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EFFECTS OF POSTPARTUM DEPRESSION ON BREASTFEEDING AND CHILD DEVELOPMENT

POSTPARTUM DEPRESYONUN EMZİRME VE ÇOCUK GELİŞİMİ ÜZERİNDEKİ ETKİLERİ

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ABSTRACT

Objective: Postpartum depression may have important adverse effects on breastfeeding and child development. On the other hand, studies on postpartum depression from developing countries are very rare. This study aims to determine the factors associated with postpartum depression and the effect of postpartum depression on the breastfeeding status and neuromotor development of children in a developing country.

Materials and methods: A hundred mother-infant pairs on regular follow-up from a child health surveillance clinic at a University Hospital were evaluated starting from four weeks of age. A semi-structured questionnaire concerning the pregnancy period and sociodemographic features of the parents was used. Edinburgh Postpartum Depression Scale was administered three times in a 6-month period to identify mothers with postpartum depresssion. Denver Developmental Screening Test (DDST) was used at 15 months of age to evaluate the neurodevelopment status of the children.

Results: Nineteen per cent of mothers had depression at any time during the first 6 months after delivery. Depressed mothers were younger and unplanned pregnancies were more common. The proportion of children with normal DDST results was lower in the depressed group and also the ages of developmental milestones were delayed.

Conclussion: The differences mentioned above did not reach statistical significance. Breast feeding ratios were similar in both the depressed and the non-depressed. In our study, mothers received regular and high quality support for breastfeeding and child care. Such studies should be carried out in different settings.

Key words: Postpartum depression, breastfeeding, infant development, Denver Developmental Screening Test, Edinburgh Postpartum Depression Scale

ÖZET

Amaç: Postpartum depresyonun emzirme ve çocuk gelişimi üzerine olumsuz etkileri bilinmektedir. Diğer yandan, gelişmekte olan ülkelerde bu konuda yapılan çalışmalar pek azdır. Bu araştırmanın amacı, gelişmekte olan bir ülkede, postpartum depresyona eşlik eden etkenleri ve depresyonun anne sütü ile beslenme durumuna, çocukların nöromotor gelişimine etkilerini belirlemektir.

Gereç ve yöntem: Bir Tıp Fakültesinin Çocuk Sağlığı İzlem Kliniğinde, dördüncü haftadan başlayarak düzenli izlenen 100 anne-süt çocuğu çifti değerlendirildi. Gebelik dönemi ve ailenin sosyodemografik özellikleri hakkında yarı yapılandırılmış anket formu kullanıldı. Postpartum depresyon bulunan anneleri ayırmak için, altı aylık bir dönem içinde üç kez Edinburgh Postpartum Depresyon Ölçeği uygulandı. Çocukların nörolojik gelişimlerini değerlendirmek için 15inci ayda Denver Gelişimsel Tarama Testi (DGTT) yapıldı.

Bulgular: Doğumdan sonraki ilk altı ayda, annelerin yüzde 19'unde depresyon bulundu. Depresyon bulunan anneler daha gençti ve bu annelerde planlanmamış gebelikler daha sıktı. Yine bu grupta, DGTT sonuçları normal olan çocukların oranı daha azdı; gelişimsel basamakların zamanı da gecikmişti.

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Sonuç: Bu farklılıklar istatistiksel olarak anlamlı bulunmadı. Emzirme oranları, depresyon bulunan ve bulunmayan gruplarda benzerdi. Araştırmamızda anneler, emzirme ve çocuk bakımı konularında düzenli ve nitelikli destek almışlardır. Postpartum depresyonun sıklığını ve etkilerini araştıran çalışmalar, farklı sağlık kuruluşlarında yapılmalıdır.
Anahtar kelimeler: Postpartum depresyon, emzirme, süt çocuğu gelişimi, Denver Gelişimsel Tarama Testi, Edinburgh Postpartum Depresyon Ölçeği

INTRODUCTION

Postpartum depression is the most gender specific form of depression and can occur anytime in the six months after birth (4). This type of depression may be a traumatic event that can have long term effects on social, emotional and cognitive development of the mother and the infant, as well. Postpartum depression is reported to have a frequency of 5-20% (7,9,10).

While there is a considerable evidence from developed countries about the deleterious effect of postnatal depression on child's cognitive and emotional development (7,9,10,13), the mother's mental state as a risk for child development and care has received little attention in developing countries (17).

This study aims to determine the factors associated with postpartum depression and the effect of postpartum depression on breastfeeding status and neurodevelopment of infants in a developing country.

MATERIALS and METHODS

This prospective study was held at The Child Health Surveillance Clinic (CHSC) of a University Hospital. The main source of clients for this clinic is the University Obstetric Department situated adjacent to CHSC. Mothers are relatively homogenous in socio-economical status, and the majority are from lower-middle class.

The routine follow-up schedule of the clinic includes visits at 1,2,3,4,5,6,9,12,15th months and every six months thereafter until five years of age. At each visit, the parents are asked to supply information on the infant's feeding regimen, on parent-child interaction, on the baby's development and on any health or other problem that may have came up since the last visit. A complete physical examination including anthropometric measurements is performed at each visit. Pediatric residents and nurses provide breastfeeding counseling.

There is a personal record for each child at the clinic. Detailed information on breastfeeding status is obtained and recorded at each visit. Exclusive breastfeeding during the first six months of life and continuation of breastfeeding until two years of age are recommended at each visit. Exclusive breastfeeding indicates infants never receives anything but breastmilk.

All infants were consecutively selected at the time of their first visit to the clinic when they were one month old or younger. The inclusion criteria were to have no obvious physical handicap and to be accompanied by the mother.

A questionnaire of 18 questions was used to evaluate the pregnancy period and socio-demographic characteristics. To facilitate the identification of possible risk factors related to postpartum depression, information related to the presence of psychiatric and medical problems in the family and in the mother was gathered. The ages at which the infants attained certain developmental milestones and the duration of exclusive breast-feeding was recorded according to the parental report and physical examination characteristics were obtained from the child health records at CHSC.

The Edinburgh Postpartum Depression Scale (EPDS) (8) validated in Turkish by Aydın et al (1) was used to identify mothers with depression. It mainly concentrates on nonsomatic symptoms such as depressive mood, loss of interest and anxiety rather than on sleep disorders, appetite changes or fatigue, which are very common in this period. Mothers were assessed with EPDS three times during the study period, the first at the initial visit together with the questionnaire, the second when the baby was 3 months old and the third at 6 months. At each evaluation, mothers with EPDS scores > 12 were considered as depressed. For the whole study period (postpartum 6 months), the average of three EPDS scores was calculated for each mother. A mean score of ≥ 12.5 was taken as the cut-off point for depression. Mothers were divided into two groups according to this value.

The Denver Developmental Screening Test (DDST) was applied to children at 15 months of age. A specialist in child development and education who was blind to the depression status of the mother performed this test. The results of DDST were labeled as normal, abnormal or suspicious.

Chi-square tests were used to test categorical variables between the two groups; t tests were used for continuous data.

RESULTS

Of the 122 infants, 100 (47 F, 53 M) were followed-up regularly and the evaluation was based on these 100 infants. In 29 mothers, depression was identified in at least one visit during the study period and in 8 depression was observed in all 3 visits (1st, 3rd and 6th months). Percentage of the mothers with depression was 19%, 17%, and 17 % respectively. For the whole study period, mean scores were >12.5 in 19 mothers and these mothers constituted the depressed group in the study. Demographic and health characteristics of the mothers were similar in both groups (Table 1). Father's education, occupation and family type were also similar in the two groups. Pregnancy and delivery characteristics of the mothers are given in Table 2. Depressed mothers were noted to be younger, but the difference was not statistically significant. The number of unplanned pregnancies was significantly higher in the depressed group (p=0.01).

At the end of the 15th month, a DDST was able to be performed on the first 55 children. Although the proportion of child-

Table 1. Socio-demographic and health characteristics of the mothers in two groups

Characteristics	Mother's depression	
	EPDS ≥ 12.5 n=19	EPDS < 12.5 n=81
Mother's age	%	%
<20	0.0	6.1
21-26	47.4	24.7
27-32	26.3	43.2
>33	26.3	26.0
	X2=5.000	p=.17
Maternal education		
Primary	31.6	22.2
High school	47.4	40,8
University	21.0	37,0
	X2=1.89	p=.39
Maternal occupation		
Professional	36.8	54,4
Worker	0.0	2.4
Housewife	63,2	43.2
	X2=4.32	p=.23
Number of Child		
1	57.9	54.3
2	21.0	38.3
≥ 3	21.0	7.4
	X2=4.37	P=.23
Period irregularity		
Yes	15.8	14.9
No	84,2	8511
	X2=.00	p=1.00
Health problems		
Yes	10,5	9.9
No	89.5	90.1
	X2=.00	p=1.00
Psychiatric problems		
Yes	5.2	3.8
No	94.8	96.2
	X2=.00	p=1.00

ren with normal test results was lower in the depressed group, the difference was not statistically significant. Delay in fine motor development was common among children of depressed mothers whereas delay in language area was prevalent among children of non-depressed mothers. According to data in personal files, the ages at achievement of certain abilities were delayed among the children of the depressed mothers. But these difference were not statistically significant.

The mean duration of exclusive breastfeeding was 4.4 (+1.7) months in general. It was 4.3 months (±1.5) for the depressed, 4.5 (±2.5) for the ones without depression and this difference was not significantly different. Proportion of babies who did not receive breastmilk was 5% in the depressed group and 4.7% in the non-depressed group. When the whole group was evaluated, the proportion of depression was 25% among mothers who had never-breast-fed their babies and 18.8% among those who had ever breastfed. But this difference was not statistically significant.

DISCUSSION

Prospective studies found that postpartum depression affects approximately 10% of new mothers (6,9). It has been reported at a rate varying between 5% and 26% in studies using EPDS (3,5). In our study, proportion of depressed mothers were similar throughout the six-month period and varied between 17% and 19%. This rate is similar to the rates reported from developing countries (15-17). In a study from the eastern part of Turkey, the percentage of mothers with high depression scores was reported to be 27.2% (12).This high rate may be due to the low socio-economic level of the population in this region.

An unplanned first pregnancy and a first pregnancy resulting in miscarriage are the two most important factors leading to postpartum depression. Inandı et al. (12) found that unemployment, low education, poverty, low marital age, mental health problems were risk factors for depression in the postnatal year. In this study, unplanned pregnancy rate was significantly high among mothers with depressive symptoms.

The impact of postnatal depression on breastfeeding duration is poorly understood. According to our results, undepressed mothers had longer periods of exclusive breastfeeding but this was not a statistically significant finding. Nevertheless, these results can possibly be attributed to the support given by the child health surveillance clinic and the high intent to breastfeeding in the community. Mothers who suffered from postpartum depression more commonly reported problems of feeding and sleeping difficulties, temper tantrums, and separation anxiety in their children than those who did not. The results of a meta-analysis about the effect of postpartum depression on child development, yielded small but significant effects of postpartum depression on emotional and cognitive developments of children older than one year (2). On the other hand, some studies showed no association between the infant's developmental outcome and the severity of the mother's postpartum depressive episode. The adverse effects of postnatal depression may be mediated through its association with maternal cognition and parenting (14). This study is one of the few from developing countries on the effect of postpartum depression on child development (11). The limitations to our study were the relatively modest sample size and the high drop-out rate. The Denver Developmental Screening Test could be performed only in 56 children who were regular attenders. The study population consisted of mothers who brought their babies to the Child Surveillance Clinic upon a routine invitation. This may have created a selection bias.

Public health programs from developing countries started to focus on interventions that promote maternal mental health and appropriate parenting as a means to improve child health. The follow-up of the mothers in our well child surveillance clinic and the support routinely given to them about breastfeeding and child care might have decreased the effects of depression in our study. Further interventional studies both in the community and in health care services are required in order to decrease the frequency and the negative impact of postpartum depression on breastfeeding and child development.

Table 2. Pregnancy and delivery characteristics of mothers in two groups

Characteristics	EPDS ≥12.5	EPDS <12.5		
	n=19		n=81	
	N	%	N	%
Pregnancy				
Planned	8	42.1	61	75.3
Unplanned	11	57.9	20	24.7
	X2=6.46	p=.01		
Gestational age				
Preterm	1	5.2	17	21.0
Normal	17	89.4	63	77.8
Postmatur	1	5.2	1	1.2
	X2=3.63	p=.16		
Type of delivery				
Normal	8	42.1	42	51.9
Caesarean	11	57.9	39	48.1
	X2=.26	p=.61		
Complication				
Absent	4	22	19	23.4
Present	15	78	62	76.6
	X2=.0000	P=1.000		

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