery in postnatal wards for the early detection of depression. The training necessary to raise awareness among healthcare providers for early detection should be a part of the hospital policy.

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**Conflict of Interest**

None

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