



## ORİJİNAL MAKALE / ORIGINAL ARTICLE

Balıkesir Sağlık Bilimleri Dergisi / BAUN Sağ Bil Derg  
Balıkesir Health Sciences Journal / BAUN Health Sci J  
ISSN: 2146-9601- e ISSN: 2147-2238  
Doi: <https://doi.org/10.53424/balikesirsbd.1004258>



### Breastfeeding Experiences of Turkish Mothers; Exclusive Breastfeeding in First Six Months, Continuing Two Years and Using Traditional Methods for Weaning

Filiz ASLANTEKİN OZCOBAN <sup>1</sup>, Özen Esra KARAMAN <sup>2</sup>, Esra CEVİK <sup>1</sup>

<sup>1</sup> Balıkesir University, Faculty of Health Sciences, Department of Midwifery  
<sup>2</sup> Fenerbahçe University, Faculty of Health Sciences, Department of Midwifery

*Geliş Tarihi / Received: 04.10.2021, Kabul Tarihi / Accepted: 27.10.2021*

#### ABSTRACT

**Aim:** This research to determine factors related to exclusive breastfeeding for the first six months and breastfeeding up to two years and beyond, to investigate traditional methods used by mothers for weaning. **Materials and Methods:** This cross-sectional study was planned to identify factors associated with breastfeeding processes and traditional weaning methods in children aged 6-36 months through using Google online surveys (N=1091). **Results:** Exclusive breastfeeding (EBF) for the first 6 months was found to be 1.98 times lower in mothers who gave birth by cesarean section, 2.36 times lower in those who had 2 or more children, and 29.64 times lower in those who gave birth to girl babies and used traditional methods for weaning. The rate of breastfeeding for up to two years was 2.21 times lower in mothers with female babies, and 18.75 times lower in mothers who received support for breastfeeding from their close relatives. The use of traditional methods to stop breastfeeding was 35.69 times higher in those who did not apply EBF in the first 6 months. **Conclusion:** It was determined that mothers used traumatic traditional methods to stop breastfeeding.

**Keywords:** Breastfeeding, Exclusive Breastfeeding, Experience, Weaning, Traditional Methods.

### Türk Annelerinin Emzirme Deneyimleri; İlk Altı Ay Sadece Anne Sütü Verme, Emzirmeye İki Yıl Devam Etme ve Sütten Kesmede Geleneksel Yöntemleri Kullanma

#### ÖZ

**Amaç:** Bu araştırma, ilk altı ay sadece anne sütü ile iki yıl ve sonrasında kadar emzirme ve annelerin sütten kesmede kullandıkları geleneksel yöntemleri belirlemek amacıyla yürütülmüştür. **Gereç ve Yöntem:** Bu kesitsel çalışma, Google çevrimiçi anketleri kullanılarak 6-36 aylık çocuklarda emzirme süreleri ve geleneksel sütten kesme yöntemleri ile ilişkili faktörleri belirlemek için planlandı (N=1091). **Bulgular:** İlk 6 ay sadece anne sütü ile beslememe (EBF) sezaryen ile doğum yapan annelerde 1.98 kat, 2 ve daha fazla çocuğu olanlarda 2.36 kat ve doğum yapanlarda 29.64 kat ve kız bebeği olanlarda, geleneksel yöntem kullananlarda daha düşük bulundu. İki yıla kadar emzirme oranı kız bebeği olan annelerde 2.21 kat, emzirme için yakın akrabalarından destek alan annelerde 18.75 kat daha düşüktü. İlk 6 ayda emzirmeyi bırakma uygulaması yapmayanlarda emzirmeyi durdurmak için geleneksel yöntemlerin kullanımı 35.69 kat daha fazlaydı. **Sonuç:** Annelerin emzirmeyi durdurmak için geleneksel yöntemler kullandıkları belirlendi.

**Anahtar Kelimeler:** Emzirme, Emzirmeyi Bırakma, Deneyim, Sütten Kesme, Geleneksel Yöntemler.

**Sorumlu Yazar / Corresponding Author:** Filiz ASLANTEKİN OZCOBAN, Balıkesir University, Faculty of Health Sciences, Department of Midwifery, Balıkesir, Turkey

**E-mail:** aslantekinfiliz@yahoo.com

**Bu makaleye atf yapmak için / Cite this article:** Aslantekin Ozcoba, F., Karaman, E., Cevik E. (2021). Breastfeeding Experiences of Turkish Mothers; Exclusive Breastfeeding in First Six Months, Continuing Two Years and Using Traditional Methods For Weaning. *Balıkesir Sağlık Bilimleri Dergisi*, 10(3):356-366. <https://doi.org/10.53424/balikesirsbd.1004258>

©Copyright 2021 by the Balıkesir Sağlık Bilimleri Dergisi.



BAUN Sağ Bil Derg 2021 OPEN ACCESS <https://dergipark.org.tr/tr/pub/balikesirsbd>  
This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License

## INTRODUCTION

The first moment a baby tastes breast milk at the beginning of life until weaning, the breastfeeding period, is invaluable (Türkyılmaz 2016). Providing all the energy and nutritional needs of a baby in the first six months of life, it also meets 50% in the second six months and 30% in the second year. It is recommended that this magnificent nutrient should be given by breastfeeding within one hour after delivery, exclusive breastfeeding (EBF) should be followed in the first 6 months of life, and that breastfeeding should be continued accompanied by complementary supplements after 6 months (WHO 2020). The EBF coverage of 90 % is required in order to benefit from 11.6 % reduction of child death in low-income countries (Black et al 2013). Breastfeeding is effected by a number of factors such as inadequate breastfeeding knowledge, lack of guidance and encouragement from healthcare professionals, maternal health problems, pregnancy status, socioeconomic status, psychosocial factors, social support, social structure, culture, attitudes, and public policy (Hunegnaw, Gezie, Teferra 2017; Gürarlan et al. 2018). Generally, mothers' concerns about providing sufficient quality or amount of milk for their babies and about necessary supplementary food frequently effects weaning (Li, Fein, Chen 2008; Oflu 2019). Weaning is as important for development of a child as initiating and maintaining breastfeeding. Naturally, it occurs spontaneously between the ages of 2-4, when the baby can consume complementary food in adequate variety and quantity. As a baby meets its nutritional needs, frequency of breastfeeding and adherence to breast milk will fall, and the baby will stop suckling on its own. Therefore, stopping breastfeeding naturally has positive effects on mother-infant attachment (Ofly 2019; Miller, Common 2010). Mother's attempt to stop breastfeeding through ineffective methods in a period when the baby/child is not physically, mentally, and emotionally ready will cause them to feel it as a punishment, damage their psychosocial development, and make the mother feel guilty and inadequate and result in occurrence of several problems, such as breast pain and mastitis (Li, Fein, Chen 2008; Yüzer, Alsaç, Polat 2018). It has been reported that %32 mothers experience cycles of returning to breastfeeding and quitting again due to the ineffectiveness of the methods used to stop breastfeeding (Yüzer, Alsaç and Polat 2018). Therefore, experiences of mothers in this process and factors affecting it should be thoroughly known. The purpose of this research to determine factors related to exclusive breastfeeding for the first six months and breastfeeding up to 2 years and beyond, to investigate traditional methods used by mothers for weaning.

### Research questions

1. What are the factors associated with exclusive breastfeeding in the first 6 months of breastfeeding?
2. What are the factors associated with two-year breastfeeding?
3. What are the traditional methods and experiences that mothers use to stop breastfeeding?

## MATERIALS AND METHODS

### Study type

This cross-sectional study was conducted between May and June 2020. The study was carried out using online Google forms through social media tools (Facebook, Instagram, WhatsApp—with a mother-baby theme) with mothers who had 6-36-month-old children and completed breastfeeding.

### Study group

The research population in Turkey 0-36 with mothers who had completed 6-36-month-old children and breastfeeding (N=5 161 484) are. The sample size was calculated with 50% unknown prevalence, 97% confidence level and 2 design effect. It was aimed to reach at least 942 people. This sample size was calculated using Open Epi Version 3.01, an open-source calculator. A total of 1117 questionnaires were filled out, but 26 questionnaires were excluded because they were not filled out appropriately. Accordingly, 1091 questionnaires were included in the analysis. Random sampling was used in the study.

### Dependent and independent variables

The dependent variables of the study consist of the dichotomy variables of breastfeeding for the first 6 months, breastfeeding for the first two years, and using traditional methods to stop breastfeeding. The independent variables, on the other hand, are the descriptive characteristics of the mothers, breastfeeding experiences and weaning experiences. Breastfeeding for the first 6 months; only breastfeeding, not providing any food including water. Breastfeeding for the first 2 years; continuation of breastfeeding until the age of two (24 completers). Use of traditional methods for weaning: They were categorized according to their state of doing behaviors such as applying tomato paste, applying painful ... etc.

### Procedures

The study data were collected with a questionnaire developed by the researchers in line with the literature (Hunegnaw et al 2017; Yüzer-Alsaç et al 2018; Dinç et al 2015; Gök-Uğur et al. 2018). Inclusion criteria of the study were having a baby between 6 and 36 months and terminated breastfeeding, above 18 years old, literate women. To prevent bias; the questionnaire was shared on facebook and whatsapp accounts, which have all kind of perspective with the mother and baby who may be related to breastfeeding. Repeated tests were excluded. The literature review was objective. Attention was paid to the questions not to lead.

The questionnaire was interviewed by two experts in public health and midwifery for clarity. The questionnaire was filled out by 5 randomly selected mothers for the pilot and the questionnaire was clarified.

### Statistical analysis

In the study, descriptive findings were presented with numbers, percentages, and mean values. The relationship between the dependent and independent variables was evaluated by univariate and multivariate analysis. The chi-square test, which is used to evaluate the difference

between categorical variables in univariate analyzes, was used in the study. Further analysis has been done to control potential confounders. Logistic regression analysis was used in further analysis, as the dependent variables are dichotomous. In the univariate analysis, variables with a p-value of <0.05 were included in the model. Multivariate linear regression analysis was employed to investigate the relationship between independent variables and exclusive breastfeeding for the first 6 months, for the first 2 years, and the use of traditional methods for weaning. Explanatory value of the models was evaluated using the Nagelkerke R Square. Data analysis was carried out using Statistical Package for Social Sciences, version 25.0.

#### Ethic approval

This research was carried out under the Declaration of Helsinki principles. Also, it was approved by Ethics Committee (Document/Issue:2019/203). An explanation was made before starting the survey in the online form. Those who accepted to the study were able to answer the questions after pressing the confirmation button. All procedures was performed the 1964 Helsinki declaration ethical standards.

#### RESULTS

Mean age of individuals in the study group was 31.63±4.58, 46.7% of them were university graduates, 72.9% were unemployed. Also, 42.1% of the participants' spouses were university graduates and 94.6% of them were employed. Regarding economic status, 60.5% had equal income and expenses, 76.5% had a nuclear family type, and 61.7% lived in a province. Obstetric characteristics of the mothers were found as 61.8% having caesarean delivery, 45.7% having two children, 61.9% of babies being female, and 60.4% of them being 24 months-old or older (Table 1).

Mean length of breastfeeding was 13.19±11.06 months, and 85.2% of the mothers breastfed their baby within the first one hour after delivery. Also, 33.0% of the mothers followed EBF for the first 6 months, 14.5% maintained breastfeeding for two years, and 78.8% believed that breastfeeding motivation included willingness of the baby for suckling. Additionally, 50% themselves decided to wean mainly directed by the thought that they had done enough breastfeeding (34.8%), and 40.29% stopped breastfeeding by gradually reducing it. 26.9% used traditional methods during weaning and most of these methods (18%) included applying tomato paste or covering nipples with black tape (11.9%). Also, 25.4% stated that they felt emotional depressions and guilt during the weaning phase. In addition, 37.6% of the mothers received support, 56.6% received breast milk training, 28.3% received training on weaning, and 8% stopped breastfeeding and started again (Table 2).

Table 3 shows the results of univariate and multivariate analysis between the independent variables and the implementation of EBF for the first 6 months. According to the multivariate analysis results; the independent variables explained 64% of the dependent variables ( $R^2=0.64$ ;  $\chi^2=261.904$ ;  $p<0.001$ ). Following EBF for the

first 6 months was higher in those who and who had high school education (95%, CI=0.12-0.60,  $p<0.001$ ), whose income were not equal to their expenses (95%, CI=1.13-5.59,  $p=0.023$ ), who had a nuclear family type (95%, CI=0.12-0.79,  $p=0.015$ ), and who lived in a province (95%, CI=0.01-0.68,  $p=0.02$ ). On the other hand, it was lower by 1.98 times in those who had a caesarean delivery (95%, CI=1.04-3.78,  $p=0.037$ ), 2.36 times in those with two or more children (95%, CI=1.15-4.85,  $p=0.019$ ), 29.64 times in those with female babies (95%, CI=1.11-4.33,  $p<0.001$ ) and in those who used traditional methods for weaning (95%, CI=11.31-77.67,  $p<0.001$ ), 1.99 times in those who did not receive training on breast milk (95%, CI=1.40-4.38,  $p=0.047$ ), and 2.37 times in those who did not receive training on weaning (95%, CI=1.80-3.32,  $p=0.036$ ) (Table 3).

**Table 1. Socio-demographic and obstetric characteristics of the mothers (N=1091).**

Variables	n	%
<b>Age X±SD = 31.63±4.58</b>		
18-34	754	69.1
35-45	337	30.9
<b>Status of Education</b>		
Primary school	247	22.6
High school	335	30.7
University	509	46.7
<b>Employment</b>		
Employed	296	27.1
Unemployed	795	72.9
<b>Educational status of the spouse</b>		
Primary school	245	22.5
High school	387	35.5
University	459	42.1
<b>Employment status of the spouse</b>		
Employed	1032	94.6
Unemployed	59	5.4
<b>Financial status</b>		
Income less than expense	177	16.2
Equal income and expenses	660	60.5
Income more than expenses	254	23.3
<b>Family type</b>		
Nuclear	835	76.5
Extended	256	23.5
<b>Place of residence</b>		
Province	673	61.7
County	341	31.3
Village	77	7.1
<b>Type of delivery</b>		
Normal	414	38.2
Cesarean	674	61.8
<b>Number of children</b>		
1	499	45.7
2	492	45.1
3+	100	9.2
<b>Sex of the baby (the last breastfeed)</b>		
Female	675	61.9
Male	416	38.1

X=Mean, SD=Standard deviation.

Table 2. Breastfeeding characteristics of the mothers (N=1091).

Variables		
Average breastfeeding time (month)	X±SD=13.9±11.06	
<b>Onset of breastfeeding</b>	<b>n</b>	<b>%</b>
<b>Time to first breastfeeding</b>		
Within the first one hour	930	85.2
After the first one hour	161	14.8
<b>Maintaining breastfeeding</b>		
<b>Exclusive breastfeeding for the first six months</b>		
Yes	360	33.0
No	731	67.0
<b>Breastfeeding for the first two years</b>		
Yes	158	14.5
No	933	85.5
<b>Source of motivation for the sustainability of breastfeeding</b>		
Belief that the baby needs it	860	78.8
Feeling happy to be breastfeeding	118	10.8
Increasing the emotional attachment	64	5.9
Other**	49	4.4
<b>Weaning</b>		
<b>The person who decided to stop breastfeeding</b>		
The mother herself	546	50.0
The father and mother together	301	27.6
Relatives	244	22.4
<b>Reasons for weaning (n=933)</b>		
Thinking that she had done enough breastfeeding	325	34.8
The baby was reluctant to suckle.	182	19.5
Thinking that she had not had enough breast milk	113	12.1
Lack of time due to going back to work	54	5.8
Conceiving again	36	3.9
Other***	223	23.9
<b>The process of weaning (n=973)</b>		
Weaned abruptly	350	35.9
Weaned gradually	392	40.2
The baby stopped suckling.	231	23.7
<b>The use of traditional methods for weaning</b>		
Yes	294	26.9
No	797	73.1
<b>The traditional method employed</b>		
Applying tomato paste on nipples	53	18.0
Covering the nipples with black tape	35	11.9
Rubbing the breast with patience stone	27	9.2
Applying red pepper	11	3.7
Applying vinegar	20	6.8
Applying mint	15	5.1
Applying lipstick	8	2.7
Applying salt	7	2.4
Applying lemon	3	1.0
Other*	93	31.6
<b>The most frequent difficulty in weaning (n=933)</b>		
None	489	52.4
Emotional depression, feeling guilty	237	25.4
Crying of the baby	142	15.2
Swelling in breasts	51	5.5
Pain in breasts	14	1.5

\*Sticking hair on the breast, applying Vaseline on nipples, directing the baby's attention to something else

\*\*Breastfeeding is necessary also in religious terms, for my health, I could not breastfeed my previous child(ren)

\*\*\*It's tiring, boring, causes cracked nipples, general health problems.

Table 3. Exclusive breastfeeding for the first 6 months and associated factors (N=1091).

Variables	Exclusive breastfeeding for the first six months				Univariate analysis		Multivariate analysis			
	Yes	No	χ <sup>2</sup>	p	B	p	OR	95% C.I.		
<b>Status of education</b>										
Primary school	54	21.9	193	78.1	26.456	0.001	-0.067	0.89	0.93	0.35;2.43
High school	141	42.1	194	57.9			-0.427	0.26	0.65	0.30;1.37
University	165	32.4	344	67.6			1.0			
<b>Employment</b>										
Yes	75	25.3	221	74.7	10.779	0.001	1.0			
No	285	35.8	510	64.2			-1.332	0.002	0.26	0.11;0.61
<b>Educational status of the spouse</b>										
Primary school	45	18.4	200	81.6	53.910	0.001	0.327	0.551	1.38	0.47;4.05
High school	177	45.7	210	54.3			-1.305	0.001	0.27	0.12;0.60
University	138	30.1	321	69.9			1.0			
<b>Employment status of the spouse</b>										
Yes	335	32.5	697	67.5	2.480	0.115	1.0			
No	25	42.4	34	57.6			-1.332	0.002	0.26	0.11;0.60
<b>Income status</b>										
Income<expenses	61	34.5	116	65.5	45.060	0.001	0.528	0.337	1.69	0.57;4.89
Income=expenses	173	26.2	487	73.8			0.924	0.023	2.52	1.13;5.59
Income>expenses	126	49.6	128	50.4			1.0			
<b>Family type</b>										
Nuclear	317	38.0	518	62.0	39.706	0.001	-1.150	0.015	0.31	0.12;0.79
Extended	43	16.8	213	83.2			1.0			
<b>Place of residence</b>										
Province	250	37.1	423	62.9	32.727	0.001	-2.405	0.020	0.09	0.01;0.68
County	106	31.1	235	68.9			-1.163	0.264	0.31	0.04;2.40
Village	4	5.2	73	94.8			1.0			
<b>Type of delivery</b>										
Normal	190	45.6	227	54.4	48.211	0.001	1.0			
Cesarean	170	25.2	504	74.8			0.687	0.037	1.98	1.04;3.78
<b>Number of children</b>										
1	205	41.1	294	58.9	28.650	0.001	1.0			
2	134	27.2	358	72.8			0.859	0.019	2.36	1.15;4.85
3+	21	21.0	79	79.0			1.670	0.012	5.31	1.45;19.43
<b>Sex of the baby</b>										
Female	192	28.4	483	71.6	16.597	0.001	0.787	0.023	2.19	1.11;4.33
Male	168	40.4	248	59.6			1.0			
<b>Onset of breastfeeding</b>										
Within the first one hour	284	30.5	646	69.5	17.244	0.001	0.300	0.478	1.35	0.58;3.09
After the first one hour	76	47.2	85	52.8			1.0			
<b>The use of traditional methods for weaning</b>										
Yes	7	2.4	287	97.6	170.627	0.001	3.389	0.001	29.64	11.31;77.67
No	353	44.3	444	55.7			1.0			
<b>Receiving training on breast milk and breastfeeding from healthcare workers</b>										
Yes	235	38.0	383	62.0	16.304	0.001	1.0			
No	125	26.4	348	73.6			0.688	0.047	1.99	1.40;4.38
<b>Receiving training on weaning from healthcare workers</b>										
Yes	146	47.2	163	52.8	39.605	0.001	1.0			
No	214	27.4	568	72.6			0.866	0.036	2.37	1.80;3.12

Nagelkerke R<sup>2</sup>=0.64, χ<sup>2</sup>=261.904; p<0.001.

Table 4 presents the results of univariate and multivariate analysis between the independent variables and breastfeeding in the two years. According to the multivariate analysis results; the independent variables explained 63% of the dependent variables (R<sup>2</sup>=0.63; χ<sup>2</sup>=240.688; p<0.001). According to the multivariate analysis, breastfeeding for the first 2 years was found to

be higher in those who did not work (95%, CI=0.11-0.61, p<0.001) and those who did not use traditional methods for weaning (95%, CI=0.007-0.07, p<0.001). Yet, it was lower by 3.69 times in those who had equal income and expenses (95%, CI=1.33-10.19, p<0.001), 6.26 times in those with 2 or more children (95% CI=1.79-21.89, p=0.004), 2.21 times in those with female babies



(95%,CI=1.10-4.4, p=0.024), 4.77 times in those who did not receive training on breast milk and breastfeeding (95%,CI=2.19-10.38, p<0.001), and 6.83 times in those

did not receive training on weaning (95%,CI=4.75-9.83, p<0.001) (Table 4).

**Table 4. Breastfeeding for the first 2 years and associated factors (N=1091).**

Variables	Breastfeeding for the first two years				Univariate analysis		Multivariate analysis			
	Yes		No		$\chi^2$	p	B	p	OR	95% C.I.
	n	%	n	%						
<b>Status of education</b>										
Primary school	21	8.5	226	91.5	9.295	0.010	0.353	0.366	1.42	0.66;3.06
High school	53	15.8	282	84.2			0.783	0.125	2.18	0.80;5.94
University	84	16.5	425	83.5			1.0			
<b>Employment status</b>										
Yes	19	6.4	277	93.6	21.324	0.001	1.0			
No	139	17.5	656	82.5			-1.547	0.001	0.213	0.08;0.53
<b>Income status</b>										
Income<expenses	22	12.4	155	87.6	75.466	0.001	1.306	0.012	5.54	2.51;12.20
Income=expenses	57	8.6	603	91.4			1.712	0.001	3.69	1.33;10.19
Income>expenses	79	31.1	175	68.9			1.0			
<b>Type of delivery</b>										
Normal	74	17.7	343	82.3	5.805	0.016	1.0			
Cesarean	84	12.5	590	87.5			0.484	0.161	1.62	0.82;3.19
<b>Number of children</b>										
1	119	23.8	380	76.2	66.261	0.001	1.0			
2	29	5.9	463	94.1			1.834	0.004	6.26	1.79;21.89
3+	10	10.0	90	90.0			1.733	0.001	5.65	2.54;12.58
<b>Sex of the baby</b>										
Female	81	12.0	594	88.0	8.806	0.003	0.793	0.024	2.21	1.10;4.41
Male	77	18.5	339	81.5			1.0			
<b>The use of traditional methods for weaning</b>										
Yes	80	27.2	214	72.8	52.650	0.001	-3.793	0.001	0.023	0.007;0.07
No	78	9.8	719	90.2			1.0			
<b>Receiving training on breast milk and breastfeeding from healthcare workers</b>										
Yes	126	20.4	492	79.6	40.150	0.001	1.0			
No	32	6.8	441	93.2			1.564	0.001	4.77	2.19;10.38
<b>Receiving training on weaning from healthcare workers</b>										
Yes	104	33.7	205	66.3	127.982	0.001	1.0			
No	54	6.9	728	93.1			1.923	0.001	6.83	4.75;9.83

Nagelkerke  $R^2=0.63$ ;  $\chi^2=240.688$ ; p< 0.001. C.I.=Confidence Interval

Table 5 gives the results of univariate and multivariate analysis between the independent variables and the use of traditional methods for weaning. According to the multivariate analysis results; the independent variables explained 66% of the dependent variables ( $R^2=0.66$ ;  $\chi^2=267.631$ ; p<0.001). Using traditional methods for weaning was higher by 4.58 times in those whose income was more than expenses (95% CI 2.39;8.90, p<0.001), 4.67 times in those with a single child (95%,CI=2.29-9.52, p<0.001), 1.64 times in those receiving support for

weaning (95%,CI=1.20-2.46, p<0.001), 5.42 times in those not receiving training on breast milk (95%,CI=2.64-11.10, p<0.001), 1.51 times in those not receiving training for weaning (95%,CI=1.10-2.07, p=0.009), 35.69 times in those not following EBF for the first 6 months (95%,CI=11.59-99.89, p<0.001), and 22.61 times in those not maintaining breastfeeding in the first 2 years (95%,CI=5.96 - 85.71, p<0.001) (Table 5).

Table 5. The use of traditional methods for weaning and associated factors.

Variables	The use of traditional methods				Univariate analysis		Multivariate analysis			
	Yes		No		$\chi^2$	p	B	p	OR	95% C.I.
	n	%	n	%						
<b>Status of education</b>										
Primary school	178	72.1	69	27.9	0.29	0.864				
High school	248	74.0	87	26.0						
University	371	72.9	138	27.1						
<b>Income status</b>										
Income<expenses	122	68.9	55	31.1	15.74	0.001	1.0			
Income=expenses	465	70.5	195	29.5			0.818	0.069	2.26	0.93;5.47
Income>expenses	210	82.7	44	17.3			1.522	0.001	4.58	2.39;8.90
<b>Type of delivery</b>										
Normal	305	73.1	112	26.9	0.003	0.958				
Cesarean	492	73.0	182	27.0						
<b>Number of children</b>										
1	379	76.0	120	24.0	9.57	0.008	1.543	0.001	4.67	2.29;9.52
2	357	72.6	135	27.4			1.219	0.028	3.38	1.13;10.05
3+	61	61.0	39	39.0			1.0			
<b>Sex of the baby</b>										
Female	485	71.9	190	28.1	1.29	0.255				
Male	312	75.0	104	25.0						
<b>The person who decided to stop breastfeeding</b>										
The mother herself	422	77.3	124	22.7	39.28	0.001	-0.244	0.491	0.78	0.39;1.56
The father and mother together	235	78.1	66	21.9			17.85	0.996	5.60	0.09;3.48
Relatives	140	57.4	104	42.6			1.0			
<b>Receiving support for weaning</b>										
Yes	524	76.9	157	23.1	13.95	0.001	1.645	0.001	1.64	1.20;2.46
No	273	66.6	137	33.4			1.0			
<b>Receiving training on breast milk and breastfeeding from healthcare workers</b>										
Yes	470	76.1	148	23.9	6.51	0.011	1.0			
No	327	69.1	146	30.9			1.691	0.000	5.42	2.64;11.1
<b>Receiving training on weaning from healthcare workers</b>										
Yes	243	78.6	66	21.4	6.83	0.009	1.0			
No	554	70.8	228	29.2			0.416	0.009	1.51	1.10;2.07
<b>Following exclusive breastfeeding for the first six months</b>										
Yes	444	60.7	287	39.3	170.62	0.001	1.0			
No	353	98.1	7	1.9			3.575	0.001	35.69	11.59;99.8
<b>Maintaining breastfeeding for the first two years</b>										
Yes	78	49.4	80	50.6	52.65	0.001	1.0			
No	719	77.1	214	22.9			3.119	0.001	22.61	5.96;85.71

Nagelkerke  $R^2 = 0.61$ ;  $X^2 = 2237.531$ ;  $p < 0.001$ . C.I.=Confidence Interval

## DISCUSSION

In this study, we discussed the discussion in the pattern of our research questions. This research suggests that one out of three mothers followed exclusive breastfeeding for the first 6 months, one out of seven kept breastfeeding for the first two years or more, and approximately one out of four used traditional methods for weaning. Mean length of breastfeeding was found  $13.19 \pm 11.06$  months. Mean length of breastfeeding in the literature was found as =  $15.52 \pm 8.6$  months in Alsaç and Polat and  $12.61 \pm 4.31$  months in Dinç, Dombaz et al. with 54.7% of mothers starting breastfeeding in the first 30 minutes;  $17.0 \pm 8.0$  months in Yetim and Devocioğlu with 70%

starting breastfeeding within the first one hour (Yüzer-Alsaç, Polat 2018; Dinç, Dombaz et al. 2015; Gök-Uğur et al. 2018; Yetim and Devocioğlu 2015). Also, Gümüştakım et al. (2017) reported that 84.3% of mothers started breastfeeding in the first one hour. Mean length of breastfeeding in Turkey is 16.7 months and breastfeeding in the first hour is 71% (TPHR 2018). While the breastfeeding mean in our research was similar to the findings of cross-sectional studies conducted in Turkey, it was slightly lower than that of the research representing overall Turkey. The mean value for breastfeeding within the first hour in our research was higher than the country

average and cross-sectional studies. This may be caused by different sample groups.

We found that 33% of the mothers followed EBF for the first 6 months. In the literature, their EBF rate for the first 6 months was between 23.5-38.8% in cross-sectional studies (Yüzügüllü et al. 2018; Yılmaz 2019; Çalık et al. 2017; Koruk et al. 2019). Besides, it was found as 41% in the national survey; 15.3% in Canada; 12.5% in Germany; 84.8% when discharged from the hospital and 53.7% in the following 4 months, but fell sharply to 15.4% in the 6<sup>th</sup> month of life in Spain; between 57.7% and 5.5% in the 6<sup>th</sup> month (TPHR 2018, Jessri, Farmer, Maximova et al 2013; Brettschneider, von der Lippe, Lange 2018; Oribe, Lertxundi et al 2016; Radwan 2013). Following EBF for the first 6 months in our research was higher in those who did not work, who were high school graduates, whose income was equal to their expenses, who had a nuclear family type, and who lived in a province centre. In the literature, mother's employment status is reported as negatively correlating with the length of breastfeeding (Yüzügüllü et al. 2018; Çalık et al. 2017; Radwan 2013; Salcan et al. 2019). While Çalık et al. (2017) reported that following EBF for the first 6 months by mothers with primary school education was significantly different from other groups, Koruk et al. (2019) did not find the level of education significant. In our research, it was higher in mothers with high school education, yet the results of the research were not consistent with existing findings. Various research in the literature report the majority of breastfeeding mothers having nuclear family type (Türkçüoğlu 2016; Dinç et al. 2015; Yılmaz 2019; Yıldız and Gölbaşı 2019), living in a province (Gök-Uğur et al. 2018; Yılmaz 2019; Yıldız and Gölbaşı 2019) and having equal income and expenses (Yüzer-Alsaç and Polat 2020; Dinç et al 2015; Gök-Uğur et al. 2018). Our research results are consistent with the literature in this regard. However, Yüzer-Alsaç and Polat (2018) reported most of the breastfeeding mothers having an extended family type, while Dinç et al. (2015) reported most of them living in districts. This difference may be due to the population the research was conducted in. Implementation of EBF for the first 6 months in our research was lower in those having caesarean delivery, having 2 or more children, having a female baby, using traditional methods for weaning, and not receiving training on breast milk and breastfeeding. Caesarean delivery was found to decrease the likelihood of following EBF for the first 6 months by 2.01 times in Aghaee et al. (2020), and 4.6 times in Santacruz-Salas et al. (2019). They also reported that there was no relationship between the mode of delivery and following EBF for the first 6 months (Yüzügüllü et al. 2018; Koruk et al. 2019). Different results suggest that having a caesarean section is an obstacle to following EBF for the first 6 months, which can be overcome. We found that having 2 or more children increased EBF implementation for the first 6 months by 2.36 times. Similarly, research conducted in Moquera et al. (2019) reported the EBF for the first 6 months as 28% more in multigravidas. This suggests that experienced mothers will be more

successful in breastfeeding than mothers with first babies. However, there is limited data in this regard. Having a female baby was found to be a factor that lowered the rate of EBF for the first 6 months. Similarly, it is reported in the literature that having a female baby decreases the rate of EBF for the first 6 months (Yüzügüllü et al. 2018; Jama and Gebreyesus 2020). Receiving no training about breastfeeding was also found to reduce the rate of EBF in the first 6 months in our research. In the literature, mother's breastfeeding training was reported to positively affect the rate of EBF for the first 6 months (Hunegnaw et al. 2017; Yüzügüllü et al. 2018; Koruk et al. 2019; Jama and Gebreyesus 2020).

This research determined 14.5 % of the mothers reported that they gave their children breast milk until the age of two. Research conducted with healthcare professionals in Turkey reported that 84.8% of the participants supported breastfeeding up to two years, but only 7.6% stated they achieved it (Baydar et al. 2016). In another research conducted in five different provinces of Turkey, 6.6% of mothers stated they maintained breastfeeding their children up to 24 months (Gümüştakım et al. 2017). Gök-Uğur (2018) reported 58.7% of participants not breastfeeding their children until the age of two, while Oribe et al. (2016); reported that no mothers who kept breastfeeding for more than 9 months. In this research, breastfeeding rates of the mothers for 2 years was higher in those who did not work or who had not used traditional methods for weaning, whereas it was lower in mothers whose income was equal to their expense, who were multiparous, who had female babies, and who had not received breast milk and breastfeeding training from healthcare personnel. In the literature, it is reported that 25% of mothers in India breastfeed their children for more than 24 months, which increases in mothers having male babies, living in rural areas, and receiving support from midwives/friends/relatives during delivery (Mehtap et al. 2017). Research from Zakarija-Grković et al. (2016) reported that low level of education, not attending antenatal course, and not receiving advice on the frequency of feeding in hospital reduced 24-month breastfeeding rates. In many countries in Asia and Africa, it is common to continue breastfeeding for 2 years or longer, which is rare in Western countries (Mehtap et al 2017; Delgado et al. 2019; Victoria et al 2016). Mothers should be promoted through more research to breastfeed their infants up to two years. Half of the mothers in this research made the weaning decision themselves with reasons that they thought they had done enough breastfeeding, the baby was reluctant to suckle, and they considered their breast milk was not enough. Research reported the decision for weaning belonging to the mother or being a recommendation of relatives (84.2%), and that this decision was given due to low weight gain (70.8%), or insufficient milk production and breastfeeding problems (65.1%) (21). Jessri et al. (2013) reported that more than half of the mothers weaned due to the perception that their breast milk was insufficient (50.9%). The most common reasons for weaning in different research are reported to include mothers'



thought that they could not do enough breastfeeding, reluctance of the child to suckle, insufficiency of breast milk, and pregnancy (Ofly 2019; Yüzer-İltaş and Polat 2018; Dinç et al. 2015). Lack of milk is a commonly cited reason for stopping breastfeeding. Postpartum psychology may be a powerful component of this situation (Jessri et al. 2013). Breastfeeding self-efficacy of mothers should be supported in this regard. Accordingly, similar reasons were found in our research with mothers needing more information and support about postpartum contraception. The weaning process is specific to every mother and baby like fingerprints (Gürarlan et al. 2018; Ofly 2019; Miller and Common 2010). There are basically two methods, namely, gradual and abrupt weaning. In this research, 35.9% of the mothers weaned abruptly, approximately one out of four used a traditional method for weaning, and these methods often included applying tomato paste or vinegar on nipples, covering nipples with black tape, or rubbing the stone of patience to breasts. Other traditional methods reported in the literature included applying tomato sauce, tomato paste, hot pepper, salt, lemon juice, or toothpaste on nipples (Gürarlan et al. 2018; Ofly 2019; Dinç et al. 2015), using lipstick, nail polish, clay or soot for a frightening image (Gürarlan et al. 2018; Ofly 2019; Abu-Hamad and Sammour 2013), or sticking hair, cotton, or bandage on the breast (Gürarlan et al. 2018; Ofly 2019; Dinç et al. 2015). Abu-Hamad and Sammour (2013) reported mothers using traditional methods for weaning, which included applying red make-up material on the breast, applying coffee, using pacifiers, and giving antihistamine drugs to sleep the child during the night. The low rate of traditional methods in our research indicates the participants' high awareness of the topic due to their young age and high levels of education. One out of four mother felt emotional depression and guilt due to stopping breastfeeding, some experienced discomfort due to crying of their baby, and some reported swelling and pain in their breasts. Mothers using traditional methods stated that their babies reacted to the method by crying, showing fear, or becoming introverted. Inappropriate methods used for weaning may cause trauma in children (Hunegnaw et al. 2017; Ofly 2019; Miller and Common 2010). Mother's attempts to stop breastfeeding with ineffective methods in a period when the baby/child is not physically, mentally, and emotionally ready will cause the baby/child to feel it as a punishment, damage the psychosocial development of the child, make the mother feel guilty and inadequate, and lead to occurrence of several problems, such as breast pain and mastitis (Li et al. 2008). According to the literature, mothers and babies are often observed to experience uneasiness while weaning (Hunegnaw et al. 2017; Yüzer-İltaş et al. 2018).

#### Strength And Limitation of Study

The limitation of this study is that was conducted online due to the pandemic. Since it is a pandemic, it was not possible to meet people face to face. Sampling for the study was conducted via a convenience sample through

the networks of the researchers and disseminated through different social media platforms (Whatsapp, Facebook, Twitter etc.). However, in order to increase the representation power of the study, the sample size has been tried to be kept high. In this context, due to the digital divide, some segments cannot participate is the limitation of the study. However, only social media etc. It can be generalized to mothers in this group, since those who have accounts answered.

#### CONCLUSION

In conclusion, we found that the rates of following EBF for the first 6 months and breastfeeding for 2 years were low. Mothers who used traditional methods that could be traumatic while weaning experienced depression or sadness and did not receive professional training. In this context, we recommend that healthcare workers should be made conscious about the breastfeeding and weaning process and that all women with pregnancy and their families should be provided training and counselling to avoid traumatic practices while breastfeeding and weaning. In this regard, we would like to emphasize the importance of midwives, as practitioners, to support all women, including pregnant and puerperant women, during breastfeeding and weaning. Midwives should especially provide breastfeeding training to the mother and father together and should also train them about the process of weaning and breastfeeding. The healthcare professional who is closest to the woman during breastfeeding should include this issue in the care of midwifery care is important. On the other hand, intervention studies of the researchers on the determination of the problems experienced by women in this period and the methods that can be developed for solution will be useful. Community awareness about breastfeeding is extremely important. Advocacy of the case is needed to make society adopt the breastfeeding culture. It would be beneficial to give importance to breastfeeding support strategies and to use social encouragement and approval mechanisms in structuring health service policies.

#### Acknowledgement

The authors express their thanks to all the mothers who participated in the study and shared their special moments.

#### Conflict of Interest

The author declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

#### Author Contributions

**Plan, design:** OAF, OEK; **Material, methods and data collection:** OAF, OEK, CE; **Data analysis and comments:** OAF, CE; **Writing and corrections:** OAF, CE, OEK.

## REFERENCES

- Abu Hamad, BA & Sammour HK. (2013). Weaning practices of mothers attending United Nations Relief and Works Agency health centres in the Gaza Governorates. *Journal of Advanced Nursing*, 69:773-781. <https://doi.org/10.1111/j.1365-2648.2012.06057.x>
- Aghaee, MA., Farkhani, EM., Taghanaki, HB, et al. (2020). The factors affecting exclusive breastfeeding in 6 month-old infants: a population-based case-control study. *Journal of Comprehensive Pediatrics*, 11:e89804. <https://doi.org/10.5812/compreped.89804>
- Baydar, AA., Kayhan, BT., Kilic, M., et al. (2016). Knowledge level, attitude and own experience of health professionals about breastfeeding and breast milk in a city of Turkey: Cross-sectional study. *Archivos argentinos de pediatria*. 114:514-20. <https://doi.org/10.5812/compreped.89804>
- Black, RE., Victora, CG., Walker, SP., Bhutta, ZA., Christian, P., De Onis, M. & Ezzati, M. (2013). Maternal and child nutrition 1 maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet* 382, 427. [https://doi.org/10.1016/s0140-6736\(13\)60937-x](https://doi.org/10.1016/s0140-6736(13)60937-x)
- Brettschneider, A., von der Lippe, E. & Lange, C. (2018). Stillverhalten in Deutschland –Neues aus KiGGS Welle 2. *Bundesgesundheitsbl*, 61:920–925. <https://doi.org/10.1007/s00103-018-2770-7>
- Çalık, KY., Çetin, FC., Erkaya, R. (2017). Breastfeeding practices of mothers and influencing practices. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*. 6:80-91.
- Delgado, C., Matijasevich, A. (2013). Breastfeeding up to two years of age or beyond and its influence on child growth and development: a systematic review. *Cadernos de Saúde Pública*, 29:243-256. <https://doi.org/10.1590/s0102-311x2013000200012>
- Dinc, A., Dombazcı Dinc, D. (2015). Traditional practices related to breast milk and breastfeeding of mothers with babies of 6–18 months. *Balikesir Health Sciences Journal*, 4:25–30. <https://doi.org/10.5505/bsbd.2015.40316>
- Gök Uğur, H., Şahin, A., Aydın, D., et al. (2018). Determination of traditional methods used by mothers to wean their infants from breast-feeding. *Journal of Ankara University Faculty of Medicine*, 71:217-223. <https://doi.org/10.4274/atfm.41736>
- Gümüştakım, RŞ., Aksoy, HD., Cebeci, SE., et al. (2017). Evaluation of eating habits in children 0-2 years of age: a multicenter study. *Family Practice Palliative Care*, 2:1-8. <https://doi.org/10.22391/920.308548>
- Gürarlan Bas., N, Karatay, G., Arıkan, D. (2018). Weaning practices of mothers in eastern Turkey. *Jornal de Pediatria*, 94:498–503 <https://doi.org/10.1016/j.jpmed.2017.06.019>
- Hunegnaw, MT., Gezie, LD., Teferra, AS. (2017). Exclusive breastfeeding and associated factors among mothers in gozamin district, Northwest Ethiopia: a community based cross-sectional study. *International Breastfeeding Journal*, 12:30-35. <https://doi.org/10.1186/s13006-017-0121-1>
- Jain, A., Tyagi, P., Kaur, P., Puliyeel, J., Sreenivas, V. (2014). Association of birth of girls with postnatal depression and exclusive breastfeeding: an observational study. *BMJ Open*, 4:e003545. <https://doi.org/10.1136/bmjopen-2013-003545>
- Jama, A., Gebreyesus, H., Wubayehu, T. et al. (2020). Exclusive breastfeeding for the first six months of life and its associated factors among children age 6-24 months in Burao district, Somaliland. *International Breastfeeding Journal*, 15:1-8. <https://doi.org/10.1186/s13006-020-0252-7>
- Javanmardi, M., Khodakarami, N., Jannesari, S., et al. (2017). Related factors associated with exclusive breastfeeding in Isfahan province. *Sarem Journal of Reproductive Medicine*, 2:49-53. <https://doi.org/10.29252/sjrm.1.2.49>
- Jessri, M., Farmer, AP., Maximova, K. et al. (2013). Predictors of exclusive breastfeeding: observations from the Alberta pregnancy outcomes and nutrition (APRON) study. *BMC Pediatrics*, 13:77. <https://doi.org/10.1186/1471-2431-13-77>
- Koruk, İ., Gökçeoğlu, S., Allahverdi, Ş. et al. (2019). Level of exclusive breastfeeding for the first 6 months in 0-24 month infants and children in a family health center in Şanlıurfa and the factors affecting it. *Journal of Health Science Research*, 4;1:21-31.
- Lauria, L., Spinelli, A., Grandolfo, M. (2016). Prevalence of breastfeeding in Italy: a population based follow-up study. *Annali dell Istituto Superiore di Sanità*, 52:457-461.
- Li, R., Fein, SB., Chen, J., et al. (2008). Why mothers stop breastfeeding: Mothers' self-reported reasons for stopping during the first year. *Pediatrics*, 122:69-76. <https://doi.org/10.1542/peds.2008-1315i>
- Mehta, AR., Panneer, S., Ghosh-Jerath, S., et al. (2017). Factors associated with extended breastfeeding in India. *Journal of Human Lactation*, 33:140-148. <https://doi.org/10.1177/0890334416680179>
- Miller, MP., Common, ML. (2010). The benefits of attachment parenting for infants and children: A behavioral developmental view. *Behavioral Development Bulletin*, 16:1–14. <https://doi.org/10.1037/h0100514>
- Mosquera, PS., Lourenço, BH., Gimeno, SGA., et al. (2019). Factors affecting exclusive breastfeeding in the first month of life among Amazonian children. *Plos One*, 14:7:e0219801. <https://doi.org/10.1371/journal.pone.0219801>
- Oflu, A. (2020). Weaning practices of Turkish mothers: a mixed-model research. *Breastfeeding Medicine*, 15:109-113. <https://doi.org/10.1089/bfm.2019.0262>
- Oribe, M., Lertxundi, A., Basterrechea, M., et al. (2015). Prevalence of factors associated with the duration of exclusive breastfeeding during the first 6 months of life in the INMA birth cohort in Gipuzkoa. *Gaceta Sanitaria*, 29:4-9. <https://doi.org/10.1016/j.gaceta.2014.08.002>
- Radwan, H. (2013). Patterns and determinants of breastfeeding and complementary feeding practices of Emirati mothers in the United Arab Emirates. *BMC Public Health*, 13:171. <https://doi.org/10.1186/1471-2458-13-171>
- Salcan, S., Topal, I., Ates, I. (2019). The frequency and effective factors of exclusive breastfeeding for the first six months in babies born in Erzincan province in 2016. *The Eurasian Journal of Medicine*, 51:145-149. <https://doi.org/10.5152/eurasianjmed.2018.18310>

- Santacruz-Salas E, Aranda-Reneo I, Segura-Fragoso A, et al. (2019). Mothers' expectations and factors influencing exclusive breastfeeding during the first 6 months. *International Journal of Environmental Research and Public Health*, 17:1-10. <https://doi.org/10.3390/ijerph17010077>
- Turkish Population and Health Research (TPHR). Nutritional status of children and mothers. Available at [www.hipshacettepe.edu.tr/tnsa2018/rapor/TNSA2018\\_ana\\_rapor.pdf](http://www.hipshacettepe.edu.tr/tnsa2018/rapor/TNSA2018_ana_rapor.pdf) (accessed: October 1, 2020)
- Türkyılmaz, C. (2016). Lactational counseling and breastfeeding problems. *Klinik Tıp Pediatri Dergisi*, 8:19-33.
- Victora, CG., Bahl, R., Barros, AJ., et al. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet*, 387:475-490. [https://doi.org/10.1016/s0140-6736\(15\)01024-7](https://doi.org/10.1016/s0140-6736(15)01024-7)
- World Health Organization, Infant and young child feeding, <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding> 24August2020 accessed:1.10.2020
- Yetim, A., Yetim, Ç., Devcioğlu, E. (2015). The Knowledge and Attitudes of Mothers about Infant Nutrition in İçdr. *Güncel Pediatri*, 3:7-12. <https://doi.org/10.4274/jcp.32032>
- Yıldız, İ., Gölbaşı, Z. (2019). Assessment of mothers' knowledge and practise about traditional breastfeeding termination methods in Sivas. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi*, 6:20-27. <https://doi.org/10.31125/hunhemsire.544113>
- Yılmaz, G. (2019). Investigation of nutrition patterns of 0-24 months babies. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 8:343-352.
- Yüzer-Alsaç, S. & Polat, S. (2018). Knowledge and attitudes related to the finalization of mothers breastfeeding. *Florence Nightingale Hemşirelik Dergisi*, 26(1),11-20. <https://doi.org/10.26650/fnfn.387152>
- Yüzügüllü, DA., Aytaç, N., Akbaba, M. (2018). Investigation of the factors affecting mother's exclusive breastfeeding for six months. *Türk Pediatri Ars*, 53: 96-104. <https://doi.org/10.5152/turkpediatriars.2018.6262>
- Zakarija-Grković, I., Šegvić, O., Vučković., Vukušić, A, et al. (2016). Predictors of suboptimal breastfeeding: an opportunity for public health interventions. *Eur J Public Health*, 26:282-289. <https://doi.org/10.1093/eurpub/ckv203>