



# Factors Affecting Mothers' Baby Nutrition Attitudes in Postpartum Period

## Postpartum Dönemde Annelerin Bebek Beslenmesi Tutumlarını Etkileyen Faktörler

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### Abstract

**Aim:** To investigate the factors affecting mothers' infant feeding attitudes in the postpartum period.

**Material and Method:** Crosssectional descriptive research was carried out in a public hospital child outpatient clinic. The sample of the study consisted of 173 mothers whose babies were followed up in the pediatric outpatient clinic between April 2018 and April 2019. The data were obtained through the questionnaire form and the Infant Nutrition Attitude Scale.

**Results:** A statistically significant difference was found in terms of Baby Nutrition Attitude Scale scores according to the mothers' mode of delivery ( $p=.002$ ) and the breastfeeding status of their babies in the community ( $p=.002$ ). It was determined that there was a highly positive correlation ( $p=.000$ ) between the number of maternal controls during pregnancy and the total duration of breastfeeding. It was observed that there was a positive ( $p=.012$ ) relationship between the number of births of the mothers and the Baby Nutrition Attitude Scale scores. It is possible to explain approximately 12.3% of the dependent infant feeding attitude variable with the variable of maternal education and breastfeeding status in society.

**Conclusion:** The breastfeeding attitude of mothers who gave birth by cesarean section is positive compared to mothers who gave birth normally. Mothers who have a positive breastfeeding attitude breastfeed their babies more easily in the society. As the number of mothers during pregnancy increases, the total duration of breastfeeding increases. As the number of births of mothers increases, breastfeeding attitude increases positively.

**Keywords:** Breast feeding, attitude, infant, nutritional status

### Öz

**Amaç:** Postpartum dönemde annelerin bebek beslenmesi tutumlarını etkileyen faktörleri incelenmek.

**Gereç ve Yöntem:** Kesitsel tanımlayıcı özellikteki araştırma, bir devlet hastanesinin çocuk polikliniğinde yürütüldü. Çalışmanın örneklemini Nisan 2018-Nisan 2019 tarihleri arasında, çocuk polikliniğinde bebeği izlenen 173 anne oluşturdu. Veriler anket formu ve Bebek Beslenmesi Tutum Ölçeği aracılığıyla elde edildi.

**Bulgular:** Annelerin doğum şekli ( $p=.002$ ) ve toplum içinde bebeğini emzirme durumuna ( $p=.002$ ) göre Bebek Beslenmesi Tutum Ölçeği puanları açısından istatistiksel olarak anlamlı fark olduğu saptandı. Annelerin gebelikteki kontrol sayısı ile toplam emzirme süresi arasında ileri düzeyde olumlu yönde bir ilişki olduğu ( $p=.000$ ) belirlendi. Annelerin doğum sayısı ile Bebek Beslenmesi Tutum Ölçeği puanları arasında olumlu yönde ( $p=.012$ ) ilişki olduğu görüldü. Anne eğitimi ve toplum içinde bebeği emzirme durumu değişkeni ile bağımlı bebek beslenmesi tutumu değişkeninin yaklaşık olarak %12,3'ünün açıklanması mümkündür.

**Sonuç:** Sezaryen ile doğum yapan annelerin emzirme tutumu normal doğum yapan annelere göre olumludur. Emzirme tutumu olumlu olan anneler toplumda bebeğini daha rahat emzirmektedir. Annelerin gebelikteki kontrol sayısı arttıkça toplam emzirme süresi artmaktadır. Annelerin doğum sayısı arttıkça emzirme tutumu olumlu yönde artmaktadır.

**Anahtar kelimeler:** Emzirme, tutum, bebek, beslenme durumu



## INTRODUCTION

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that breastfeeding should be started within the first hour after birth, exclusive breastfeeding should be given in the first six months, and breastfeeding with complementary foods should be continued until the age of two from six months.<sup>[1,2]</sup> According to WHO, 40% of infants younger than six months are exclusively breastfed.<sup>[3]</sup> According to the Turkey Demographic and Health Surveys (TNSA) 2018 report, the rate of infants receiving only breast milk in our country decreases rapidly with age, and 41% of infants aged 4-5 months receive only breast milk.<sup>[4]</sup> Breastfeeding the newborn within the first hour after birth is very important for breastfeeding success.<sup>[3,5]</sup> Today, mothers' breastfeeding frequency has decreased and the duration of breastfeeding has been shortened.<sup>[6]</sup> It has been determined that 71% of babies in Turkey are breastfed within the first hour after birth, and 42% of newborns receive food in the prelacteal period contrary to the recommendation.<sup>[4]</sup>

The way a mother feeds her baby and the duration of breastfeeding; Factors such as breastfeeding problems that develop in the postpartum period, sociocultural structure, economic situation, family structure, beliefs, breastfeeding attitude affect.<sup>[7-10]</sup> The mother's lack of breastfeeding experience, not knowing the breastfeeding technique, perception of the mother's milk as inadequate, thinking that the baby is not full, not being supported for breastfeeding and being against breastfeeding affect the success of breastfeeding.<sup>[11,10]</sup> Studies show that the breastfeeding attitude of the mother significantly affects the feeding of the baby.<sup>[13-15]</sup> It is noted that the rate of using formula or starting complementary foods early, especially in mothers with a negative breastfeeding attitude, increases.<sup>[16,17]</sup> In the initiation and maintenance of breastfeeding, mothers' attitudes towards breastfeeding and infant feeding are the main determinants of infant nutrition. For breastfeeding success, mothers should be closely monitored in the first months, breastfeeding attitudes should be evaluated and counseling services should be provided to mothers in the risk group.<sup>[16-18]</sup>

Although the infant feeding attitude of mothers is very important for the continuation of breastfeeding, the studies on the subject are limited in the literature. This research was conducted to examine the factors affecting the infant feeding attitudes of mothers in the postpartum period.

For this purpose, answers to the following questions were sought;

- Is there a relationship between mothers' socio-demographic characteristics and infant feeding attitudes?
- Is there a relationship between mothers' obstetric characteristics and infant feeding attitudes?

## MATERIAL AND METHOD

### Type of Study

The research was conducted in cross-sectional and descriptive type.

**The population and sample of the study:** The population of the study consisted of mothers whose babies were followed in the pediatric outpatient clinic of a state hospital. It was determined that a total of 480 mothers applied to the outpatient clinic with their babies in the first 6 weeks postpartum between April 2018 and April 2019. When the sample size was calculated according to the acceptable error using the sample calculation method with a specific population, it was determined that the recommended sample size should be 174 mothers with a 5% margin of error and a 90% confidence interval. The data of 1 person who answered the data collection form incompletely during data entry was excluded from the study, and the study was completed with data of 173 mothers.

### Inclusion Criteria

- Mothers with a baby whose gestational age is 34 weeks and above,
- Mothers with healthy singleton babies between 0-6 weeks,
- Mothers who could speak Turkish were included in the sample.

### Exclusion Criteria

- Mothers who are breastfeeding or have breast-related problems,
- Mothers with acute/chronic diseases that may affect breast milk content.
- Mothers with a disease known to be transmitted through breast milk were not included in the sample.

### Data Collection Tools

In the collection of data, the "Survey Form" created by the researchers by scanning the literature. (19,20,21,34-37) and "Iowa Infant Feeding Attitude Scale-IIFAS" was used.

Survey form; It consists of a total of 32 questions, 11 questions about socio-demographic characteristics, 10 questions about obstetric and gynecological features, and 11 questions about breastfeeding features.

Infant Feeding Attitude Scale (Iowa Infant Feeding Attitude Scale-IIFAS); The scale developed by De La Mora and Russell was designed to evaluate women's attitudes towards breastfeeding and to determine the duration of breastfeeding as well as the choice of infant feeding method. In the five-point Likert scale, 9 items evaluate breastfeeding and 8 items evaluate formula feeding. Items evaluating formula nutrition are scored in reverse (1=5, 2=4, 4=2 and 5=1). The total score obtained from the scale ranges from 17 (reflecting a positive attitude in bottle feeding) to 85 points (reflecting a positive attitude in breastfeeding).<sup>[22]</sup> The

scale has no cut-off value, high scores indicate a positive breastfeeding attitude. Turkish validity and reliability of the scale Ekşioğlu et al. made by In the Turkish validity and reliability study of the scale, Cronbach Alpha values were determined to be 0.71.<sup>[21]</sup> In this study, the Cronbach Alpha value of the scale was found to be 0.70.

**Data collection;** The data were obtained by one of the researchers by face-to-face interview method in the polyclinic. It took an average of 10-15 minutes to complete the data collection tools.

**Ethical Aspect**

Before starting the data collection, ethics committee approval (Date: 30.09.2019 Ethics committee no: 140) and permissions from the scale owner and the institution where the research was conducted were obtained from Haliç University Non-Interventional Clinical Research Ethics Committee. During the research, the rules of the Declaration of Helsinki were complied with. By paying attention to the principle of voluntariness in participating in the study, verbal and written consent was obtained from the mothers by giving information about the purpose of the study before the study.

**Statistical Analysis**

The data obtained at the end of the research were evaluated using the SPSS 21.0 package program, using parametric and nonparametric descriptive statistical analyzes. From descriptive statistics; number, percentage, mean, standard deviation, and minimum-maximum were used. The conformity of the quantitative data to the normal distribution was evaluated with the Shapiro-Wilk test and graphical examinations. The Mann-Whitney U test was used for the evaluation of the non-normally distributed variables between two groups. Pearson correlation coefficient was used to determine the level of correlation between quantitative data. Statistical significance level was accepted as  $p < 0.05$ . Factors affecting infant feeding attitude were analyzed by multiple linear regression analysis.

**RESULTS**

It was seen that the mean age of the mothers in the study group was  $30.28 \pm 5.41$ , 47.4% had a secondary education (high school) level and 18.5% were working (**Table 1**). It was determined that 72.3% of the participants in the study group had planned pregnancy, 55.5% gave birth by cesarean section and 78.6% had breastfeeding experience. It was observed that there was no statistically significant difference in terms of planning the pregnancy, receiving breastfeeding support, giving formula and pacifier/bottle to their baby and the scores of the Infant Nutrition Attitude Scale ( $p > 0.05$ ). A statistically significant difference was found in terms of Infant Nutrition Attitude Scale scores according to the mother's mode of delivery ( $p = .002$ ) and breastfeeding status in the community ( $p = .002$ ) (**Table 2**).

**Table 1.** Socio-Demographical characteristics of mothers and babies (N=173)

Features	$\bar{X} \pm SS$
Average age of mother (years)	30.28±5.41
Average postnatal age (days) of the baby	23.89±13.54
Average gestational age (weeks) of the baby	38.24±2.01
<b>Educational status</b>	<b>n (%)</b>
literate	20 (11)
Basic training	24 (16.2)
Secondary education	84 (47.4)
High School	45 (25.4)
<b>Working status</b>	
Working	32 (18.5)
Not working	141 (81.5)
<b>Family structure</b>	
Nuclear family	132 (76.3)
Extended family	36 (20.8)
Broken family	5 (2.9)
<b>Income status</b>	
Income more than expenses	22 (12.7)
Income equal to expenses	90 (52.0)
Income less than expenses	61 (35.3)
<b>Baby's Gender</b>	
Girl	84 (48.6)
Boy	89 (51.4)
<b>Number of children she has</b>	
A child	58 (33.5)
Two children	83 (48.0)
Three children and more	32 (18.5)

**Table 2.** Comparison of mothers' obstetric-gynecological and breastfeeding characteristics and Infant Nutrition Attitude Scale Scores (N=173)

Features	n (%)	$\bar{X} \pm SS$	MWU(Z);p
<b>Planning pregnancy</b>			
Planned	125 (72.3)	58.96±8.56	-489;627
Unplanned	48 (27.7)	59.66±8.49	
<b>Type of birth</b>			
Normal birth	77 (44.5)	56.93±7.69	-3.193;002
Cesarean Birth	96 (55.5)	60.93±8.77	
<b>Breastfeeding experience</b>			
There is	136 (78.6)	59.22±8.56	2.213;832
No	37 (21.4)	58.89±8.49	
<b>Getting breastfeeding support</b>			
Yes	125 (72.3)	59.27±8.26	2.743;785
No	48 (27.7)	58.85±9.25	
<b>Breastfeeding in public</b>			
Yes	83 (48.0)	61.22±8.08	3.156;02
No	90 (52.0)	57.24±8.51	
<b>Feeding the baby with formula</b>			
Yes	93 (53.6)	59.13±7.99	-0.027;979
No	80 (46.4)	59.17±9.15	
<b>Using a pacifier/ bottle</b>			
Yes	113 (65.3)	59.45±8.09	.595;553
No	60 (34.7)	58.59±9.40	

MWU(Z): Mann Whitney U

When the relationship between demographic-obstetric and breastfeeding-related characteristics and Infant Nutrition Attitude Scale scores were examined; There is a highly positive correlation between the number of controls during pregnancy and the total duration of breastfeeding ( $r=.965, p:.000$ ), and there is a negative correlation between the number of births of mothers and their Infant Nutrition Attitude Scale scores ( $r:-.916, p:.012$ ) was found to be related (**Table 3**).

Factors affecting infant feeding attitude were examined by multiple linear regression analysis. When the table is examined, it is seen that the established regression model is significant ( $F: 11.921$  and  $p:0.000$ ). The table also includes the rate at which infant feeding attitude is explained by the variable of maternal education and breastfeeding status in the community. Accordingly, it is possible to explain approximately 12.3% of the dependent infant feeding attitude variable with the relevant regression model. In addition, Durbin-Watson test statistic was calculated as 1.758 and VIF value as 1.026. These values show the suitability of the established model. According to this; It is statistically possible to explain the dependent variable of infant feeding attitude with at least one of the fixed and independent variables. When the table is examined, the coefficients of the variables of constant term, education of the mother and breastfeeding the baby in the community were found statistically significant at the

0.05 significance level. The study also examined the effects of the mother's employment status, baby's gender, pregnancy planning, delivery type, breastfeeding education during pregnancy, breastfeeding experience, breastfeeding support from the spouse/surrounder, the duration of breastfeeding, the use of a pacifier bottle, and the baby's feeding style on the mother's infant feeding attitude. they were excluded from the model because they were not statistically significant (**Table 4**).

### DISCUSSION

Despite the recommendations, breastfeeding rates are still not at the desired level. The most important factor in increasing breastfeeding rates and breastfeeding success is the mother's attitude towards infant feeding,<sup>[2,13,14]</sup> and it is recommended to evaluate mothers' breastfeeding attitudes in the first months.<sup>[16-18]</sup> The results obtained in this study, which was conducted to examine the factors affecting the attitudes of mothers about infant feeding in the postpartum period, were examined in the light of the literature.

It was determined that 72.3% of the mothers in the study group were supported about breastfeeding, but receiving breastfeeding support did not affect the infant feeding attitude. Gibson et al. (2007) examined the factors affecting mothers' breastfeeding attitudes in a study involving 3567

**Table 4. Factors affecting infant feeding attitudes**

Modal	Non-Standardized Coefficients		Standardized Coefficients	t	p.	Correlations			VIF Value
	B	Std. error	Beta			Zero-order	Partial	Part	
Constant term	57.060	2.970		19.213	.000				
1 Mother's education	2.456	.675	.265	3.641	.000	.295	.269	.262	1.026
Breastfeeding in public	-3.259	1.237	-.192	-2.635	.009	-.234	-.198	-.189	1.026

ANOVA test of regression (F)=11.921 p=0.000. R2=0.123

**Table 3. Demographic-obstetrics the relationship between breastfeeding characteristics and Infant Nutrition Attitude Scale Scores (N=173)**

Variables		Maternal age	Baby's gestational age	Number of births	Number of children	Number of controls during pregnancy	Breastfeeding time only	Total breastfeeding time	#INAS total score
Maternal age	p	1	-.193*	.438†	.411†	-.178*	.078	.010	.012
	r		.011	.000	.000	.019	.309	.898	.875
Baby's gestational age	p	-.193*	1	-.054	-.072	-.010	-.012	.074	-.063
	r	.011		.482	.346	.894	.880	.335	.412
Number of births	p	.438†	-.054	1	.936†	-.114	.095	.008	-.190*
	r	.000	.482		.000	.136	.215	.916	.012
Number of children	p	.411†	-.072	.936†	1	-.068	.118	.009	-.137
	r	.000	.346	.000		.377	.123	.906	.072
Number of controls during pregnancy	p	-.178*	-.010	-.114	-.068	1	.003	.278†	.144
	r	.019	.894	.136	.377		.965	.000	.059
Breastfeeding time only	p	.078	-.012	.095	.118	.003	1	.156*	.064
	r	.309	.880	.215	.123	.965		.040	.405
Breastfeeding time	p	.010	.074	.008	.009	.278†	.156*	1	.354**
	r	.898	.335	.916	.906	.000	.040		.000
#INAS total score	p	.012	-.063	-.190*	-.137	.144	.064	.354†	1
	r	.875	.412	.012	.072	.059	.405	.000	

\*Correlation is significant at the 0.05 level (2-tailed), †. Correlation is significant at the 0.01 level (2-tailed), #Bebek Beslenmesi Tutum Ölçeği

mothers, and found that the support given to mothers did not affect the infant's feeding and breastfeeding attitudes.<sup>[23]</sup> However, in the literature, it is seen that there are more results indicating that support positively affects mothers' attitudes towards feeding their babies.<sup>[24-26]</sup> Kervin et al. (2010) found that the support given by health professionals positively affects breastfeeding of the mother.<sup>[27]</sup> Lassi et al. (2020) examined interventions related to infant and child nutrition and included 66 studies, it was determined that the education and support of health professionals positively affected mothers' breastfeeding attitudes.<sup>[28]</sup> It is understood that the results regarding the effect of breastfeeding support given to mothers on infant nutrition are different. It suggests that maternal support should be examined with high-evidence studies. In our study group, the personal statements of the mothers were taken as basis, and the scope of the support was not examined.

It has been reported that planned pregnancy facilitates the adaptation of mother and baby in the postpartum period, and positively affects breastfeeding and mother-infant attachment.<sup>[29]</sup> Aidam et al. (2005), Gölbaşı and Koç (2008) found that planned pregnancy had a positive effect on breastfeeding attitude in their research on the factors related to breastfeeding.<sup>[30,31]</sup> In our study group, it was determined that the planned pregnancy did not affect the infant feeding attitude. Similarly, Çalık et al. (2017) did not find a significant relationship between mothers' feeding attitudes and planned pregnancy.<sup>[32]</sup> It is seen that the results of the study are contradictory and the subject should be re-examined in different studies.

It was determined that the breastfeeding attitude of mothers who gave birth by cesarean section was more positive than mothers who gave birth normally. In the study of Çalık et al. (2017) did not find a significant relationship between mothers' feeding attitudes and mode of delivery.<sup>[32]</sup> Çakır and Alparslan (2018), mothers who gave birth by cesarean section; She stated that she was reluctant to breastfeed because of the pain at the cesarean section incision site and the negative feelings she felt towards her baby and that she breastfed later.<sup>[33]</sup> In the literature examining the relationship between mode of delivery and breastfeeding, it is noted that mothers who give birth normally have a more positive attitude towards breastfeeding. It is reported that the breastfeeding attitude is more positive due to the fact that mothers with normal delivery have less postpartum pain, perceive their baby positively and start breastfeeding earlier.<sup>[12,33-35]</sup> The fact that mothers who gave birth by cesarean section in our study group had a positive attitude towards breastfeeding compared to mothers who had normal birth contradicts the current research and literature. It may be suggested to test the subject with different studies. It was determined that the infant feeding attitude was not different according to the mother's giving pacifier and bottle to her baby. Lenja et al. found that mothers with positive breastfeeding attitudes used less pacifiers and bottles.<sup>[36]</sup> In the literature, it is stated that mothers who use pacifiers and bottles stop breastfeeding early.<sup>[8,34,36]</sup>

It was determined that as the number of controls during pregnancy of the mothers in our study group increased, the total duration of breastfeeding increased. In addition, it was observed that as the number of births of mothers increased, the breastfeeding attitude increased positively. The sociocultural and economic status of women, employment conditions, access to health services, receiving support, etc. many factors affect.<sup>[12,26]</sup> Karaçam and Sağlık (2018) stated in their systematic review that mothers' lack of motivation, knowledge and experience negatively affects breastfeeding attitudes.<sup>[12]</sup> It has been reported that access to health institutions from the prenatal period and communication with health personnel are important factors among the determinants of breastfeeding decisions and attitudes.<sup>[26]</sup> It can be said that our study findings are in parallel with the literature.

It was determined that the education level of the mothers in the study group was an important explanatory factor on the infant feeding attitude. Lenja et al. It has been reported that there is a significant relationship between maternal education and the attitude of feeding their babies with breast milk.<sup>[36]</sup> In the literature, there are results<sup>[37,38]</sup> reporting that maternal education is not associated with breastfeeding attitudes, and there are also results reporting that there is a relationship between education and breastfeeding attitudes in parallel with our research findings. In this study, it was observed that breastfeeding of the mother in public was an important explanatory factor on the infant feeding attitude, and that the mothers with a positive infant feeding attitude could easily breastfeed their infants in public. In our country, associating the breast with sexuality can be seen as a situation that prevents breastfeeding in public places during the breastfeeding process. It is stated that mothers behave differently in this regard, sometimes they behave very comfortably, and sometimes they feel uncomfortable for various reasons.<sup>[39,40]</sup> In a study conducted in England, it was determined that 42% of mothers prefer to breastfeed in a private area, and only 8% can breastfeed anywhere without the need for a private area. It is stated that when mothers cannot breastfeed in public places, they take a bottle with them and feed the baby with formula when going out to feed the baby.<sup>[41]</sup> There is a need for new studies examining mothers' breastfeeding behavior in society and the effects of cultural influences on infant feeding attitudes.

## CONCLUSION

Breastfeeding experience of mothers, receiving support for breastfeeding, using a pacifier/bottle, and planned pregnancy do not affect infant feeding attitudes. The breastfeeding attitude of mothers who gave birth by cesarean section is more positive than mothers who gave birth normally. As the number of controls during pregnancy increases, the total duration of breastfeeding increases. As the number of births of mothers increases, breastfeeding attitudes increase positively.

Mothers with a positive breastfeeding attitude breastfeed their babies more comfortably in the society. Midwives and nurses can improve mothers' attitudes towards infant feeding within the scope of their counseling roles. Within the scope of the counseling roles of midwives and nurses, mothers' attitudes towards infant feeding are positively developed.

## ETHICAL DECLARATIONS

**Ethics Committee Approval:** Before starting the data collection, ethics committee approval (Date: 30.09.2019 Ethics committee no: 140) and permissions from the scale owner and the institution where the research was conducted were obtained from Haliç University Non-Interventional Clinical Research Ethics Committee.

**Informed Consent:** Because the study was designed retrospectively, no written informed consent form was obtained from patients.

**Referee Evaluation Process:** Externally peer-reviewed.

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