

POSTNATAL DEPRESSION IN MOTHERS AND MALNOURISHMENT OF CHILDREN

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ABSTRACT

OBJECTIVE

To estimate the frequency of postnatal depression among mothers having malnourished infants.

STUDY DESIGN

Cross sectional study

PLACE AND DURATION OF STUDY

This study was carried out at the Department of Pediatrics, Civil Hospital, Karachi, Dow University of Health Sciences from January 15, 2010 to June 12, 2011.

SUBJECTS AND METHODS

One hundred and fifty eight mothers who fulfilled the inclusion criteria were given consent forms. We read out and explained the information to illiterate participants and obtained thumb impression of them. The SPSS version 11.0 was applied to analyze the data.

RESULTS

70.2% of mothers had clinically significant level of depression. 46.2% of mothers were between 21 to 30 years of age. Average age of the patients were 27 years. 35.4% of the depressed mothers were from families whose monthly income was between 6000 to 10,000 Rs. Number of children did not have any significance regarding prevalence of postnatal depression in our study.

CONCLUSION

The present research added to the evidence that there was an association between postnatal depression and malnourishment of infants. Mothers having postnatal depression were more likely to have malnourished infants while there was no association between number of children and postnatal depression.

KEY WORDS

Postnatal depression, Faltering growth, Malnourished infants.

INTRODUCTION

Depression is the most common psychiatric disorder; its prevalence is very high in Pakistan as compared with other countries¹. Identification of depression is important as it has impact on social and occupational functioning. Studies have shown that disability caused by depression has largely been underestimated and it is expected to be the 2nd leading cause of disability by 2020². The identification of depression becomes more important in female as it has impact on family and future generation. Studies have shown high prevalence of depressive disorder among Pakistani women³. Postpartum is the important time when the occurrence of depression is very high. In developed countries postnatal depression affects 10 to 15% of women⁴ while in developing countries including Pakistan the rate of maternal depression around child birth is consistently high ranging from 16 to 35%⁵. Pregnancy and postnatal period are critical times of psychological and physical adjustment and there is evidence that mental state of women at this time has long-term, compromising effects on the mother-infant relationship and the child's development.^{1,6}

Malnourishment is defined as "falling beneath the 3rd centile on standardized growth charts for at least 3 months (excluding weight loss secondary to an acute illness)⁷. The incidence of malnutrition in children during first 2 years of life ranges between 1 to 10% in the developed countries⁸ but in developing countries, malnutrition is still responsible for child deaths up to 53% per year⁹. The situation is more worse in India and Pakistan⁶. According to WHO report (2010), in developing countries approximately 60% of all deaths in children below 5 years could be attributed to malnutrition³. It is also important to note that the children who survive early malnutrition, suffer from various degrees of brain damage and they lack cognitive and motor skills in later life. The figures of stunted growth in children under 5 years of age are alarmingly high in our region; i.e. 48% in India, 43% in Bangladesh and 37% in Pakistan.¹⁰

Child care is a demanding job but if the caregiver herself is physically or mentally unwell, the job becomes substantially tougher and compromises the quality of care that is likely to have adverse consequences on child's health. Therefore, malnutrition in children may be associated with problems in interaction between depressed mother and the child. Studies have shown that postnatal depression not only causes behavioural and emotional problems but it also leads to cognitive delay¹⁰. Recent studies from south Asia have also shown association between postnatal depression

and impaired child growth⁶. In Goa malnourished children had 2.3 times higher chances of having depressed mothers¹¹.

Any strategy or intervention that could improve the mental health of mothers would, not only reduce the burden of disease but is likely to have beneficial effects on behavioural, emotional and cognitive aspects of the child health. Keeping the importance of this issue in mind and nonavailability local data, this study has been designed with the objective to estimate the frequency of depression among mothers having malnourished infants and explore the association with socio-demographic variables with it.

SUBJECTS AND METHODS

Participants

This is a cross sectional descriptive study conducted at the out-patient department of paediatrics, Civil Hospital Karachi. All mothers of malnourished children were referred to researcher in pediatric OPD were registered in study. Sample consisted of One hundred and fifty eight mothers who fulfilled the inclusion criteria. Infants were classified as malnourished if their weight for age fall beneath 3rd percentile on WHO growth chart. We excluded all children who had premature birth or were small for gestational age or had physical or learning disability. We also excluded all those mothers who had physical or learning disability or had a known psychiatric illness in the past. Finally after taking informed consent one hundred and fifty mothers were enrolled in this study on the basis of nonprobability sampling technique.

Instruments

Mothers included in this study were given Edinburgh Postnatal Depression Scale (EPDS) and were assessed in completing this questionnaire. Mothers scoring 12 or more on EPDS were interviewed through Clinical interview schedule Revised (CIS-R). This scale has 14 items focusing on different neurotic symptoms with a cut off score of 15.

Procedure

Approval of the study was obtained from the Ethics Review Board of Dow University of Health Sciences. Participants were contacted and required information was recorded. Data were entered to SPSS. Statistical analysis was carried out by using statistical package for social sciences (SPSS version 11). Descriptive statistics mean and frequency were estimated with respect to nature of variables. Mean and standard deviation were calculated for quantitative variables like age of mothers, income, EPDS score, CIS-R score, age of children, weight and height of children. Frequency and percentage were computed for qualitative and categorical observation like number of children, postnatal depression with respect to gender of children.

RESULTS

The average age of the patients in sample was 27 years. On initial screening through EPDS, majority (80%) of sample was found to be depressed and after evaluation through CIS-R, depression was found in 70.2% of sample.

Demographic characteristics of sample are shown in table 1. About half (46.2%) of depressed mothers were between 21 to 30 years while only 15.8% of depressed mothers were between 31 to 40 years. 56 depressed mothers (35.4%) in sample belonged to poor family having monthly income between 6000 to 10,000 Rs.

Descriptive Statistics of Characteristics of Children reflecting that the average weight of children was 6 Kg and average height of the children was 68 cm. Out of 158 children 54.7% were male and 45.3% were female.

Table 1
Demographic Characteristics of the Sample

Age of Mothers in Years	Depressed Mother	Non Depressed Mothers
	N =111 No (%)	N=47 No (%)
<20	13(8.2)	7 (4.4)
21 to 30	73(46.2)	27(17.1%)
31 to 40	25(15.8%)	12(7.6%)
>40	0(0.0%)	1(0.6%)
Monthly Income		
<5000	32(20.3%)	9(5.7%)
6000 to 10,000	56(35.4%)	23(14.6%)
1000 to 20,000	15(9.5%)	11(7.0%)
21000 to 30000	4(2.5%)	2(1.3%)
>30,000	4(2.5%)	2(1.3%)

Table 2
Descriptive Statistics of Characteristics of Children

Variables	Depressed Mother	Non Depressed Mothers
	No =111 Mean + SD	No=47 Mean + SD
Age of Children (years)	11.8±3.7	11.0±3.6
Weight of children (kg)	7.8±2.0	7.2±1.2
Height of children (cm)	69.5±6.6	65.3±10.9

DISCUSSION

Postnatal depression is a serious disorder that affects child bearing women and is associated with disturbances in the mother infant relationships. This disturbed relationship has adverse impact on cognitive and emotional development of child because depressed

mothers are emotionally unavailable to their babies, leading to psychosocial deprivation and non organic failure to thrive.

The children of depressed mothers have poor growth because depressed mothers usually may not breast feed their children properly, resulting in malnourishment and vulnerability to infections. In the present study 82% women were screened positive for depression on EPDS while on CIS-R interview 70.2% were diagnosed as depressed. Similar high prevalence were reported in many studies. In one community study of O'Brien reported increased risk of postnatal depression i.e 21.4% in mothers whose children are not gaining weight as expected⁸. Patel et al 's cohort study reported 23% prevalence⁶. Chandran et al's community cohort study reported 11%¹². Rehman et al reported 28% prevalence in Pakistan⁴.

The high frequency of post natal depression (PND) in present study as compare with O'Brien and other studies could be due to a different population. Our study is a hospital based study and only mothers with malnourished infants were included.

In this study 46.2% mothers of age group upto 21 to 30 yrs were depressed. The findings of Rahman et al study where 77% depressed mothers were less than 30 yrs of age and 23% cases were >30 yrs of age.

CONCLUSION

This high frequency of depressive disorder in mothers of malnourished babies indicated that apart from other complications, depressive disorder is also an important issue. Identification, assessment and management is likely to have benefits, both for mothers and the future health of children. Our study highlight the importance of enhancement of the skills of paediatric colleagues to suspect/identify post natal depression in the mothers who had malnourished infants and if possible manage or refer them to psychiatrists for better and early outcomes.





RECOMMENDATIONS

Paediatric colleagues and the staff of paediatric clinics and wards should be educated about depression in mothers and its potential effects on children with special reference to malnourishment and growth retardation. Future research should replicate our finding in different populations to see if our findings could be generalized. Future work should also assess the most appropriate, effective, affordable, culturally relevant and locally applicable interventions that benefit both mothers and babies.

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