Original Article

Socio-economic and Psychological Correlates of Postpartum Depression at Six Months

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Background : A woman undergoes multiple changes physically and emotionally after childbirth. Mothers also experience emotional changes with a new or additional baby related to breastfeeding demands, problems pertaining to maternal dissonance, childcare stress and difficult infant temperament.

Materials and Methods : Overall, 100 women out of 178 women who attended obstetrics and Gynaecology department postpartum in our hospital were selected. Socio-economic factors, psychiatric and maternity characteristics were collected using a standard questionnaire. The main outcome of this study was PPD assessed by Edinburgh postpartum depression scale was used to assess the chief outcome of the study, ie, Postpartum Depression. EPDRS scale consisted of 10 questions that has 4 response scored from 0 to 3, so the highest value shows depressed moods.

Results : Final results are of 100 postpartum females with age ranging between 18 and 30 years with a mean value 26.5 years ± 4.05, 21.3% dwelling in Urban areas and 15.4% having high education. About 2.1% of study participants had postpartum only Depression, 15.3% had only anxiety alone and 23.2% study participant had both. When we look at severity, 8.8%, 10.6%, 2.9%, and 0.4% suffered from Mild, Moderate, Severe and extremely severe Postpartum Depression, respectively. 14.2%, 9.2%, 6.9% and 3.9% suffered mild, moderate, severe, and extremely severe Postpartum anxiety, respectively.

Conclusion : Around 23% female patients in our hospital suffer from Postpartum Depression and/or anxiety. Very low Socio-economic levels, past history of Depression and Anxiety, mothers' education and occupation levels, family support during pregnancy, mothers' stress levels are important predictors.

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Key words **: Postpartum depression, Socio-economic correlates, Psychological factors.**

A woman undergoes multiple changes physically and emotionally after childbirth[1]. During pregnancy, common physical changes experienced by mothers are weight gain, stretch marks, and hair growth, while in the postpartum period, the most common changes are weight loss, sagging breasts, and hair loss[1]. Mothers also experience emotional changes with a new or additional baby related to breastfeeding demands, problems pertaining to maternal dissonance, childcare stress and difficult infant temperament[2]. Additionally, social demands may contribute to general depressive symptoms and stress, such as financial strain related to low Socio-economic status, compliance to traditional postpartum care practices, and social and sexual relationships with the partner or caretaker of the child[2,3].

Socio-economic and cultural factors are closely related with the prevalence of Postpartum Depression, and for different countries, ethnicities and races it varies widely[4]. As a risk factors of Postpartum Depression, many psychosocial and obstetric parameters have been suggested[5]. A personal history of depression in non-pregnant state and also in earlier pregnancy is a major risk factor of Postpartum Depression[6]. History of psychiatric illness in family[7], living without spouse[13], unemployment of women, spouse or head of family[10], lack of monetary and emotional support from spouse[11], lack of 'perceived' social support from family and friends[8,9], unwanted/unplanned pregnancy[14], marriage related conflict[12], any stressful life events within 12 months[13], no breastfeeding practice[15], childcare-related stresses[15], sick leave while pregnancy because of frequent visits to the ante-natal clinic psychiatric illnesses,uterine irritability[16], and an infant with congenital malformation[17] are some other predictors of risk of Postpartum Depression.

Editor's Comment :

- There is relatively high incidence of Postpartum depression and anxiety. So, Clinicians, especially Gynaecologists should keep an active watch and proactively ask for any symptoms of depression and anxiety in Postpartum patients.

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As the prevalence of Postpartum Depression has increased in India, all Health Care Workers including Doctors, Staff nurses, EMTs, should be able to identify and treat Postpartum Psychological Disorders. So, current study was done with aim to determine Socio-economic and psychological correlates of postpartum Depression at six months postpartum period.

Materials and Methods

This was a cross-sectional study done in year 2020, conducted at a Tertiary Level Hospital in Gujarat, India. Overall, 178 women who attended obstetrics and gynaecology clinics postpartum in our hospital were selected, of which 100 women were recruited. Inclusion criteria included all women gave informed consent. A questionnaire containing demographic details, Socio-economic factors, psychiatric and maternity characteristics was completed. Basic instrument to collect data was Face-to-face interview. Interviews took place at 6 months after delivery from 1st June, 2020 to 1 December 2020.

Postpartum Depression and its severity as measured by Edinburgh Postpartum Depression Scale was the main outcome of this study. The scale consisted of 10 questions with 4 response categories scored from 0 to 3, whereby the highest value represents depressed moods. Mothers with a total score of 13 or greater on Edinburgh Postpartum Depression Scale were diagnosed to Postpartum Depression. Score of 0-9 shows no risk of having symptoms of Postpartum Depression, a score of 10-12 shows some risk of having symptoms of Postpartum Depression; and a score of 13 or greater indicates a major risk of having symptoms of Postpartum Depression.

Various Socio-economic parameters, likemother's educational level (Illiterate, Primary, Diploma, Graduate), per month household income, occupation status of spouse (employed/unemployed), work status at time of pregnancy (housekeeper, employed)were examined. Maternal characteristics like parity, delivery type ie, normal Delivery *versus* Caesarean, weight gained in pregnancy (inadequate, recommended, excessive), practices of family planning, and psychiatric parameters like past history of depression/ took any antidepressants, satisfaction from husband (Very high, Moderate and very poor), level of stress of mother in pregnancy (Very, Somewhat, No), were studied. All the data were collected by direct interview of mothers. Mother's reported stress level during a year prior to the child birth was compared with mother's stress level in pregnancy and postpartum.

Results

Basic Characteristics :

This study included 100 postpartum females and their age ranged between 18 and 30 years with a mean value 26.5 years ± 4.05 and 21.3% were from Urban areas and 15.4% achieved high education.60.3% female had more than 5 family members, 85.5% were belonging to lower Socio-economic class, while 9.8% were of middle Socio-economic class. Average gestational age of infants born was 34.1 ± 3.32, with an average of 32 and 38 weeks, out of them 60.8% were normal vaginal deliveries; out of all babies born 51.3% were female children. The order of the new-born ranged between 0 and 5 with median 3. Most of women (85.4%) were given iron supplementation during pregnancy as 80.2% of them were having anaemia symptoms during pregnancy. 15.7% study participants had history of Postpartum Depression, Anxiety or both. Depression and Anxiety scores ranged between 0 to 37 with mean values of 6.01 ± 27.12 and 5.34 ± 29.1, respectively.

Prevalence and Severity of Postpartum Depression and Anxiety :

In current study, 2.1% of the studied females suffered Postpartum Depression alone, 15.3% suffered from anxiety alone, and 23.2% suffered from both (Figs 1&2). Considering severity, 8.8%, 10.6%, 2.9%, and 0.4% suffered from Mild, Moderate, Severe and extremely severe postpartum depression, respectively. 14.2%, 9.2%, 6.9%, and 3.9% suffered mild, moderate, severe, and extremely severe postpartum Anxiety, respectively (Tables 1 & 2).

Discussion

In current study, period prevalence of Postpartum Depression was 2.1% and comorbid Postpartum Depression and anxiety were 23.2% at six months Postpartum assessed by Edinburgh Postpartum Depression scale upon females aged 18-30 years. A

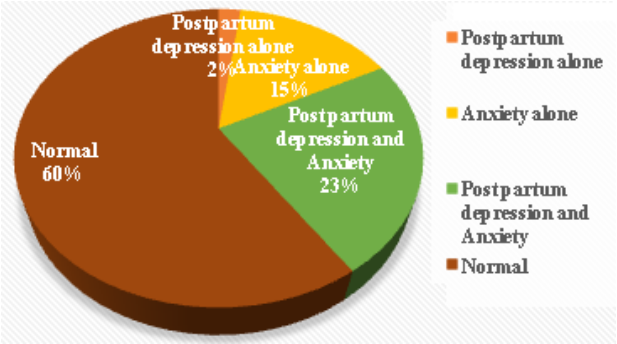

Fig 1 — Pie chart showing the prevalence of postpartum depression and anxiety among the studied postpartum females

Table 1 — *Socio-demographic characteristic risk factors of Postpartum Depression*

Factors	Responses (%)
Socio-economic status :	
Low	85.5
Moderate	9.8
High	4.7
Mothers' educational level :	
Illiterate	1.7
Primary	86.3
Diploma	11
University graduate	1
Mothers' occupation :	
Housekeeper	90.3
Employed	9.7
Partners' occupation :	
Unemployed	45.5
Employed	54.5

Table 2 — *Psychiatric risk factors of Postpartum Depression.*

Factors	Responses (%)
Receiving family support during pregnancy :	
Yes/always	43.7
No/occasionally	56.7
Mother's stress level during pregnancy :	
Very	20.2
Somewhat	59.8
No	20.0
History of depression during pregnancy :	
Mild	45.5
Moderate/severe	4.5
No/never	50.0
Satisfaction from living with husband :	
Very high	49.2
Moderate	41

study conducted by Taherifard P, *et al*[18] showed that prevalence of Postpartum Depression was 34.8%. In study conducted by Wassif OM, *et al*[19]. prevalence of Postpartum Depression was 1.6%. Our figures are less than a study on 325 Australian mothers in Melbourne, with DASS-21done by Miller, *et al*[20] where 19% and 13% of females had Depression and Anxiety, respectively. One possible cause of such difference between figures could be that those females most of the times had combined Mental disorders or stress in addition to depression and anxiety. Fairbrother, *et al*[21]. in their study on 115 Canadian mothers showed the prevalence of anxiety was 17%in the early postpartum period, while the prevalence of depression was 4.8%.

In their study, Peñacoba-Puente, *et al*[22] showed significant correlation with each-other between postpartum symptoms of anxiety and depression. Our findings are also similar in this regard, 23% females suffering had comorbid depression and anxiety. Whereas our results are higher than a study of 522 mothers in British-Columbia done by Falah-Hassani *et al*[23],where found that comorbid depression and

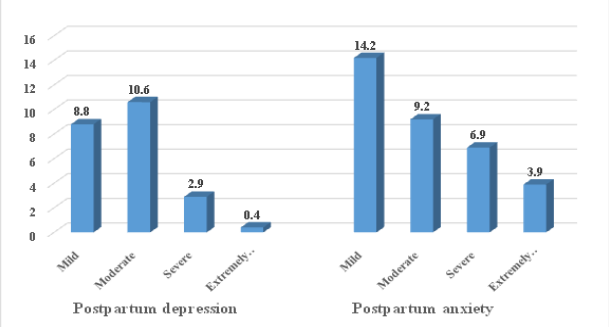

Fig 2 — Bar chart showing the severity of postpartum depression and anxiety among the studied postpartum females

anxiety was seen in 13% females.

In current study 8.8% cases had mild, 10.6% moderate, 2.9% severe and 0.4% extremely severe Postpartum Depression and in anxiety 14.2% cases had mild, 9.2% moderate, 6.9% severe and 3.9% extremely severe anxiety. Which are less thana study in Athens on 480 postpartum womenby Deltsidou, *et al*[24]. where anxiety grades for mild, moderate, severe,extremely severe were 31.9%, 21.9%, 19.4%, 2.5%, respectively; while depression levels in their study were 13.1%, 19.3%, 10%, 21.3% for Mild, Moderate, Severe and extremely severe, respectively. The reason for this variation could be Socio-economic characters of the populations ofIndia and other countries. In addition to that, Deltsidou et al. used the DASS-21 scale while we usedby Edinburgh Postpartum Depression Scale (EPDS).

In current study, mean age of females who suffered from comorbid anxiety and depression was higher than the group which had no symptoms. This was in contradiction to Yelland, *et al*[25] who conducted a study in Victoria and south Australian Postpartum women. The reason for this could be that mothers of higher agehave high levels of ability to cope up with emotions associated with child birth and motherhood than the younger mothers.

In current study, we noted that women with past history of similar conditions i.e., anxiety or depression in non-pregnant state had higher prevalence of Postpartum Depressionand anxiety. Which is consistent with systemic review Biaggi, *et al*[26] where they did meta-analysis of 97 studies and reported thatfemales who were having a previous history had recurrence of anxiety or Postpartum Depression in majority.

In current study, we have evaluated the possible predictors of Postpartum Depression and/or Anxiety. We have noted that low Socio-economic status is one of the predictors of Postpartum Depression. Which is similar with the study done on 433 White and African American women in his study by Dolbier, *et al*[27]. Also

associated with more and severe Postpartum Depression and Anxiety was poor level of education. Which is in contrast to a study by Stewart, *et al*[28] in 583 women in Malawi showed that women with more years of education were more likely to feel the symptoms of anxiety. The reason in highly educated women could be due to various cofactors of anxiety such as job conditions or problems in getting paid leaves or a worry about career in future.

Conclusion

Postpartum Depression and/or Anxiety affects around 23% of females in our hospital. Very low Socio-economic levels, past history of similar conditions, mothers' education and occupation levels, family support during pregnancy, mothers' stress levels are the predictors.

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