

## Research Article

## Prospective Monitoring of Breastfeeding Behaviors in Primiparous Mothers with Risky and Non-risky Age Groups

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## Abstract

**AIM:** This study aimed at monitoring breastfeeding behaviors in primiparous mothers with risky and non-risky age groups prospectively. **METHOD:** This is a kind of comparative and prospective study that was carried out in 306 mothers who were registered at seven family health centers. The study sample comprised 68 primiparous mothers who were in the risky age group and 238 primiparous mothers who were not in the risky age group. It was interviewed with the mothers twice when their babies were one and six months old. Personal Information Form, Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF), and LATCH Breastfeeding Assessment Tool were used for data collection.

**RESULTS:** The mothers in the risky age group had a lower breastfeeding rate when their babies were one month old and a higher formula feeding rate when their babies were six months old than the rates observed in case of the mothers in the non-risky age group. Mothers in the non-risky age group breastfed 14.8 times more in the first month and 5.4 times more in the sixth month than those in the risky age group. The mean scores of LATCH and BSES-SF in the first month and the mean scores of BSES-SF in the sixth month of mothers in the non-risky age group were higher than those of the mothers in the risky age group.

**CONCLUSION:** It was determined that primiparous mothers in the non-risky age group exhibited more positive behaviors in terms of breastfeeding. Close monitoring of breastfeeding behaviors of mothers in the risky age group could be recommended.

**Keywords:** Adolescent maternal age, advanced maternal age, breastfeeding, pregnancy

## Introduction

Breast milk is a unique composition that supplies the newborn with all the requirements for a healthy growth and development (T.R. Ministry of Health, 2017). Breastfeeding is the process through which this unique food is offered. Breastfeeding is an economic, health-protective, and preventive action for the mother and the baby (American Academy of Pediatrics, 1997). The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) (2017) recommend only breastfeeding for the first six months, starting supplementary foods after the sixth month, and breastfeeding until the age of two (World Health Organization, 2018).

Although breastfeeding activities and programs increased breastfeeding rates, the desired rates could not be achieved during the first six months of

breastfeeding and the period of continued breastfeeding (Bakiler et al., 2005; Conde et al., 2017; Liu et al., 2017; Onbaşı et al. 2011). In order to provide breastfeeding at the desired rates, it is necessary to know the factors affecting the behavior and to take action against them (Shaker et al., 2004). Research has shown that maternal age, parity, and lack of previous breastfeeding experience cause more concern regarding breastfeeding and consequently have an impact on breastfeeding duration (Laantera et al., 2010; Özsoy, 2014; Şahin, 2011; Thulier & Mercer, 2009; Wambach & Cole, 2000). In a study conducted with mothers from different age groups, it was seen that mothers aged 18–23 years breastfed their second child, 24–29 years breastfed their first child, and 30–35 years and 36–39 years breastfed their fifth child longer (Alp, 2009). In the study conducted by Özsoy (2014), breastfeeding behaviors of adolescent mothers were found to be 1.5 times

less than those of adult mothers. In another study, it was found that there was a positive relationship between the mother's age and self-confidence level (Öztürk & Erci, 2016).

Other factors that have been taken into consideration in the delivery and continuity of breast milk include the development of the mother's self-confidence, attitude toward breastfeeding, and self-efficacy (Çeber, 2017). In a study by Minas and Limando (2016), the mother's self-confidence for breastfeeding and the expectation of breastfeeding were found to be the strongest indicators of breastfeeding only. In addition, the breastfeeding duration was found to be higher in primiparous mothers with high breastfeeding self-efficacy than in primiparous mothers with low self-efficacy (Minas & Limando, 2016). In a similar study, it was found that high breastfeeding self-efficacy was correlated with breastfeeding and influenced only breastfeeding duration (Glassman, 2014). In another studies, a significant and positive relationship was found between breastfeeding behavior and self-efficacy (Alioğulları et al., 2016; Aluş-Tokat & Okumuş, 2013; Yenal et al., 2013). In the study by Aluş-Tokat (2009), the breastfeeding self-efficacy of primiparous mother was lower in both prenatal and postnatal periods than the self-efficacy seen in multiparous mother.

It can be seen that there are various factors affecting breastfeeding behavior. However, in our country, no study investigated and compared the long-term (six-month) breastfeeding behavior of primiparous mothers in the risky age and non-risky age groups. In this study, it is aimed to determine the breastfeeding behavior of primiparous mothers in the risky age group ( $\leq 19$  years and  $\geq 35$  years) and in the non-risky age group (between 20 and 34 years) prospectively. In this way, it is thought that important findings that will guide experimental studies will be obtained from the results obtained. Questions to be answered in the research are as follows:

1. Is there a difference between the breastfeeding behaviors of primiparous mothers in the risky age group and those in the non-risky age group?
2. Is there any difference between the breastfeeding behaviors of primiparous mothers in the risky age group in the first and sixth month?
3. Is there any difference between the breastfeeding behaviors of primiparous mothers in the non-risky age group in the first and sixth month?

## Method

### Study Design

This was a comparative and prospective study.

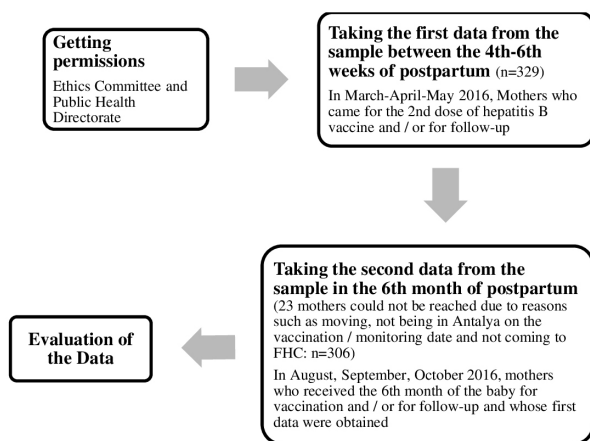
### Sample

It was tried to reach the number of pregnant women according to age groups in the center of a city in south of Turkey to calculate the sample according to the population of the research, but it was learned that such information was not available. This study was conducted in seven family health centers (FHCs) in the city. Thus, the population of the study consisted of mothers who came to the FHCs and met the following inclusion criteria: 15 years and older, primiparous, having a cesarean section or a vaginal birth, pregnancy week  $> 37$  weeks, having only one baby, being with baby, having a healthy newborn (Apgar score  $\geq 7$  and weight  $\geq 2500$  g), no obstacle to breastfeeding, and no communication problems.

The sample of the study consisted of mothers who visited FHCs for follow-up, vaccination, and examination between March 20 and October 10, 2016, met the criteria for inclusion in the study, and were willing to participate voluntarily. The initial data of the study was obtained from 329 mothers who had one-month-old baby and had visited FHC in March, April, and May 2016. G Power 3.19.2 (Faul et al., 2009) was used to determine the sample size. In the calculation based on the mean scores of the Breastfeeding Self-Efficacy Scale in the first month of the mothers in the risky and non-risky age groups, it was seen that its power was found to be 95% and the effect size was 0.52 at the alpha 0.05 level. It was interviewed with the mothers again when the babies were six months old. However, in the sixth month, 23 mothers could not be reached owing to reasons such as moving, not being in the city, and not visiting FHC during vaccination/follow-up period. The study was completed with the collection of data of 306 mothers (Figure 1). As a result, the sample of the study consisted of 68 mothers in the risky age group and 238 mothers in the non-risky age group.

### Data Collection

The data were obtained using the Personal Information Form, Breastfeeding Self-efficacy Scale-Short Form (BSES-SF), and LATCH Breastfeeding Assessment Tool (LATCH).



**Figure 1**  
Study process

### Personal Information Form

The form created by the researcher using the literature (Aluş-Tokat & Okumuş, 2013; Kahraman, 2009; Şahin, 2011; Yenal et al., 2013) consists information about the sociodemographic and breastfeeding characteristics of the mothers.

### Breastfeeding Self-efficacy Scale–Short Form (BSES-SF)

It is a 33-item scale developed in 1999 by Dennis and Faux. First, it was applied to 130 Canadian women who spoke English, and the Cronbach's alpha value was 0.96, and the item-total correlation of 73% of the items was between 0.30 and 0.70 (Dennis & Faux, 1999). Later, Dennis developed the Short Form of the Breastfeeding Self-Efficacy Scale by reducing the scale to a 14-item scale in 2003 (Dennis, 2003). BSES-SF is a 5-point Likert-type scale, and it is evaluated as 1=not at all confident, 2=not confident, 3=somewhat confident, 4=confident, and 5=always confident. The minimum score that can be obtained from the scale is 14 points and the maximum is 70 points. A high score is an indicator of high breastfeeding self-efficacy. The short form of the scale provides ease of application and correctly evaluates self-efficacy (Dennis, 2003). The Turkish validation of the scale was performed by Aluş-Tokat, et al. (2010). The scale was administered to 491 breastfeeding mothers in the first, sixth, and eighth postpartum weeks. The Cronbach's alpha value was 0.94 (Aluş Tokat et al., 2010). The Cronbach's alpha value was 0.93 in primiparous mothers in the risky age group and 0.81 in primiparous mothers who were in the non-risky age group in the study.

### Breastfeeding Assessment Tool (LATCH)

The reliability of the five subgroup LATCH breastfeeding diagnostic tool to assess breastfeeding of mothers-developed by Jensen et al. (1994). A Turkish validity and reliability study of the tool was conducted by Yenal and Okumuş (2003). The Cronbach's alpha value was found to be 0.95. In the LATCH scoring system, 0, 1, and 2 points are given for each criterion. A score of 0 for each criterion indicates a negative situation, but as the score increases to 2 it indicates a positive situation. The maximum score is 10. A lower score indicates that the mother needs help. LATCH focuses on five specific criteria for assessing breastfeeding behavior and taking appropriate action where necessary: L (Latch), baby grasping the breast; A (Audible swallowing), hearing the sound of the baby's swallowing; T (Type of nipple), the type of the mother's nipple; C (Comfort of breast/nipple), comfort of the mother's breast/nipple; and H (Hold/positioning), assistance needed by the mother to place the baby in the sucking position.

Data were obtained by interviewing each mother in the sample group twice in FHC: once between the postpartum fourth and sixth weeks (first month) and once in the sixth month (Figure 1). For this purpose, the researcher was at the FHC, which she determined for that day, three days a week, between 08:30 and 17:30. The Personal Information Form and BSES-SF were completed by mothers by the self-report method, and LATCH was filled in by the researcher while the mother was breastfeeding her baby. Interview with each mother lasted 20–30 minutes.

### Statistical Analysis

Statistical Package for Social Sciences 23.0 (IBM SPSS Corp.; Armonk, NY, USA) was used for the analysis of the data. Descriptive statistics are presented with frequency, percentage, mean, standard deviation and median, minimum, and maximum values. Fisher's exact chi-square test and Pearson chi-square test were used to analyze the relationships between categorical variables. For the normality test, Kolmogorov–Smirnov test was used when the number of samples in the group was >50. The Mann–Whitney U (MWU) test was used to analyze the difference between the measured values of primiparous mothers in the risky age group and the values of primiparous mothers in the non-risky age group, and the Wilcoxon paired sample test was used to analyze the differences within the group. In addition, logistic regression analysis was

performed to determine the breastfeeding status of mothers. The results were evaluated at 95% confidence interval and  $p < 0.05$  significance level.

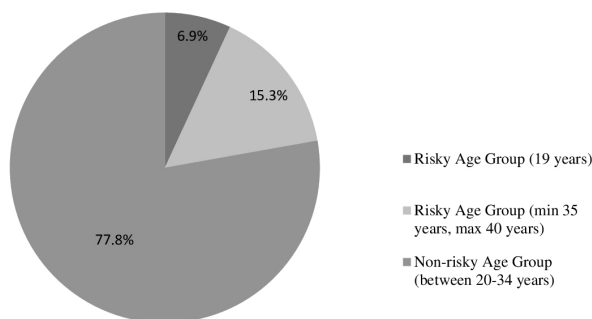
### Ethical Consideration

In order to conduct this research, the 1964 Helsinki declaration was signed by all the researchers, and authorization letters were obtained from the Akdeniz University Ethics Committee (Approval No: 121, dated 26.08.2015) and the Antalya Public Health Directorate (numbered 47897930/231.02.99 dated 16.03.2016). Written consent was obtained from all the participants. The participants were informed that they could leave the research at any time. In addition, permissions were obtained for the use of BSES-SF and LATCH in the study.

### Results

The distribution of primiparous mothers by age group is shown in Figure 2. Accordingly, 22.2% of the mothers were in the risky age group (6.9% were 19 years old, 15.3% were 35-40 years old) and 77.7% were in the non-risky age group. Thus, the findings of the study were obtained as a result of the comparison of the mothers in the two groups: risky age group ( $n=68$ ) and non-risky age group ( $n=238$ ).

Statistically significant differences were found between primiparous mothers in the risky age group and those in the non-risky age group in terms of educational status, educational status of their partners, income status, requesting pregnancy, having health problems during pregnancy, mode of birth, and having health problems during birth ( $\chi^2=8.226$ ,  $p<0.05$ ;  $v=10.501$ ,  $p<0.05$ ;  $\chi^2=12.678$ ,  $p<0.01$ ;  $\chi^2=5.435$ ,  $p<0.05$ ;  $\chi^2=13.770$ ,  $p<0.01$ ;  $\chi^2=11.280$ ,  $p<0.01$ ;  $\chi^2=12.619$ ,  $p<0.01$ , respectively) (Table 1).



**Figure 2**  
Distribution of Mothers by Age Groups

There was no statistically significant difference between primiparous mothers in the risky age group and those in the non-risky age group in terms of the first breastfeeding time after birth ( $\chi^2=2.260$ ,  $p>0.05$ ) (Table 2).

There was a statistically significant difference between the first and sixth month feeding status of primiparous mothers in the risky age group and primiparous mothers in the non-risky age group ( $\chi^2=30.019$ ,  $p<0.01$ ;  $v=26.449$ ,  $p<0.01$ , respectively). The breastfeeding rate of primiparous mothers in the risky age group was lower than that of primiparous mothers in the non-risky age group. The rates of formula feeding were higher in the sixth month. There was no statistically significant difference in terms of getting information about breastfeeding and from whom they received this information in the first and sixth month in primiparous mothers in risky and non-risky age groups ( $\chi^2=1.291$ ,  $p>0.05$ ;  $\chi^2=2.786$ ,  $p>0.05$ ,  $\chi^2=3.348$ ,  $p>0.05$ ;  $\chi^2=5.900$ ,  $p>0.05$ ) (Table 3).

When the breastfeeding status of primiparous mothers in the first and sixth month in the risky age group and that of primiparous mothers in the non-risky age group was compared, a statistically significant difference was found ( $p<0.01$ ;  $\chi^2=25.862$ ,  $p<0.01$ ;  $\chi^2=9.818$  respectively) (Table 4).

There was a significant relationship between breastfeeding conditions and age groups in the first month (Wald=5.72,  $p<0.05$ ). A total of 16.2% of the dependent variable could be explained (Nagelkerke  $R^2=0.162$ ). Mothers who were in the non-risky age group breastfed 14.8 times (odds ratio=14.8, 95% CI=1.62, 134.84) more than those in the risky age group. There was a significant relationship between breastfeeding status and age groups in the sixth month (Wald=22.34,  $p<0.01$ ). A total of 12.9% of the dependent variable could be explained (Nagelkerke  $R^2=0.129$ ). Mothers who were in the non-risky age group breastfed 5.4 times (odds ratio=5.41, 95% CI=2.7, 11.04) more than those in the risky age group (Table 5).

There was a statistically significant difference between the LATCH and BSES-SF scores of primiparous mothers in the risky age group and those of primiparous mothers in the non-risky age group in the first month (MWU=5830,  $p<0.01$  and MWU=5398,  $p<0.01$ , respectively). In the first

**Table 1**  
*Comparison of Mothers according to Sociodemographic and Obstetric Characteristics*

Features	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics
	n	%	n	%	
<b>Education status</b>					
Illiterate -literate -primary school	14	20.6	29	12.2	$\chi^2=8.226$
Middle school	22	32.4	57	23.9	p=0.042
High school	23	33.8	89	37.4	
University and above*	9	13.2	63	26.5	
<b>Education status of partner</b>					
Literate *	14	20.6	24	10.1	$\chi^2=10.501$
Middle school	17	25.0	37	15.5	p=0.015
High school	25	36.8	114	47.9	
University and above	12	17.6	63	26.5	
<b>Income status</b>					
Income less than expense*	28	41.2	50	21.0	$\chi^2=12.678$
Income equivalent to expense	37	54.4	182	76.5	p=0.002
Income more than expense	3	4.4	6	2.5	
<b>Working status</b>					
Working	14	20.6	76	31.9	$\chi^2=3.279$
Not working	54	79.4	162	68.1	p=0.070
<b>Partner's job</b>					
Officer	4	5.9	29	12.2	$\chi^2=5.892$
Worker	16	23.5	31	13.0	p=0.117
Self-employment	24	35.3	87	36.6	
Private sector	24	35.3	91	38.2	
<b>Family type</b>					
Extended family	14	20.6	41	17.2	$\chi^2=0.405$
Nuclear family	54	79.4	197	82.8	p=0.524
<b>Desiring for pregnancy</b>					
Desired	49	72.1	201	84.5	$\chi^2=5.435$
Undesired	19	27.9	37	15.5	p=0.032
<b>Having health problems during pregnancy</b>					
Having	28	41.2	46	19.3	$\chi^2=13.770$
Not having	40	58.8	192	80.7	p=0.000
<b>Birth type</b>					
Vaginal	10	14.7	86	36.1	$\chi^2=11.280$
Cesarean	58	85.3	152	63.9	p=0.001
<b>Having health problems at birth</b>					
Having	16	23.5	19	8.0	$\chi^2=12.619$
Not having	52	76.5	219	92.0	p=0.001
<b>Going to prenatal care</b>					
Going	65	95.6	233	97.9	$\chi^2=1.109$
Not going	3	4.4	5	2.1	p=0.383

\*The difference between the groups was determined by Bonferroni correction.

**Table 2***Comparison of Mothers According to the Time They Start Breastfeeding after Birth*

Features	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics
	n	%	n	%	
<b>First time of breastfeeding</b>					
Within half an hour after birth	36	52.9	150	63.0	$\chi^2=2.260$
From half an hour to an hour	22	32.4	61	25.6	$p=0.323$
An hour and later	10	14.7	27	11.3	

**Table 3***Comparison of Some Characteristics of Mothers Related to Breastfeeding*

Features	First measurement (1st month)					Second measurement (6th month)				
	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics
	n	%	n	%		n	%	n	%	
<b>Getting information status</b>										
Yes	44	64.7	171	71.8	$\chi^2=1.291$	58	85.3	219	92.0	$\chi^2=2.786$
No	24	35.3	67	28.2	$p=0.256$	10	14.7	19	8.0	$p=0.095$
<b>From whom he receives information*</b>										
Doctor	2	2.9	6	2.5	$\chi^2=3.348$	1	1.5	3	1.3	$\chi^2=5.900$
Nurse	26	38.2	82	34.5	$p=0.501$	34	50.0	100	42.0	$p=0.117$
Midwife	16	23.5	83	34.9		23	33.8	116	48.7	
<b>Feeding her baby right now</b>										
Breast milk <sup>†</sup>	25	36.8	166	69.7	$\chi^2=30.019$	24	35.3	127	53.4	$\chi^2=26.449$
Breastfeeding and formula	39	57.4	71	29.8	$p=0.000$	23	33.8	93	39.1	$p=0.000$
Only formula <sup>†</sup>	4	5.9	1	0.4		21	30.9	18	7.6	

\*n=44 (getting information status "yes")

<sup>†</sup>=The difference between the groups was determined by Bonferroni correction

month, the LATCH and BSES-SF scores of primiparous mothers who were in the non-risky age group were found to be higher than those of the primiparous mothers in the risky age group. There was no statistically significant difference between the two groups in terms of mean LATCH score in the sixth month (MWU=5434,  $p>0.05$ ). A statistically

significant difference was found between the two groups in terms of the mean scores of BSES-SF in the sixth month (MWU=5425,  $p<0.01$ ). The mean BSES-SF scores of primiparous mothers who were in the non-risky age group were found to be higher than those of primiparous mothers in the risky age group (Table 6).

**Table 4**  
Comparison of Breastfeeding Status of Mothers by Months

Breastfeeding Status	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics
	n	%	n	%	
<b>1st month</b>					
Breastfeeding	64	94.1	237	99.6	$\chi^2=9.818$
Not breastfeeding	4	5.9	1	0.4	p=0.009
<b>6th Month</b>					
Breastfeeding	47	69.1	220	92.4	$\chi^2=25.862$
Not breastfeeding	21	30.9	18	7.6	p=0.000

**Table 5**  
Logistic Regression Analysis of Breastfeeding Status of Primiparous Mothers in Risky and Non-Risky Age Groups

Variable	B	Wald	P	Odds Rate	95% C.I. for Odds	
					Lower limit	Upper limit
Breastfeeding status (1st month)						
Breastfeeding:0	2.69	5.72	0.017	14.81	1.62	134.84
Not breastfeeding:1						
Breastfeeding status (6th month)						
Breastfeeding:0	1.69	22.34	0.000	5.41	2.70	11.04
Not breastfeeding:1						

**Table 6**  
Comparison of BSES-SF and LATCH Scores of Mothers

Scales	Risky Age Group (n=68)		Non-Risky Age Group (n=238)		Statistics
	$\bar{X} \pm SD$	Median (Min-Max)	$\bar{X} \pm SD$	Median (Min-Max)	
BSES-SF 1st month	51.11±10.64	54(14-65)	56.52±5.44	56.5(24-65)	MWU=5398 p=0.000
BSES-SF 6th moth	48.42±14.82	54(13-65)	56.53±8.31	58(23-65)	MWU= 5425 p=0.000
Statistics		Z=-1.190 p=0.234		Z=-3.247 p=0.001	
LATCH 1st month*	7.44±1.26	7 (5-10)	7.84±1.18	8 (3-10)	MWU= 5830 p=0.000
LATCH 6th month*	9.76±0.51	10(8-10)	9.76±0.46	10(8-10)	MWU= 5434 p=0.800
Statistics		Z=-6.034 p=0.000		Z=-12.719 p=0.000	

\*n= Breastfeeding mothers in risky and non-risky age group (n=64, n=237 respectively for the 1st month; n=47, n=220 respectively for the 6th month)  
Note. BSES-SF: Breast-feeding self-efficacy scale-short form, LATCH: Breastfeeding assesment tool, MWU: Mann-Whitney U, Min: Minimum, Max: Maximum, SD: Standard deviation

The difference between LATCH scores of mothers in the risky age group and those of mothers in the non-risky age groups was statistically significant ( $Z = -6.034$ ,  $p < 0.01$  and  $Z = -12.719$ ,  $p < 0.01$ , respectively) in the first and sixth month. The LATCH scores of primiparous mothers in the risky age group in the sixth month were found to be higher than their mean scores in the first month. Primiparous mothers who were in the non-risky age group were also found to have higher LATCH scores in the sixth month than in the first month. The difference between the first- and sixth month BSES-SF scores of primiparous mothers in risky age group was not statistically significant ( $Z = -1.190$ ,  $p = 0.234$ ). The difference between the mean scores of the first- and sixth month BSES-SF of primiparous mothers who were in the non-risky age group was statistically significant ( $Z = -3.247$ ,  $p < 0.01$ ). The BSES-SF mean scores of primiparous mothers who were in the non-risky age group were higher in the sixth month than those in the first month (Table 6).

### Discussion

In this study, breastfeeding behaviors of primiparous mothers in risky and non-risky age groups in postpartum first and sixth month were determined. So, it was aimed to demonstrate the effect of pregnancy at different ages on baby nutrition in order to reach healthy generations. In this context, when the literature was examined, it was sometimes limited to discuss the findings of the study, especially since studies divided by age groups are quite limited.

There was no significant difference between the mothers in the risky and non-risky age groups in the first breastfeeding period. It is recommended to start breastfeeding in the first half hour after birth (T.R. Ministry of Health, 2004). In this study, it was seen that more than half of the mothers started breastfeeding in the first half hour after birth, and this rate increased to over 85% in the first hour. When looking at the studies in this area, it was seen that there were different first breastfeeding times. According to these studies, the majority of mothers were observed to perform the first breastfeeding in the first half-hour after birth (Strauch et al., 2016; Şimşek & Karahan 2017), after half an hour (Aba & Kömürçü, 2017; Yenil et al., 2013), and after an hour (Gerçek et al., 2016; Minas & Limando, 2016). Although it is not surprising that the time to start breastfeeding after birth is different in studies, efforts should be made to

ensure that the first breastfeeding time is within the first half hour after birth.

No significant difference was found between primiparous mothers in the risky age group and those in the non-risky age group who had received information about breastfeeding in the first and sixth month. It was determined that the rate of getting information from nurses and midwives was high in both groups. The studies showed that mothers had received information about breastfeeding before, and it was generally seen that this information was obtained from midwives and nurses (Bodur et al., 2003; Khresheh et al., 2011; Yenil et al., 2013). The fact that there was no statistically significant difference in terms of getting information about breastfeeding and from whom they received this information about primiparous mothers in risky and non-risky age groups in the first and sixth month could be due to the standard education in FHCs and the pregnancy follow-up performed by the nurse and/or midwife.

A statistically significant difference was found between the two groups in terms of the nutritional status of the baby in the first and sixth month. It was found that this difference is against the mothers in the risky age group. More specifically, primiparous mothers in the risky age group feed their babies with less breast milk in the first month and more with only formula milk in the sixth month. The WHO reported that 42% of infants were breastfed for six months between 2000 and 2009. Rates vary from 1% to 88% according to countries (World Health Organization, 2010). When primiparous mothers were asked about their planned breastfeeding duration, 53.7% of them stated that they were considering breastfeeding for six months or more (Wu et al., 2013). In experimental studies, it was observed that only breastfeeding decreased in time in untreated control groups, similar to that in our study (Khresheh et al., 2011; Liu et al., 2017; Meedya et al., 2014). However, in the study by Meedya et al. (2014), it was found that the factor age had no effect on breastfeeding, whereas Alp (2009) showed that breastfeeding periods differed according to maternal age groups. Accordingly, it was found that mothers breastfed their first child for 10.6 months in the 18-23 age group, 14.7 months in the 24-29 age group, 13.7 months in the 30-35 age group, and 12.2 months in the 36-39 age group (Alp, 2009). Karaçam (2006), on the other hand, determined



that 43.6% and 63.9% of mothers under 19 and over 35 years old, respectively, fed their babies only with breast milk, while mothers between the ages of 20-34 fed their babies with breast milk at a rate of 51%. When the study was examined in terms of those who did not breastfeed at the first and sixth month, it was found that the proportion of primiparous mothers in the risky age group was high. In the study conducted by Özer et al. (2010) with mothers who had 0- to 6-month-old baby, it was found that breastfeeding mothers were 96.8% and non-breastfeeding mothers were 3.2%. In another study, the rate of breastfeeding by mothers was 94.7% in the first month and 84% in the sixth month (Kaya & Pirinçci, 2009). In a study conducted with adolescent mothers, it was found that the rate of breastfeeding by mothers was 62% in the first month and 16% in the sixth month (Conde et al., 2017). Mothers who were in the non-risky age group breastfed approximately 14.8 times more in the first month and 5.4 times more in the sixth month than mothers in the risky age group.

As can be seen from the aforementioned studies, regardless of the factor age, the rate of breastfeeding or the breastfeeding duration decreases gradually over time. However, in this study, as observed in Alp (2009) and Conde et al. (2017), age was found to be an important variable in breastfeeding. The fact that both breastfeeding and only giving breast milk rates of mothers in the risky age group were lower than those of mothers in the non-risky age group is an important result that may affect the healthy growth and development of the baby after birth other than the effect of gestational age on the mother and the fetus. In fact, the increase in the rate of formula feeding in the sixth month indicates that being in the risky age group may affect the infant for a longer period.

In this study, breastfeeding behaviors of mothers were also examined by the LATCH and BSES-SF scales within and between groups. As a result, age and time were found to be effective in terms of the scale mean scores. According to Dennis (2002), there is a positive relationship between maternal age and the duration of breastfeeding. It was stated that there may be a significant difference between breastfeeding self-efficacy perception and maternal age, which is one of the factors affecting breastfeeding duration (Dennis, 2002). In the study of Gerçek et al. (2016), it was found that the BSES-SF and LATCH

scores did not change according to the age groups of the mothers. However, it can be said that they do not determine age groups according to their risk status. Conde et al. (2017) found that 56.9% of adolescent mothers had high breastfeeding self-efficacy, but they found no significant difference between breastfeeding duration and breastfeeding self-efficacy. It was found that 39.3% and 9% of breastfeeding adolescent mothers had high self-efficacy in the first month and sixth month, respectively (Conde et al., 2017). Experimental research shows that if mothers are supported, their self-efficacy will increase and their breastfeeding success will increase (Aluş-Tokat & Okumuş, 2013; Liu et al., 2017; Mizrak et al., 2017; Yenil et al., 2013; Wu et al., 2013). As can be seen from the previous studies, the mean LATCH and BSES-SF scores can vary according to age. However, in the study by Conde et al. (2017), only the adolescent age group was included. In this study, most of the participants in the risky age group were older primiparous mothers. Therefore, the decrease in mean BSES-SF mean scores of mothers in the risky age group may not have a statistically significant meaning. Nevertheless, although there was no statistically significant difference, it is remarkable that over time the mean BSES-SF scores of mothers in the risky age group decreased. In this study, it was revealed that age and time indeed affect LATCH and BSES-SF mean scores. The findings of the study are further supported when it is considered that the education and income levels of primiparous mothers in the risky age group are lower, they do not want to have pregnancy, they have health problems during pregnancy and birth, and the cesarean rates are higher.

Lack of visiting every FHC every day and a small number of adolescent and advanced age primiparous mothers are the limitations of the study.

### Conclusions and Recommendations

In this study conducted to determine the breastfeeding behaviors of primiparous mothers in the first and sixth month of the risky age group and non-risky age group, it was determined that primiparous mothers in the risky age group fed their baby with less breast milk in the first month and only higher formula milk in the sixth month, had higher rates of non-breastfeeding in the first and sixth month, had higher risk of breastfeeding, had lower mean scores of LATCH and BSES-SF in the first month, and had

lower mean scores of BSES-SF in the sixth month than those of primiparous mothers in the non-risky age group. It was determined that the mean scores of LATCH in both groups and the mean scores of BSES-SF of primiparous mothers in the non-risky age group increased over time.

This study highlighted the importance of being a mother in adulthood in terms of infant nutrition with the difference between LATCH, BSES-SF mean scores, breastfeeding rates, and breastfeeding only. It was found that the breastfeeding behaviors of primiparous mothers who are in the non-risky age group were better.

In conclusion, it is suggested that health workers working in primary healthcare centers should examine the breastfeeding status of adolescent and advanced age primiparous mothers at each interview, make assessment by monitoring their breastfeeding frequently, and support them to increase breastfeeding self-efficacy and encourage breastfeeding in case of abandonment.

We recommend further studies in different regions where there are high numbers of primiparous mothers in the risky age group and studies in which the risky age group is separated into adolescent and advanced age groups.

**Ethics Committee Approval:** This study was approved by Ethics committee of Akdeniz University (Approval No: 121).

**Informed Consent:** Written informed consent was obtained from the patients who agreed to take part in the study.

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