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THE RELATIONSHIP BETWEEN ANXIETY LEVELS OF MOTHERS OF LATE PRETERM AND TERM INFANTS AND BREASTFEEDING SELF-EFFICACY AND BREASTFEEDING SUCCESS

GEÇ PRETERM VE TERM BEBEK ANNELERİNİN KAYGI DÜZEYLERİ İLE EMZİRME ÖZYETERLİLİK VE EMZİRME BAŞARISI İLİŞKİSİ

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ABSTRACT

Objective: The aim of this study was to determine anxiety levels of mothers who gave birth to late preterm and term infants hospitalized in the Neonatal Intensive Care Units (NICU) and evaluate the associations with breastfeeding outcomes.

Methods: The descriptive cross-sectional and comparative study was carried out in two hospitals between June 2019 and December 2021. The research sample consisted of 50 late preterm and 50 term infant mothers. The state and trait anxiety scale, the LATCH Breastfeeding Diagnosis and Evaluation and the Breastfeeding Self-Efficacy Scale were administered to the mothers.

Results: While no statistically significant difference was found between mothers of late preterm and term infants in terms of trait anxiety scale scores in the study (p>0.05). The state anxiety scale scores of mothers of late preterm infants were found to be lower (p<0.05). When trait and state anxiety scale scores were compared, it was determined that the mean state anxiety scale score was 3.80±9.26 points less than the trait anxiety scale mean (p<0.001). No statistically significant difference was found between the research groups in the scores of the LATCH Breastfeeding Diagnosis and Evaluation and the Breastfeeding Self-Efficacy Scale (p>0.05).

Conclusion: In this study, the babies need for NICU did not increase the mothers' anxiety levels. Although state-trait anxiety negatively affect breastfeeding self-efficacy, breastfeeding support of NICU staff could positively affect breastfeeding success in mothers with babies in need of intensive care.

Keywords: Neonatal intensive care units, preterm infants, term infants, anxiety, breastfeeding

ÖZ

Amaç: Amaç: Bu çalışmanın amacı; bebeği Yenidoğan Yoğun Bakım Ünitelerinde (YYBÜ) yatan geç preterm ve term annelerin kaygı düzeylerini belirlemek ve bebeklerinin emzirmelerini değerlendirmektir.

Yöntem: Tanımlayıcı kesitsel ve karşılaştırmalı araştırma, iki hastanede Haziran 2019-Aralık 2021 tarihleri arasında gerçekleştirilmiştir. Araştırma örneklemi 50 geç preterm ve 50 term bebek annesinden oluşturulmuştur. Annelere durumluk ve sürekli kaygı ölçeği, LATCH Emzirmeyi Tanılama ve Değerlendirme Ölçeği ve Emzirme Öz yeterlilik Ölçeği uygulanmıştır.

Bulgular: Araştırma grubundan geç preterm annelerinin durumluk kaygı ölçeği puanları daha düşükken, sürekli kaygı ölçeği puanları yönünden gruplar arasında istatistiksel olarak anlamlı farklılık saptanmamıştır (p>0,05). Sürekli ve durumluk kaygı ölçek puanları karşılaştırıldığında durumluk kaygı ölçeği puanı ortalamasının süreklil kaygı ölçeği ortalamasından 3,80±9,26 puan az olduğu ve bu durumun istatistiksel olarak anlamlı olduğu belirlenmiştir (p<0,001). Araştırma grupları arasında LATCH Emzirmeyi Tanılama ve Değerlendirme Ölçeği ve Emzirme Öz yeterlilik Ölçeği puanları arasında istatistiksel olarak anlamlı farklılık saptanmamıştır (p>0,05).

Sonuç: Bu çalışmada bebeklerin YYBÜ'ye ihtiyaç duyması annelerin kaygı düzeylerini artırmamıştır. Durumluk ve sürekli kaygısı emzirme özyeterliliğini olumsuz etkilemekle birlikte, yenidoğan yoğun bakım personelinin emzirme desteği, yoğun bakım ihtiyacı olan bebekleri olan annelerde emzirme başarısını olumlu etkileyebilmektedir.

Anahtar Kelimeler: Yenidoğan yoğun bakım üniteleri, preterm bebekler, term bebekler, kaygı, emzirme

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Introduction

Premature infants make up the majority of the Neonatal Intensive Care Units (NICU) patient population. The vast majority of premature infants are also late preterm infants. The term late preterm was used to describe infants at 34 (0/7 days) - 36 (6/7 days) gestational weeks.[1] Due to the fact that the birth occurred before the expected date and and babies had health problems, the relatives of the patients may be anxious during the intensive care unit hospitalization of their babies.[2-4]

Breastfeeding success in the early postpartum period is influenced by breastfeeding knowledge and physical and mental well-being.[5,6] While positive attitudes such as excitement or satisfaction increase breastfeeding self-efficacy; negative attitudes such as pain, fatigue, anxiety or stress reduce the perception of breastfeeding self-efficacy.[7] Pregnancy and postpartum stages involve complex processes that can increase daily stress and make breastfeeding difficult.[8] Researchers have shown that maternal psychosocial factors such as stress and social support are also the main determinants of successful breastfeeding.[9,10]

It is important for NICU nurses to evaluate parents' anxiety, perception and care competencies with a holistic approach to care. Studies on the effect of anxiety level of mothers with premature babies on breastfeeding success and self-confidence are limited. This study was planned to determine anxiety levels of mothers who gave birth to late preterm and term infants hospitalized in the NICU and evaluate the associations with breastfeeding outcomes. Determining the anxiety levels of mothers in the postpartum period and knowing the consequences of anxiety in terms of newborn nutrition will increase the quality of care given by nurses to mother and baby, expand their holistic perspective and provide nursing care that will produce positive health outcomes in the newborn.

Methods

The descriptive cross-sectional and comparative study was carried out in a training-research hospital and gynecology branch hospital between June 2019 and December 2021. In both hospitals, NICU nurses provide breastfeeding support to mothers. Nurses provide information to mothers about the benefits of breastfeeding, breastfeeding techniques, positions, and skin-to-skin contact with the baby. Every mother's situation is different, so each mother is provided with individual support according to her needs. Nurses closely monitor the baby's sucking strength and weight gain, helping the breastfeeding process progress. In addition, both hospitals have maternal adjustment rooms, in which mothers are individually trained by nurses on breastfeeding and care. All babies are accepted directly from the delivery room.

Two groups were formed as mothers of late preterm and term infants. For sample calculation, a similar research reference[11] was taken and 41 individuals from each group (mothers of late preterm and term infants) were required (confidence interval: 0.95, margin of error: 0.05, size of effect: 0.815). Data loss was calculated and a total sample of 100 mother was formed (50+50).

The data were obtained from the self-report of mothers who met the inclusion criteria (the baby was hospitalized in the NICU, the gestational week of the baby was 34.0-36.6 in the late preterms, 37.0-41.6 in the term, has not been breastfed the baby yet, there was no health problem in the baby (congenital malformation, necrotizing enterocolitis) that may prevent feeding, no psychiatric disease, who agreed to participate in the study, and who did not have communication problems). The data were collected by the researcher by face-to-face interview method, which lasted 20 minutes. The data collection form consisted of five parts.

In the first part; according to the literatüre [2,11-15] (sociodemographic characteristics, obstetric characteristics, breastfeeding experience, birth characteristics, infant characteristics) were questioned.

In the second part, The State-Trait Anxiety Inventory (STAI) was used. State anxiety is the subjective fear that an individual feels due to the stressful situation. Trait anxiety is the tendency of the individual to experience anxiety. STAI was developed by Spielberger et al. It was adapted into Turkish by Öner and Le Compte in 1970. It is a 4-point Likert-type scale consisting of 20 questions measuring state and trait anxiety levels.[16]

While direct statements in the scales indicate negative emotions, reversed statements indicate positive emotions. There are ten reversed statements (items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20) in the state anxiety scale and seven reversed statements in the trait anxiety scale (21, 26, 27, 30, 33, 36 and 39) exists. In the calculation, the total weight score of the reverse expressions is subtracted from the total weight score expressed directly and the predetermined constant value is added. This constant value is 50 for the state anxiety scale and 35 for the trait anxiety scale.[16] The most recent value is the individual's anxiety score. A high score indicates a high level of anxiety. In our study, the Cronbach's alpha value was found to be 0.86 for the state anxiety scale and 0.75 for the trait anxiety scale.

In the third part; The LATCH Breastfeeding Diagnostic and Evaluation Scale was used. The LATCH scale was developed in 1993 and is one of the widely used scales. The scale includes assessing holding the breast, seeing/hearing the baby's swallowing, nipple type, mother's comfort with regard to the breast and nipple, and the position of holding the baby. A high score from the scale indicates high breastfeeding success. The Turkish reliability of the scale was made by Yenal and Okumuş and it was found to be a suitable and reliable diagnostic tool for use. The Cronbach alpha value of the original tool was 0.93, while the Turkish version of the tool was found to be 0.95.[17] In our study, the Cronbach's alpha value was 0.62.

In the fourth chapter; The Breastfeeding Self-Efficacy Scale was used. This scale is a 33-item scale developed by

Dennis in 1999 that measures breastfeeding self-efficacy. It was later reduced to 14 items in 2003. The scale is in a 5-point Likert type and the minimum score is 14 and the maximum score is 70. The scale has no cut-off point and an increase in the score means that breastfeeding self-efficacy is high. Dennis stated that it is appropriate to apply this scale in the postnatal period.[18] The Cronbach alpha value of the Turkish version of the scale by Alush-Tokat and Okumuş (2010) was 0.86.[19] In our study, the Cronbach's alpha value was found to be 0.91.

In the fifth section, data on nutritional characteristics at discharge werw included. Based on the literature to determine the nutritional characteristics of the baby whose discharge was planned before discharge [4,11,14,20-22] questions are included. Gestational age, length of hospital stay, number of breast feeding/day, weight, height, diet at discharge, and food type at discharge were evaluated.

Small for gestational age (SGA) infants were evaluated at birth and at discharge using the Fenton's growth curve for premature infants.[23] A birth weight below the 10th percentile was defined as SGA. Reaching birth weight at discharge was also evaluated with Fenton's growth curve for premature infants.

Ethics committee approval was obtained from the Ankara Yildirim Beyazit University ethical committee with date 29.05.2019, number 55. Consent was obtained from mothers of late preterm and term infants by giving information about the study and having the informed consent form signed.

The analysis of the data was made in SPSS (Statistical Package for the Social Sciences) 20.0 ready-made statistical program. In the evaluation of the data; Number, percentage, mean and standard deviation were used as descriptive statistics, parametric (t test) and nonparametric (Mann-Whitney U test) methods were used in dependent and independent groups according to data characteristics. The appropriate one from the Pearson and Spearman Correlation Analysis was used in the relationship between the scales. The results were evaluated at the level of significance $p<0.05$ at the 95% confidence interval.

Results

No statistically significant difference was found between mothers of late preterm and term infants in terms of sociodemographic characteristics (age, employment status, income, family type, social security, place of residence) except education ($p>0.05$). There was a statistically significant difference between the groups in terms of education level ($p<0.05$) and mothers of term infants were more likely to graduate from primary school than mothers of late preterm infants (Table 1).

There was no statistically significant difference between the study groups in terms of general health and obstetric characteristics (first gestational age, time between previous birth and current birth, breastfeeding status of the previous baby, type of delivery, number of births, number of living children, current smoking status) ($p>0.05$) (Table 2).

There was no statistically significant difference between the research groups in terms of number of milk expression (day), intention to breastfeed, duration (year) of intention to breastfeed, milk expression status, feeding route and nutritional properties after hospitalization, feeding route and nutritional properties at the time of interview ($p>0.05$). When the reasons for hospitalization were examined, the most common causes of hospitalization in term infants were jaundice, respiratory distress, hypoglycemia and infection, while jaundice, prematurity and intrauterine growth restriction (IUGG) in the late preterm group (Table 3).

The median week of gestation at birth for mothers of term infants was 38.3 (37.0-41.0)/75.5, and the median week of gestation at birth for mothers of late preterm babies was 35.0 (34.0-36.6)/25.5. When the newborn characteristics of the research group were examined, the mean birth weight of term infants and late preterm infants was 3195.0±581 and 2324.7±576 grams, respectively.

Late preterm infants have a longer hospital stay than term babies and the difference between them was statistically significant ($p<0.001$). There was no statistically significant difference between the research groups in terms of the number of breastfeeding/day, food route, and food type ($p>0.05$) (Table 4).

The gestational age at discharge was 39.2±3.2 for term babies and 36.3±1.2 for late preterm babies. The mean birth weight of term babies and late preterm babies at discharge was 3173.2±592 and 2390.92±567 grams, respectively While no difference was found between term infants (n=7, 43.8%) and late preterm infants (n=8, 56.3%) in terms of SGA at birth ($p= 0.59$), there was a statistically significant difference between term infants (n=8, 32.0%) and late preterm infants (n=17, 68.0%) in case of failure to reach birth weight at discharge ($p= 0.04$).

While there was a significant difference between the state anxiety scale scores of the research group ($p<0.05$), no statistically significant difference was found between the trait anxiety scale scores ($p>0.05$). When trait and state anxiety scale scores were compared, it was determined that the mean of the state anxiety scale was 3.8±9.3 points less than the mean of the trait anxiety scale, which was statistically significant ($p<0.001$). There was no statistically significant difference between the research groups in the scores of the LATCH Scale ($p>0.05$) (Table 5).

In the correlation analysis, there was a moderate, significant and positive relationship between the state and trait anxiety scales ($r=0.50$, $p<0.001$). There was a moderate, significant and negative relationship between the state anxiety scale and the breastfeeding self-efficacy scale ($\rho= -0.35$, $p<0.001$) and moderate, significant and negative relationship ($\rho=-0.48$, $p <0.001$) between the the trait anxiety scale and breastfeeding self-efficacy scale. Significant, negative but weak relationship was found between income and trait anxiety scale. ($r= -0.23$,

Table 1. Sociodemographic characteristics

	Term Infant Mother		Late Preterm Infant Mother		Total		Analysis
	n	**Mean±SD**	**n**	**Mean±SD**	**n**	**Mean±SD**	
Age	50	29.48±6.02	50	29.36±5.39	100	29.42±5.68	t= 0.11 p= 0.92
	n	**Med((min-max) /Mean Rank**	**n**	**Med((min-max) /Mean Rank**	**n**	**Med((min-max)**	
BMI (before pregnancy)	50	24.91(17.26-42.10) /51.32	50	24.87(17.26-35.42) /49.68	100	24.91 (17.26-42.10)	z= -0.28 p=0.78
	n	**%**	**n**	**%**	**n**	**%**	
Education level							
Primary education	24	48.0	12	24.0	36	36.0	χ^2= 6.42 p= 0.04
High school	13	26.0	21	42.0	34	34.0	
University and above	13	26.0	17	34.0	30	30.0	
Working status							
Working	7	14.0	8	16.0	15	15.0	χ^2= 0.08 p= 0.78
Not working	43	86.0	42	74.0	85	85.0	
Health insurance							
There is	43	86.0	44	88.0	87	87.0	χ^2= 0.09 p=0.78
None	7	14.0	6	12.0	13	13.0	
Income status							
Income less than expenses	17	34.0	14	28.0	31	31.0	Fish. Ex. T p= 0.73
Income equals expense	29	58.0	33	66.0	62	62.0	
Income more than expenses	4	8.0	3	6.0	7	7.0	
Family type							
Nuclear family	38	76.0	38	76.0	76.0	76.0	χ^2= 0.00 p= 1.00
Wide family	12	24.0	12	24.0	24	24.0	
Living place							
Provincial center	32	64.0	29	58.0	61	61.0	χ^2= 0.38 p= 0.54
County, village, town	18	36.0	21	42.0	39	39.0	
Total	50	100.00	50	100.00	100	100.00	

Table 2. General health and obstetrics characteristics

	Term Infant Mother		Late Preterm Infant Mother		Total		Analysis
	n	**Med((min-max)/Mean Rank**	**n**	**Med((min-max)/Mean Rank**	**n**	**Med((min-max)**	
Mother's age at first pregnancy	50	21.5(16-36)/45.0	50	24.0(18-40)/56.0	100	23.0(16-40)	z= -1.89 p= 0.06
	n	**Mean±SD**	**n**	**Mean±SD**	**n**	**Mean±SD**	
Time between previous and current birth (months)	50	56.9±36.2	50	45.7±27.0	100	46.9±32.4	t= 1.40 p=0.17
	n	**%**	**n**	**%**	**n**	**%**	
Number of births							
1	17	34.0	19	38.0	36	36.0	χ^2= 0.17 p= 0.92
2	18	36.0	17	34.0	35	35.0	
3 and above	15	30.0	14	28.0	29	29.0	
Number of living children							
1	17	34.0	19	38.0	36	36.0	χ^2= 0.25 p= 0.88
2	18	36.0	18	36.0	36	36.0	
3 and above	15	30.0	13	26.0	28	28.0	
Current smoking status							
No	43	86.0	41	82.0	84	84.0	Fish. Ex. T p=0.23
Yes	1	2.0	5	10.0	6	6.0	
Left	6	12.0	4	8.0	10	10.0	
Type of birth							
Vaginal birth	23	46.0	18	36.0	41	41.0	χ^2= 1.03 p=0.31
Cesarean section	27	54.0	32	64.0	59	59.0	
Total	50	100.00	50	100.00	100	100.00	
Breastfeeding status in a previous birth							
No	1	3.0	5	15.6	6	9.2	Fish. Ex. T p=0.11
Yes	32	97.0	27	84.4	59	98.8	
Total	33	100.00	32	100.00	65	100.00	

Table 3. Newborn and nutritional characteristics

	Term Infant Mother		Late Preterm Infant Mother		Total		Analysis
	n	**Med((min-max) /Mean Rank**	**n**	**Med((min-max) /Mean Rank**	**n**	**Med((min-max)**	
Number of milking (days)	50	4(1-12)/36.8	50	5(1-12)/46.0	100	5(1-12)	z= -1.76 p=0.08
	n	**Mean±SD**	**n**	**Mean±SD**	**n**	**Mean±SD**	
Intended time to breastfeed (years)	49	2.7±1.4	50	2.6±1.3	99	2.7±1.3	t= 0.38 p=0.71
	n	**%**	**n**	**%**	**n**	**%**	
Nutritional route during hospitalization							
Vascular access	7	12.1	17	23.0	24	18.2	More than one option has been ticked.
Gastric tube	2	3.4	9	12.1	11	8.3	
Mouth	49	84.5	48	64.9	97	73.5	
Total	58	100.0	74	100.00	132	100.0	
Nutritional route during the interview							
Vascular access	1	2.0	1	2.00	2	2.0	More than one option has been ticked**.**
Gastric tube	0	0.0	0	0.0	0	0.0	
Mouth	50	98.0	50	98.0	100	98.0	
Total	51	100.00	51	50.0	102	100.0	
Food type during hospitalization							
breast milk	19	38.0	22	44.0	41	41.0	Fish.Ex. T. p= 0.58
Breast milk + formula	25	50.0	25	50.0	50	50.0	
Formula	6	12.0	3	6.0	9	9.0	
Type of food during the interview							
breast milk	29	58.0	37	74.0	66	66.0	Fish. Ex. T p= 0.01
Breast milk + formula	21	42.0	10	20.0	31	31.0	
Formula	0	0.0	3	6.0	3	3.0	
Milking status							
No	10	20.0	9	18.0	19	19.0	χ^2= 0.07 p= 0.80
Yes	40	80.0	41	82.0	81	81.0	
Intention to breastfeed							
No	1	2.0	0	0.0	1	1.0	Fish. Ex. T p=1.00
Yes	49	98.0	50	100.0	99	99.0	
Total	50	100.00	50	100.00	100	100.00	
Reason for hospitalization							
Jaundice	21	42.0	21	41.2	42	41.6	More than one option has been ticked
Respiratory distress	12	24.0	7	13.7	19	18.8	
Hypoglycemia	5	10.0	1	2.0	6	5.9	
Infection	4	8.0	1	2.0	5	5.0	
IUGG	1	2.0	7	13.7	8	7.9	
Prematurity	0	0.0	10	19.6	10	9.9	
Other*	7	14.0	4	7.8	11	10.8	
Total	50	100.00	51	100.00	101	100.0	

*Other: Heart rhythm problems, birth with meconium, cleft palate, dehydration, groaning, fetal anomaly, weight loss

Table 4. Newborn and Nutritional Characteristics at Discharge

	Term Infant Mother		Late Preterm Infant Mother		Total		Analysis
	n	**Mean±SD Med((min-max) /Mean Rank**	**n**	**Med((min-max)/Mean Rank**	**n**	**Med((min-max)**	
Length of stay in NICU (day)	50	5(1-23)/41.1	50	7(1-35)/59.0	100	5(1-35)	z= -3.25 p=0.001
Number of breastfeeds/day	50	8(3-24)/48.4	50	8(6-15)/51.7	100	8(3-24)	z= -0.61 p=0.54
	n	**%**	**n**	**%**	**n**	**%**	
Nutritional route at discharge							
Breast-feeding	50	80.6	49	81.6	99	81.1	More than one option has been ticked.
Bottle	12	19.4	11	18.4	23	18.9	
Total	62	100.00	60	100.00	122	100	
Type of food at discharge							
breast milk	32	64.0	36	72.0	68	68.0	Fish. Ex. T p= 0.39
Breast milk + formula	18	36.0	13	26.0	31	31.0	
Formula	0	0.0	1	2.0	1	1.0	
Total	50	100.00	50	100.00	100	100.00	

Table 5. State Anxiety Scale, Trait Anxiety Scale, LATCH and Breastfeeding Self-Efficacy Scale Scores of the Research Group

Scales	**Term Infant Mother**		**Late Preterm Infant Mother**		
	n	**Mean±SD Med((min-max)/Mean Rank**	**n**	**Mean±SD Med((min-max)/Mean Rank**	**Analysis**
State Anxiety Scale	50	38.6±10.7	50	34.6±8.7	t= 2.06 p=0.04
Trait Anxiety Scale	50	41.0±9.0	50	39.7±8.0	t= 0.76 p=0.45
LATCH Breastfeeding Diagnosis And Assessment Scale	50	10 (5-10)/53.2	49	9 (4-10)/46.8	z= -1.17 p=0.24
Breastfeeding Self-Efficacy Scale	50	63 (34-70)/49.2	49	63 (27-70)/50.8	z= -0.28 p=0.78
	State anxiety scale **Mean±SD**		Trait anxiety scale **Mean±SD**		
	36.6±9.9		40.4±8.5		t= -4.10** p<0.001
	State anxiety scale - Trait anxiety scale **Mean±SD =** -3.8±9.3				

p<0.05). There was a weak, significant and positive relationship between the LATCH scale and the breastfeeding self-efficacy scale (ρ=0.28, p<0.05).

Discussion

In this study, we determined the anxiety levels of mothers who were hospitalized in NICU and delivered late preterm and term infants. Studies have found that mothers with premature infants hospitalized in the NICU experience more psychological discomfort than mothers with term infants.[4,24] In Zanardo's study, trait and state anxiety were found to be higher in late preterm mothers compared to term mothers.[11] In our study, no statistically significant difference was found between the trait anxiety scale scores of the groups (p>0.05) and the state anxiety scale was found to be higher in the mothers of term infants (p<0.05). Similarly, in the study of Çelen and Taş, it was determined that mothers of preterm infants had a low mean score on the state anxiety scale and did not experience anxiety, and their trait anxiety levels were moderate.[25] In the study of Akgün Çalışkanyürek et al., it

was determined that the level of state anxiety increased as the gestational week progressed.[12] In our study, it was determined that the state anxiety level of term infant mothers was high and this difference due to term infants mother's lower education level. In the study of Miles et al., mothers' anxiety about their babies' health status was found to be higher in those with low education levels.

When trait and state anxiety scale scores were compared in our study, it was determined that the mean of the state anxiety scale was 3.80±9.26 points less than the trait anxiety scale ($p<0.001$). In this study, the babies need for NICU did not increase the mothers' anxiety levels, on the contrary, anxiety decreased in the process. It can be reasoned they were have resulted from the support of NICU nurses. The cut-off score of the Spielberger state and trait anxiety scale is 40 points.[26] In our study, the groups' trait anxiety scale was at the cut-off point, but the state anxiety scale score was below the cut-off point.[27] However, as trait anxiety increased, state anxiety also increased.

In this study, we examined the effects of anxiety on early breastfeeding in mothers whose babies were in the intensive care unit. The great benefits of breastfeeding preterm infants and the resulting increased survival rates have led to research on how to optimize the breastfeeding performance of mothers with premature infants.[28-30] In a systematic review, evidence correlated newborn nutritional outcomes with maternal mental health indices.[14] The study of Ziomkiewicz et al., showed that maternal stress has a significant and negative effect on the composition of breast milk in the postpartum period.[31] Trait anxiety inhibits the release of oxytocin and prolactin, which are hormones that support the milk let-down reflex.[32,33] Also, acute emotional stress (state anxiety) is associated with high cortisol and glucose levels. These hormones are effective in delaying the fullness of the breast and decreasing the first milk volume at birth. Second, it provides evidence that lactation results in endocrinological changes that buffer anxiety symptoms.[33] In our study, as state and trait anxiety increases, breastfeeding self-efficacy decreases, but there was no difference between the groups in breastfeeding success and self-efficacy.

Studies and clinical experience show that late preterm babies and their mothers have factors that that put them at risk for unsuccessful lactation that may result in breastfeeding failure.[21,34] In the study of Zanardo et al., only 21% of the late preterm sample was found to be exclusively breastfed.[11] In our study, while the feeding route and feeding type of newborns were similar after hospitalization, the rate of breastfeeding was higher in late preterm babies at the time of interview. In the evaluation at the time of discharge, the rate of exclusive breastfeeding of term mothers decreased and the rate of taking breastmilk + formula increased compared to the first intervention time, while the rate of taking only breast milk in preterm mothers was higher at discharge. This may be due to the high level of state anxiety and low education level of term infant mothers. In the study of Akgün Çalışkanyürek et al., it was determined that one unit increase in the state anxiety level decreased the breastfeeding attitude by 0.54 units.[12] It may be logical that the higher education level of preterm mothers in our study may have provided knowledge and interest in breastfeeding. In the study of He et al., it is stated that when mothers with late preterm infants believe in their ability to breastfeed, they will overcome the difficulties of doing so, have confidence in their abilities, and can correctly interpret and respond to the needs of their infant.[35]

In the study of Gupta et al., the rate of breastfeeding at discharge was 43.8% in late preterm infants.[15] In the study of Crippa et al., it was 16.0%.[36] Anticipating the help a mother may need to manage the first feeding at the breast, Casey et al. indicate in their study that NICU staff can improve the level of breastfeeding to these high-risk premature infants who need their therapeutic effects most.[20] In our study, breast feeding rates of late preterm and term infants (64.0% and 72.0%) were higher compared to other studies.[15,36] Breastfeeding among term-late preterm groups the similarity of success and breastfeeding self-efficacy was the reason for the presence of "mother adaptation" services in both hospitals and the support of NICU nurses about breastfeeding, and the interventions made increase the success of breastfeeding. In addition, in our study, it was determined that while the LATCH score observed in the first breastfeeding increased, breastfeeding self-efficacy also increased. Successful breastfeeding can be achieved by providing mothers with information on the normal physiology of breastfeeding and the correct methods of knowing whether the baby is receiving enough milk, increasing their confidence in breastfeeding, and receiving support from healthcare professionals when mothers encounter any breastfeeding problems. Thus, the use of formulas can be minimized and even avoided.[37]

In this study, the intention to breastfeed in mothers of late preterm infants (98.0%) and mothers of term infants (100.0%) were positive, the intended duration of breastfeeding in mothers of late preterm infants was 2.71±1.35 year and term mothers were 2.61±1.0 year. In this study, it was deduced that the intention to breastfeed positively affects the breastfeeding success of mothers in both groups.

In this study, it was determined that the rate of reaching birth weight at discharge was lower in late preterm infants than in term infants. Preterm infants may experience greater weight loss by suckling, and this is related to maturity. Considering that extrauterine weight gain is slower in preterm infants,[23] feeding this group with breast milk is important.

Breastfeeding self-efficacy may improve breastfeeding among mothers with late preterm infants.[38] It has been shown that breastfeeding self-efficacy is related to the duration of breastfeeding.[22] A Hong Kong study among 199 postpartum Chinese women with term babies found that breastfeeding self-efficacy significantly predicted the duration of breastfeeding.[39] In this study, breastfeeding self-efficacy of mothers in both groups was

similar (p>0.05) and it was concluded that this similarity led to similar results in breastfeeding success. (p>0.05).
In the study of Gupta et al., the hospitalization period was 5.0 weeks in very preterm infants and 1.2 weeks in late preterm infants.[15] In our study, the median hospital stay was 7(1-35)/day for late preterm infants and 5(1-23)/day for term infants, and the difference between them was statistically significant (p<0.001). When the reasons for hospitalization were examined, the most common reasons for hospitalization in term infants were jaundice, respiratory distress, hypoglycemia and infection, while jaundice, prematurity and IUGG in the late preterm group. In the study of Arayıcı et al., the reason for hospitalization to the NICU was respiratory distress in both groups, while IUGG and nutritional deficiency in late preterm infants; term infants have jaundice and polycythemia.[13]
In conclusion, in this study, the babies need for NICU did not increase the mothers' anxiety levels. Although state-trait anxiety negatively affect breastfeeding self-efficacy, breastfeeding support of NICU staff could positively affect breastfeeding success in mothers with babies in need of intensive care.
Developing appropriate strategies for ensuring the breastmilk intake of NICU infants and encouraging the interest of health care providers in certain demographics and psychological characteristics can assist mothers improve breastfeeding.
Breastfeeding self-efficacy and postnatal support positively affect breastfeeding success in mothers with babies in need of NICU. Nurses-midwives and health professionals should evaluate breastfeeding self-efficacy and create self-efficacy-enhancing breastfeeding support interventions to successfully exclusively breastfeed infants in need of NICU.
Limitations: The data were limited to the self-reports and observations of the mothers whose babies were hospitalized in the NICU in two hospitals.

Conflict of interest statement
The author declared no conflict of interest in the manuscript.

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