



Research Article/Özgün Araştırma

The effects of mothers' babies feeding practices on postpartum depression

Annelerin bebeklerini besleme uygulamalarının postpartum depresyona etkisi

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Abstract

Aim: This study was conducted to determine the effect of the baby feeding practices of mothers on their postpartum depression.

Materials and Methods: This is a descriptive and correlational study. The population of the study consisted of mothers with 1-24-month-old babies registered at a Family Health Center. The data of the study were collected by using a questionnaire form and the Edinburgh Postnatal Depression Scale.

Results: The mean EPDS score of the mothers was 8.48±5.74, and it was determined that there was a risk of postpartum depression in 18.8%. Postpartum depression risk rate in the mothers who fed their babies with formula and additional food was significantly higher than those who fed their babies with breast milk only and those who fed their babies with breast milk and formula/additional food.

Conclusion: The results of the study showed that breast milk has a positive effect in preventing postpartum depression.

Keywords: Babies feeding practices; Breast milk; Postpartum depression.

Öz

Amaç: Bu çalışma, annelerin bebeklerini besleme şeklinin postpartum depresyona etkisini belirlemek amacıyla planlanmıştır.

Gereç ve Yöntem: Çalışma tanımlayıcı ve ilişki arayıcı türdedir. Araştırmanın evrenini bir Aile Sağlığı Merkezi'ne kayıtlı 1-24 aylık bebeği olan anneler oluşturmaktadır. Araştırma verileri anket formu ve Edinburgh Doğum Sonrası Depresyon Ölçeği kullanılmıştır.

Bulgular: Çalışmaya katılan annelerin Edinburgh Doğum Sonrası Depresyon Ölçeği puan ortalaması 8,48±5,74 olup, %18,8'inde postpartum depresyon riski olduğu belirlenmiştir. Bebeği mama ve ek gıda ile beslenen annelerde postpartum depresyon riski oranının hem sadece anne sütü ile beslenen, hem de anne sütü ve mama/ek gıda ile beslenenlere göre anlamlı düzeyde yüksek olduğu bulunmuştur.

Sonuç: Çalışma, anne sütünün postpartum depresyonu önlemede pozitif etkileri olduğunu göstermiştir.

Anahtar Kelimeler: Bebek besleme uygulamaları; Anne sütü; Postpartum depresyon.

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Introduction

The postpartum period is one of the most significant stages of a woman's life. In this period, the mother experiences significant changes in the physical and psychological sense. This period that involves many changes for the mother is also the period of adaptation to her new roles. While some mothers adapt to these changes, some are not able to. The psychological health of mothers who cannot adapt is affected, and postpartum depression may develop.^{1,2}

Postpartum depression, which is among "Mood Disorders" in DSM-V, is defined as "the onset of episodes within the first four postpartum weeks"³ While postpartum depression emerges mostly in the 4-6 weeks after delivery, it may also be seen up to one year. Studies conducted in various countries have reported the prevalence of postpartum depression between 8.6% and 44.8%.⁴⁻⁷ Studies in Turkey reported this prevalence to be 14.6% to 27.7%.⁸⁻¹⁰ It is reported that biological, psychological and sociocultural factors are effective in the etiology of postpartum depression.^{1,11} Studies have stated that baby feeding practices affect postpartum depression symptoms, and the best way of reducing risk is to feed the baby only with breast milk.^{11,12} It was reported that the risk of postpartum depression in mothers who breastfeed their babies is lower than that in those who feed their babies with formula or additional foods.^{13,14} This study, which was planned on this basis, it was aimed to determine the effects of mothers' baby feeding practices on postpartum depression.

Materials and Methods

The type of the study

This is a descriptive and correlational study.

The population and the sample of the study

The population of the study consisted of mothers with 1-24-month-old babies registered at a Family Health Center. The sample of the study was calculated by using the G*POWER 3.1.9.4 statistical software based on a Type I error of 0.05, Type II error of 0.20 (80% power) and 0.20 effect size as at

least 240 individuals. The inclusion criteria were having had a natural conception and having a healthy, term and single baby. The exclusion criteria were having a history of a chronic disease in the mother or the baby, having experienced a circumstantial crisis like death, accident, migration, etc. in the last one year and having a history of a psychiatric disease (based on self-reporting or medical diagnosis).

Data collection tools

The data of the study were collected between 20 April and 20 June 2019 by the researchers with the face-to-face interview method.

The data of the study were collected by using a questionnaire form developed by the researcher in line with the literature and the Edinburgh Postnatal Depression Scale. The questionnaire form consisted of 28 questions and 4 sections as sociodemographic characteristics, obstetric characteristics, baby-related information and baby feeding characteristics.

The "Edinburgh Postnatal Depression Scale (EPDS)" is a scale developed by Cox and Holden (1987) that is used to determine the risk of depression in the postpartum period. The four-point Likert-type scale includes a total of 10 items. The internal consistency coefficient of the scale (Cronbach's alpha) is 0.87, and its cutoff point is 12/13.¹⁵ The validity and reliability of the Turkish form of EPDS in Turkey were tested by Engin Deniz et al. (1997). The internal consistency coefficient of EPDS (Cronbach's alpha) was 0.79, and its cutoff point was taken as 12/13. The total score of the scale is obtained by addition of all item scores. The minimum and maximum possible scores in the scale are respectively 0 and 30.¹⁶ The Cronbach's alpha value of EPDS was calculated as 0.84 in this study.

Data analysis

The data were analyzed in the SPSS 25 software. Frequencies, percentages, means and standard deviations were used as the descriptive statistics. Pearson's chi-squared test was used to compare the postpartum

depression risk rates based on the groups, and effect sizes (Cramer's V) were calculated. $p < 0.05$ was accepted as statistically significant.

Ethical considerations

Before starting the study, written approval by Ethics Committee (Decision No:2019/658). While collecting the data, first of all, the mothers included in the study were explained the purpose of the study, and based on the "Helsinki Declaration of Principles", they were told that they were free to exclude themselves from the study.

Results

The mean age of the mothers was 28.69 ± 5.09 years, most of them were high school graduates, and most were not employed at a job (Table 1).

Table 1. Sociodemographic characteristics of mothers (n: 240).

Characteristics	Min- Max	$\bar{X} \pm SS$
Age	19-42	28.69 ± 5.09
	n	%
Educational Status		
Literate/ primary school	24	10.0
High school	119	49.6
University	97	40.4
Working status		
Working	75	31.3
Not working	165	68.7
Evaluating monthly income		
Good	74	30.8
Bad	129	53.8
Middle	37	15.4
Family type		
Nuclear family	47	19.6
Extended family	193	80.4

While the mean duration of marriage of the mothers was 6.46 ± 4.70 years, most of them were multiparous, and the latest pregnancy of most was planned (Table 2).

Among the mothers, 56.3% had c-section deliveries, whereas 72.1% breastfed their babies within the first one hour. While 32.5% of the mothers fed their babies with breast

milk, 85.8% had received breastfeeding training before delivery, and most stated the source of the training as a nurse/midwife (70%) (Table 3).

Table 2. Obstetric characteristics of mothers (n: 240).

Characteristics	Min- Max	$\bar{X} \pm SS$
Duration of marriage (year)	1-23	6.46 ± 4.70
	n	%
Parity		
Primipar	84	35.0
Multiparous	156	65.0
Number of children		
Only child	97	40.4
≥ 2 child	143	59.6
Planned pregnancy *		
Yes	204	85.0
No	36	15.0

* last pregnancy questioned.

The mean EPDS score of the mothers was 8.48 ± 5.74 , and it was determined that there was a risk of postpartum depression in 18.8% (Table 4).

When the status of postpartum depression risk in the mothers was examined based on how they fed their babies, it was determined that the risk of postpartum depression was 12.8% in the group that fed their babies with breast milk only, 19.1% in the group that fed their babies with breast milk and formula/additional food and 34.6% in the group that fed their babies with formula/additional food. It was observed that the difference in the postpartum depression rates was significant based on the mothers' babies feeding practices ($p < 0.05$, Table 5). In further analysis, it was seen that the postpartum depression risk rate in the mothers who fed their babies with formula and additional food was significantly higher than those who fed their babies with breast milk only and those who fed their babies with breast milk and formula/additional food ($p < 0.05$). The difference between the group that fed their babies with breast milk only and the group that fed their babies with breast milk and formula/additional food was not significant ($p < 0.05$). The difference in the postpartum depression risk levels of the mothers based on how they fed their babies had a small effect size (C.V: .16, Table 5).

Table 3. Characteristics of babies (n: 240).

Characteristics	Min- Max	$\bar{X} \pm SS$
Birth weight (gram)	1260-4500	3026.81 \pm 528.42
	n	%
Baby age		
1-6 months	100	41.7
7-24 months	140	58.3
Baby's gender		
Girl	121	50.4
Male	119	49.6
Form of delivery		
Vaginal Delivery	105	43.8
c-section deliver	135	56.2
First time to feed the baby		
Within the first hour	173	72.1
After the first hour	67	27.9
Babies Feeding Practices at the moment		
Breast milk	78	32.5
Breast milk + formula/additional food	136	56.7
Formula/additional food	26	10.8
Status of having received training on babies feeding practices		
Yes	206	85.8
No	34	14.2
Source of training on babies feeding practices*		
Doctor	48	20.0
Nurse/midwife	168	70.0
Family/friend	27	11.3
Internet / TV / book	21	8.7

* More than one option was marked, the percentages were given over 240 people

Table 4. Mothers' scores and risk status from EPDS (n: 240).

Scale	Min-Max*	$\bar{X} \pm SS$
EPDS**	0-26	8.48 \pm 5.74
Postpartum Depression Risk	n	%
No risk (≤ 12 point)	195	81.2
Risk (≥ 13 point)	45	18.8

* Possible score range is 0-30 points.

** Edinburgh Postnatal Depression Scale

Table 5. Comparison of postpartum depression risk according to baby feeding practices (n: 240).

Babies feeding practices	Postpartum Depression Risk				χ^2	<i>p</i> (difference)	Cramer's V/ Power
	No risk		Risk				
	n	%	n	%			
Breastmilk ^a (n: 78)	68	87.2	10	12.8	6.108	.047	.16/ .59
Breastmilk+formula/additional food ^a (n: 136)	110	80.9	26	19.1			
Formula/additional food ^b (n: 26)	17	65.4	9	34.6			

χ^2 : Pearson's chi-squared test, SD: Standart deviation: 2

Discussion

Postpartum depression has many effects on the health of the baby and the mother. Postpartum depression affects the family, work and social life of the mother negatively by causing mental and physical energy loss. In particular, it affects the way of the mother to feed her baby by influencing the

connection between the mother and the baby. The best way of mitigating or eliminating the risk of postpartum depression is to start breastfeeding right after delivery and feed babies with only breast milk for the first six postpartum months.

In infant nutrition, the food that meets all requirements of the baby in the first six

months after birth by itself and has no alternative is breast milk. Breastfeeding the baby in the shortest time possible following birth is also important in terms of postpartum depression. In this study, it was found that 72.1% of the mothers breastfed their babies within the first hour. In the world in general, 43% of babies are breastfed within one hour following birth, and this rate is aimed to be increased to 70% until 2030.¹⁷ In Turkey, 71% of children under the age of two were breastfed within one hour after birth.¹⁸ The finding of this study was higher than the mean values reported for Turkey and the world. The results of the study also met the global breastfeeding target. This is a pleasing situation for Turkey. It was thought that the high rate was caused by that all hospitals in the province where the study was conducted were baby-friendly hospitals. This is because one of the criteria for baby-friendly hospitals is breastfeeding of the baby within one hour after birth.

Most of the mothers (85.8%) stated that they had received training on breastfeeding before delivery, and most stated the source of this training to be a nurse/midwife (70%). Similarly, Tügdür et al. reported that 79.6% of mothers had received training on breast milk and breastfeeding, and this training was provided mostly (82.5%) by nurses¹⁹ In another study Güner and Koruk determined that 80.8% of mothers had received training on breast milk and breastfeeding.²⁰ It may be stated that breast milk trainings were on a very high level, but the Ministry of Health has targeted that these trainings should be provided for all pregnant women after the 32nd week of their pregnancy. This is why it is thought that more studies are needed on this issue.

Among the mothers in this study, 32.5% fed their babies with breast milk, 56.7% provided formula/additional food alongside breast milk, and 10.8% fed their babies only with formula/additional food. Gümüştakım et al. reported that, among 0-24-month-old babies, 22.3% were fed with breast milk, 6.6% were fed with both breast milk and formula, 41.3% were fed with both breast milk and additional food, 0.82% were fed

with formula, 22.7% were fed with both formula and additional food, 5.7% were fed with additional food, and 0.4% were fed with both breast milk and additional food/formula.²¹ A study conducted in Manisa in Turkey found that 67.1% of 0-24-month-old babies were still being fed with breast milk.²² In comparison to the literature, the breast milk feeding rate in this study was higher. However, these rates are still not on a desired level.

The mean EPDS score of the mothers who participated in this study was 8.48 ± 5.74 , whereas it was determined that 18.8% had a risk of postpartum depression. The risk of postpartum depression was reported as 8.6%-44.8% in the world^{4,7} and 14.6%-27.7% in Turkey.^{8-10,23} The result of the study was compatible with the literature. The reason for the differences in the prevalence of postpartum depression in both the world and Turkey may have been caused by different studies being conducted with different assessment times, sample sizes and cutoff points.

In this study, a significant relationship was found between the mothers' babies feeding practices and their postpartum depression risk. The postpartum depression risk of the mothers who fed their babies with breast milk only was lower than those who fed their babies with both breast milk and formula/additional food and those who fed their babies with formula/additional food only. Madeghe et al. reported that the postpartum depression risk of non-breastfeeding mothers is 5.91 higher.²⁴ In similarity to the finding of our study, it has been stated in the literature that the postpartum depression risk of mothers who breastfeed their babies is lower in comparison to those who feed their babies in other ways (formula, additional food, both breast milk and formula/additional food).^{14,15} It is considered that this situation might have been related to the oxytocin secreted during breastfeeding. Studies have reported that oxytocin has a positive effect on the mental state of mothers in the postpartum period.^{25,26}

Conclusion

The results of the study showed that feeding one's baby with only breast milk has a positive effect in preventing postpartum depression. This result is highly important in terms of mother and baby health. For this reason, it is very important to investigate ways of feeding babies, inform mothers on this issue and determine those who are under risk of postpartum depression. In the COVID-19 pandemic process that we are in, it is recommended for nurses to support mothers in initiating the breastfeeding process at the earliest moment possible after birth and continue this support through telephone/web/internet after the mothers are discharged.

Limitations of the study

The limitations of the study included that the data were collected from one region in Turkey, and the mothers responded to the questions by remembering their retrospective information.

Ethics Committee Approval

This study was approved by Ethics Committee (Decision No:2019/658).

Informed Consent

The purpose of the study was explained to the women who volunteered to participate in the study and their consents were obtained.

Author Contributions

The conception and design of the study, or acquisition of data, or analysis and interpretation of data: HA, RM; drafting the article or revising it critically for important intellectual content: HA, RM; final approval of the version to be submitted: HA, RM.

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Conflict of interest

The authors have no conflicts of interest to declare.

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Peer-review

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