

Postpartum Depression and Child Caring Behaviour of Mother and Development of Children

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Abstract

Background: Depression and other psychiatric disorders during pregnancy and postpartum is an important health problem, especially if the symptoms are recurrent or sustained. Postnatal depression is a recognised cause of delayed cognitive development in infants.

Aims: To determine the relation of maternal depression during post-partum period with development of their children.

Methods: A cross sectional study was conducted among 92 women with a 2-12 months-old child. Edinburgh Postnatal Depression Scale was used for maternal mood. Children were weighed and measured for weight, length and Z score. Collected data was analyzed for comparison.

Results: Out of the total 92 babies recruited in this study, 12% had mothers who were suffering from Post-partum Depression. For weight and weight-for-length there was a significant difference in the growth between the children of mothers with and without Depression ($p < 0.05$).

Conclusions: Post-partum depression was associated with poor growth and development in children.

Keywords: Post-partum depression, EPDS score, Growth, Development.

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Introduction

A postpartum depression is a mental illness that occurs within six weeks of giving birth. It is a serious mental health problem for

women and its consequences have important implications for the development of the child and the welfare of the family.[1]

Depression will have been the second cause of disability around the world, by 2020, based on investigation by World Health Organization.[2] PPD is one of the most prevalent psychiatric disorders after delivery, which affecting approximately 13% of women.[3] In addition to affecting women's health and wellbeing, it can also affect an infant's intra and extra-uterine development.[4,5] Recent studies in University of Michigan highlighted the association between depression symptoms of mothers and neuro-hormonal changes with problems in infant's adaptation in different aspects of sleep, nutrition, temperament and dependence.[6]

Mothers who are depressed tend to have a less healthy lifestyle and to practice less healthy feeding and sleep practices with their babies.[7,8] The depressed mothers may consume inadequate nutritional supplements[9], and they tend to stop breastfeeding earlier than mothers who are not depressed.[10] The adverse effects of postpartum depression on infant development are well known, it may be more pronounced in low-income countries with a poorer environment.[11] The disturbances in the feeding behavior of depressed mothers, could lead to both obesity and stunting. It is important to note that the consequences of maternal postpartum depression on the child are not only limited to first year of life, but may also extend to toddlerhood, preschool age, and even into school age. This study has been conducted targeted at the examination of PPD prevalence rate and association with developmental milestones of children in an Indian woman.

Materials and Methods

The study hospital was a district hospital serving urban women living in the town as well as rural women living in the surrounding villages. A cross sectional

study was conducted on 92 consecutive babies whose mothers were brought to the hospital immunisation clinic. Written informed parental consent was obtained on recruitment for each infant. The sociodemographic data, including maternal education; infant data were collected from mothers at recruitment. All the Babies were weighed and measured on recruitment. The weight was measured using a spring balance, to the nearest 50 grams. The length was measured with the use of an infantometer to the nearest 0.1 cm. We also interviewed mothers using the Edinburgh Postnatal Depression Scale (EPDS), a 10-item questionnaire developed specifically to assess maternal mood after childbirth.[12] A clinical cut-off value of 13 has been recommended for the EPDS.[13,14]

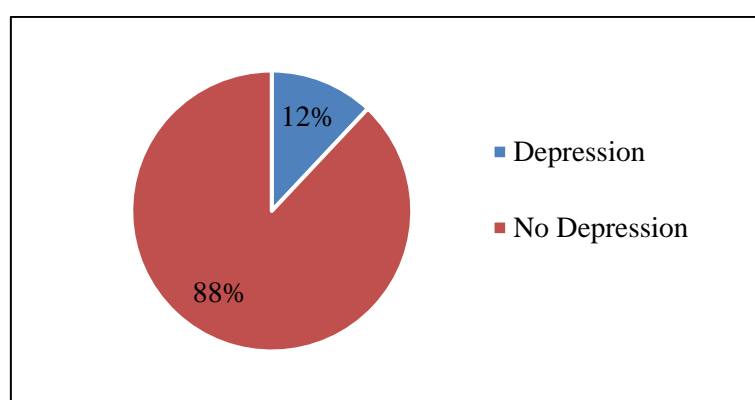
Anthropometric measurements were expressed as z-scores relative to the growth standards of the World Health Organization.[15] The WHO programs (<http://www.who.int/childgrowth/software/en/>) was used to calculate Z-scores. Weight for-length is a better indicator of body composition in children than weight, since it shows less variation than weight for age. Post-partum maternal depression as per EPDS scores were the main determinant. Collected data analyzed via SPSS software version 22 and independent samples t-test was done to compare the mean values.

Result

Data were obtained from 92 women with the mean age of 27.2 ± 6.7 yrs and their 2-12 months children. More than half were boys (52.2%). Most babies were born by normal vaginal delivery (73.9%) and 54.3% were first children. About 23.9% of women were illiterate and the rest were educated, 93.5% had wanted pregnancy and the rest had unwanted pregnancy. (Table 1)

Table 1: Background data of children and their mother

Characteristic (N = 92)	Category	Number	Percentage
Gender	Male	48	52.2
	Female	44	47.8
Birth Order	First	50	54.3
	Second	27	29.3
	More than second	15	16.3
Pregnancy wanted	Yes	86	93.5
	No	6	6.5
Caesarean section	Yes	24	26.1
	No	68	73.9
Mother's Education	Illiterate	22	23.9
	Primary	54	58.7
	Higher	16	17.4

**Figure 1: Post-partum Depression in children of mothers**

Out of the total 92 babies recruited in this study, 13 had mothers who were suffering from Post-partum Depression (12%) and 79 had mothers who were not depressed (88%). (Chart 1)

Table 2: Growth outcomes in children vs Post-partum Depression

Growth outcomes	Depression (n = 13)	No Depression (n = 79)	P value (t test)
Weight (kg)	11.8 (1.2)	13.2 (1.4)	0.001
Length (cm)	86.8 (3.4)	88.7 (3.7)	0.104
Z score (Wt. for Ht.)	0.34 (0.15)	0.25 (0.11)	0.0112

Table 2 shows the weight, length and weight-for length difference between children of mothers with and without Depression. Only for weight - not for length and weight-for-length there was a significant difference in the growth between the children of mothers with Depression and those of mothers without Depression, with the latter having a higher weight ($p < 0.05$).

Discussion

Due to maternal postnatal depression and performance disorder, a decline in mothers' behaviors in terms of caring for their children leads to a decline in children's growth in terms of their physical health. Children's health behavior reveals how important it is for mothers to look after their children in the early months of life to pass the growth path and natural development.[16] Every kind of delay for curing depression and the continuation of

insufficient care can permanently harm a child.

A significant difference was found in present study in the growth outcomes between the children of mothers with Depression and those of mothers without Depression, with the former having a lower weight. According to Grote et al.[17], infants whose mothers scored high on EPDS during pregnancy had lower Z-scores for weight-for-length than those whose mothers scored normal on EPDS.[17] The study by Kheirabadi GR et al.[16] reported that depression symptoms could last through the first year of a child's life; however, this finding is not consistent with the results of Wright et al. study, which indicated that these effects may be temporary and not last through the first year of childhood.[18]

Early infant growth has been found to be negatively affected in low-income countries by several studies.[10,11,19] However, no association was found between maternal depression and failure to thrive in the first nine months of life according to the largest study[20] including over 12, 000 children. According to Wright et al, depressive symptoms at 4 months of age may be only transitional and disappear by 12 months of age.[18] The study by C. Rubertsson et al.[21] found that 37 percent of the women with high EPDS scores when pregnant continued to have high EPDS scores after delivery. Watson et al.[22], reported similar findings in their study of 128 women who underwent psychiatric interviews during and following pregnancy.

A study by Beeghly et al.[23], described this stability in depressive symptomatology in 106 first-time mothers after two months of postpartum and assessed repeatedly over the first year after giving birth. In order to gain a better understanding of alternative mechanisms at work, it would be interesting to investigate the group of women who experience depressive symptoms during pregnancy but not after

delivery. However, a relation was observed between maternal depression and child weight as children born to depressed mothers are lighter.[21] Mothers with postnatal depression are somewhat different than other mothers, and that these differences may affect foetal growth. Factors such as low parental self-esteem, childcare stress and high expectations on parenthood may contribute to depression symptoms. Present study has a limitation in that no questions were asked about previous depression or treatment.

Conclusion

According to this study, depression is associated with poor infant growth. It may be possible to detect women at risk for depression during early pregnancy. The treatment for depression helps the woman and also has a positive impact on the development of the children.

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