Cukurova Medical Journal
ÇUKUROVA ÜNİVERSİTESİ TIP FAKÜLTESİ

Cukurova Med J 2019;44(4):223-232
DOI: 10.17826/cumj.557926

ARAŞTIRMA / RESEARCH

Factors associated with the initiation and continuation of breastfeeding

Emzirmenin başlatılması ve devamlılığı ile ilişkili faktörler

Hatice Pars[1], Melike Baş[2], Nebahat Bora Güneş[1], Ayşe Tülay Bağcı Bösi[3]

[1]Hacettepe University, Faculty of Nursing, Department of Pediatric Nursing, Ankara, Turkey
[2]Selçuk University, Akşehir Kadir Yallıgöz Health School, Department of Nursing, Konya, Turkey
[3]Hacettepe University, School Medicine, Department of Public Health, Ankara, Turkey

Cukurova Medical Journal 2019;44 (Suppl 1):223-232.

Abstract

Purpose: We aimed to investigate the relationship between initiation/continuation of breastfeeding and socio-demographic, lifestyle-related, clinical and lactation-related factors

Materials and Methods: This cross-sectional study was conducted in three hospitals in Turkey. A total of 360 mothers with children aged 0-24 months underwent face-to-face interview, using a structured questionnaire about the initiation of breastfeeding, exclusive and any breastfeeding, as well as potentially related characteristics and factors.

Results: The mean age of mother was 28 ± 5.36 years; the mean of parity was two years; and the percentage of vaginal birth frequency was 56.9. It was found out that 43.6% of babies were initiated early to breastmilk, the majority of the babies (78%) started additional food at 4-6 months and the first additional food started to be milk in the majority (49.6%). Mode of birth, breastfeeding information and first feeding style (exclusive breastmilk) affected babys' feeding style in the last 24 hours. Mode of childbirth (vaginal), complicated pregnancy and birth, rooming-in, and breastfeeding information were found to be important for the initiation and continued breastfeedin.

Conclusion: Breastfeeding practice is influenced by a variety of factors. Health professionals are significant people who are effective in women's decision to breastfeed, to start breastfeeding and continue to breastfeed. Baby-friendly hospitals, which provide the highest level of medical care and which support rooming-in after delivery, must be established and training on breastfeeding should be increased and maintained.

Keywords: Breastfeeding, breast milk, child, mother, risk factors

Öz

Amaç: Bu çalışmanın amacı, emzirmenin başlatılması/sürdürülmesi ile sosyo-demografik, yaşam tarzı, klinik ve emzirme sürecine yönelik özellikler arasındaki ilişkinin araştırılmasıdır.

Gereç ve Yöntem: Bu kesitsel çalışma Türkiye'de yer alan 3 merkezde gerçekleştirilmiştir. Emzirmenin başlatılması, sadece anne sütü alımı ve bunları etkileyebilecek faktörlere ilişkin yarı yapılandırılmış bir anket kullanılarak veriler 360 anne ile yüzyüze görüşme yöntemi kullanılarak toplanmıştır.

Bulgular: Annenin yaş ortalaması 28± 5.36 yıl, ortalama doğum sayısı 2, vajinal doğum sıklığı %56.9 olarak belirlenmiştir. Bebeklerin% 43.6'sının emzirmeye erken sürede (ilk 1 saat) başladığı, çoğunluğunun (%78) 4-6 ayda ek gıdalara başladığı ve bunların yaklaşık yarısında (% 49.6) süt ve süt ürünlerinin ilk ek gıda olduğu tespit edildi. Doğum şekli, emzirme eğitimi alma durumu ve ilk beslenme yönteminin sadece anne sütü olması bebeğin son 24 saatte anne sütü ile beslenme ve sadece anne sütü alma durumunu etkilemiştir. Doğum şekli (vajinal), gebelikte komplikasyon olması, anne-bebek birlikteliği ve emzirme eğitimi, emzirmenin başlatılması ve sürdürülmesinde önemli bulunmuştur.

Sonuç: Emzirme çeşitli faktörlerden etkilenebilmektedir. Sağlık çalışanları annelerin emzirmeye karar vermesinde, emzirmenin başlatılmasında ve emzirmenin sürüdürülmesinde etkili olan önemli kişilerdir. En üst düzeyde tıbbi bakım sağlayan ve doğum sonrası anne-bebek birlikteliğini destekleyen bebek dostu hastanelerin kurulmalı, emzirme eğitimleri artırılmalı ve devamlılığı sağlanmalıdır.

Anahtar kelimeler: Emzirme, anne sütü, çocuk, anne, risk faktörleri

Yazışma Adresi/Address for Correspondence: Dr. Hatice Pars, Hacettepe University, Faculty of Nursing, Department of Pediatric Nursing, Ankara, Turkey E-mail: hatice.saglamhs@gmail.com
Geliş tarihi/Received: 25.04.2019 Kabul tarihi/Accepted: 10.07.2019 Çevrimiçi yayın/Published online: 29.09.2019

INTRODUCTION

Breast milk is a natural and renewable source of nutrition for infants particularly during the first six months of life. The bio-available, easily digestable, and perfectly balanced nutrients in breast milk protect both mothers and children against diseases with unique immunological and anti-inflammatory characteristicsc[1,2]. With optimal breastfeeding, children face a lower risk of gastrointestinal infections, diarrhea and pneumonia, otitis media, asthma, respiratory disease and sudden infant death syndrome, which are among the common causes of infant morbidity and mortality[1]. Findings of studies on the association between breastfeeding and obesity in adulthood showed that breast milk is a protective factor against obesity[3,4]. A review study by Paul et al. (2009) has summarized the mechanisms that account for the link between breastfeeding and obesity. The study reveals that early nutrition practices including breastfeeding may help prevent childhood obesity[2] which is a major problem in Europe[3]. Breastfeeding is also beneficial for women in that it increases the postpartum infertility period, helps women return to their pregestational weight, and reduces the risk of developing breast and ovarian cancer[4].

Exclusive breastfeeding (EBF) is a period (first six months of life) when a baby is fed with only breast milk. During this period, the baby is given no other food, water, or liquids; only the necessary medicines and vitamins could be given in addition to the breast milk. WHO recommends that EBF is essential for the first 6 months of life. After 6 months, complementary food should be given together with breastfeeding which should continue until the infant is 2 years old or beyond[5]. International communities, organizations and scientists support this recommendation as well, and in many countries breastfeeding and its promotion has become a major concern for public health[6]. Member States of the WHO adopted the Global Strategy for Infant and Young Child Feeding (hereafter, the 'Global Strategy') in 2002. This strategy aims at introducing global policies for the adoption and promotion of infant and young child feeding (IYCF) practices.

The Global Strategy includes the International Code of Marketing of Breastmilk Substitutes as well. In addition to this strategy, the Innocenti Declaration[7], the Baby Friendly Hospitals Initiative (BFHI)[8], the WHO Maternal, Infant and Young Child Nutrition Implementation Plan, and the World Health Assembly Global Targets for Nutrition 2025[9] play a central role in increasing the predominance of breastfeeding and in facilitating its advancement. Nutritional status and survival of children under two years of age are directly affected by IYCF. Proper nutrition, health, and development of children between 0–23 months of age are closely linked with improved infant and young child feeding practices.

Despite the fact that breastfeeding is highly effective in reducing the infant morbidity risk, breastfeeding, particularly EBF still does not hold the place it deserves, and there are not enough studies on breastfeeding practices and factors affecting breastfeeding[10]. Knowing the nutritional status of infants and giving education to women about breastfeeding are highly important. Gathering accurate information for assessing the progress countries make regarding breastfeeding practices is essential as countries may evaluate their current policies and their implementation. In addition, by determining the risk factors associated with insufficient breastfeeding, health practitioners can identify women/children at risk and can offer timely support and appropriate follow-up to them. Such measures can increase the breastfeeding initiation rates. The data collected may allow researchers to plan and revise intervention programs in individual communities and at national levels and may help to promote breastfeeding. In this respect, the aim of this study is to research the infant feeding patterns in the last 24 hours and the factors associated with breastfeeding using a sample of women with children under the age of two.

MATERIALS AND METHODS

Study setting and sample

The study was conducted in two tertiary university hospitals and one maternal child center, in three different centers in Turkey. Healthy child monitoring (growth monitoring, vaccinations, etc) is carried out in the institutions. The population in the study was composed of women who had 0-24-month-old babies and who consulted the social-pediatry clinic/family health center. The women who were willing to participate were included. Exclusion criteria were babies older than 24 months.

Total of 360 women (response rate, 75%), were recruited from the three centres. We conducted post-hoc power analysis based on some factors affecting "EBF "in the last 24 hours with an alpha level of 0.05, and the power of the study was found to be 0.91.

Since the babies included in the study were in different age groups, women were asked by authors how they were fed in the last 24 hours; only breastfed babies are "EBF", babies who are given any solid food with breastmilk or are fed with supplementary food are taken as "any breastfeeding".

The study was approved by the Non-Interventional Clinical Research of Ethical Committee of Hacettepe University Ethical Considiration. This study was performed in accordance with good clinical practice guidelines and the ethical principles of the Declaration of Helsinki for research involving human subjects. Before conducting the study, official permission was obtained from the three hospitals. The research was explained to the mothers who also gave written consent and parental permission. A guarantee was given on confidentiality and the right to withdraw from the study.

Data collection

A structured questionnaire was utilized to gather data with the initiation of breastfeeding, modes of infant feeding, and potentially related factors. The study investigators developed a data collection form based on extensive literature review and professional clinical experience. To test content validity and evaluate the questionnaire in terms of adequacy, appropriateness and clarity, an e-mail was sent to experts (n=10) who were actively working in breastfeeding to seek their opinion. The opinion of returning experts (n=10) was tested with the SPSS 18 program and the content validity was found to be statistically significant as a result of Kendall's coefficient of correlation test ($p < 0.001$). Accordingly, expert opinions are compatible with each other and the scope of the form is considered valid. Prior to data collection, a pilot study was conducted with 10 women who did not participate in the study to evaluate the data collection procedure and respondents' understanding of the questionnaire form. Some of the items in the questionnaire were revised based on the comments received from the respondents in the pilot study. The data collection tool included five sections and 55 questions;

1. a section related with socio-economic characteristics
2. a section related to the pregnancy history
3. a section related with the gestation/ birth story
4. a section related with some data about babies (data of birth, birth weight, sex, feeding type after birth, feeding type in last 24 hours, time to start sucking after birth, use of pacifier-bottle, etc)
5. a section related with attitudes towards breastfeeding

Breastfeeding practices

To assess the breastfeeding practices, WHO recommends the use of three core indicators, which are early initiation of breastfeeding, EBF, and continued breastfeeding at the age of 1. Early breastfeeding is defined as the rate of children who were born in the last 24 months and who were put to the breast within the first hour of birth. EBF under 6 months is defined as the rate of infants between 0–59 months of age who were fed only with breast milk, while continued breastfeeding at 1 year refers to the rate of children between 12–159 months of age who were fed with breast milk 11 EBF was considered to take place when an infant was receiving only breastmilk (or expressed breastmilk) and no other liquids or solids, with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines.

Statistical analysis

The data was anayzed by Statistical Package for Social Sciences (SPSS) version 22.0 and statistical significance was accepted at the level of 0.05. Descriptive statistics were used to present sociodemographic characteristics and $\chi 2$ test was used. Logistic regression analysis were performed to examine the effects of pregnancy and birth complications, rooming-in, breastfeeding information, breastfeeding experience, birth weight, mode of birth, pacifier, maternal employment, smoking, on early breastfeeding and EBF/any breastfeeding in the last 24 hours. Odds ratios (ORs) and confidence intervals (CIs) were calculated.

RESULTS

Some characteristics of women and babies participating in the study are presented in Table 1-2. Table 1 shows that average age of women is 28 (± 5.36) years. Also,18.3% of the respondents are university graduates and 20.9% are working. Parity of women were 2 (± 1.17) and 56.9% of them had vaginal delivery at last pregnancy. When we look at the characteristics of infants, we found that 53.3% of them were female. The mean birth weight was 3228 (± 509) grams and the mean age was 8.23 (± 4.19) months. The results also show that 43.6% of the

babies were initiated early to breastmilk. The majority of the babies (78%) started additional food at 4-6 months and the first additional food were milk and milk products in the majority (49.6%). When we examine the feeding patterns of babies in the last 24 hours; 38.9% are fed only with breast milk, 30.6% with formula and additional food, 28.6% with breast milk and additional food, 19.4% withbreastmilk and formula. Table 2 revealed that the rates of EBF of infants under 4 months were 43.6%, in 4-6 months 23.6%, in 6-12 months 29.3% and in 12-24 months 3.6%.

Although not given in the table, the results revealed that the rate of continuing to feed the baby with breastmilk at age 1 is 68% for the babies who were 12 months old and above, while the rate of breastfeeding of the babies at 12 months old or older in the last 24 hours is 46%. The rate of only breastfeeding the same population of babies within the last 24 hours was 17%. While the rate of feeding the 4 months old babies only with breastmilk was 26%, this rate decreased to 19% in 6 months old babies. Furthermore, the rate of feeding the babies younger than 4 months with breastmilk was found to be 76%, while this rate decreased to 71% in babies younger than 6 months.

Table 1. Some socio-demographic characteristics of the study group's mothers (n=360)

Variables	**n**	**%**
Age (Mean (SD))*	28 ± 5.36	
Employment status		
Not Employed	284	79.1
Employed	76	20.9
Higher Education		
Yes	92	18,3
No	268	81,7
Parity Mean (SD)	2.14 ± 1,17	
Delivery Type		
Vaginal Delivery	205	56.9
Cesarian Section	155	43.1

* In years ** In numbers

Table 3 demonstrates the socio-demographic, clinical, and lactation-related factors and their effects on early initiation breastfeeding. The dependent variable is early breastfeeding. We have a number of interval-level independent variables, such as maternal employment, complicated pregnancy, complicated birth, rooming-in, breastfeeding information, breastfeeding experience, Positive attitude of the partner to breastfeeding, mode of birth, birth weight, smoking. Maternal employment was found to be unrelated with early breastfeeding initiation (p=0.794). Similarly, it was found that when compared to non-smoking, regular smoking was not related with early breastfeeding (p= 0.378, 0R=0.848, %95 CL= 0.575-5.937).

Table 2. Some socio-demographic characteristics of the study group's babys (n=360)

Variable	n	%
Gender		
Female	192	53.3
Male	168	46.7
Age (month)		
<4	68	18.9
4-6	61	16.9
6-12	180	50.0
12-24	51	14.2
Mean (SD)*	8.23 ± 4.19	
Birth Weight		
Mean (SD)**	3228.1 ± 5.36	
Initiation of Breastmilk		
Early Initiation	157	43.6
1-3 hr	29	8.1
>3 hr	174	48.3
Weaning Period		
< 4 months	39	18.2
4-6 months	167	78.0
6 months>	8	3.7
First food		
Milk and dairy products	109	49.6
Mashed Fruit	57	25.9
Soup	30	13.6
Formula and other	24	10.9

* In months ** In grams

On the other hand, pregnancy complication and birth complications affected statistically for the initiation of early breastfeeding (p<0.05). Also, both factors remained significant in bivarite analyses and were negatively related with the initiation of early breastfeeding (OR= 0.111, %95 CL=0.082- 0.197; OR=0.040 %95 CL=0.017- 0.094, respectively). However, birth weight and the form of birth were not related the early initiation brastfeeding (p>0.05). In addition, rooming-in (mother and babies stay in the same room) related with early initiation breastfeeding (p= 0.001). Rooming-in was also positively related with the initiation of EBF (OR=3.747 %95 CL=1.682-8.348). Finally, lactation-related factors (breastfeeding information, breastfeeding experience and positive attitude of the partner to breastfeeding)

were not linked with the early initiation breastfeeding (p>0.05). Tables 4 and 5 demonstrate the socio-demographic, clinical, and lactation-related factors and their effects on exclusive and any breastfeeding. The dependent variable is exclusive/ any Breastfeeding in the last 24 hours. We have a number of interval-level independent variables, such as maternal employment, mode of birth, breastfeeding information, breastfeeding experience, First feeding style; exclusive breastmilk and using pacifier. Maternal employment was not significantly related with EBF and any breastfeeding (p>0.005). It was also not significantly related with the EBF (OR=0.626 %95 CI= 0.375-1.046) and any breast feeding (OR=0.929 %95 CI= 0.465-1.857) in the bivariate analyses. Although pacifier feeding did not seem to influence EBF initiation (p=0.799, OR=1.307 %95 CL=0.454-3.758), it was related with the initiation of any breastfeeding (p=0.02). Pacifier feeding was related also with any breast-feeding initiation negatively (OR= 0.078, 95% CL=0.010-0.609)

According to the type of birth, vaginal birth was related with initiation exclusive (p=0.000) and any (p=0.015) breastfeeding. It was also related with exclusive (OR=1.815, %95 CL= 1.171-2.812) and any breastfeeding (OR=1.885, %95 CL=1.092-2.812). Although first nutrition only breastmilk was significant associated with exclusive (p= 0.000, OR= 2.257 %95 CL=1.393-3.655) and any breastfeeding (p=0.000, OR=3.004 %95 CL=1.706-5.288). In addition, initiation of breastfeeding within 1 hour was also related with a any breast feeding (p=0.000, OR=3.000 %95 CL=1.700-5.200).

Finally, breastfeeding information and breastfeeding experience were related with EBF (p=0.015, p=0.000, respectively) and breast-feeding information was only related with any breast-feeding initiation (p=0.004). Not only processes of informing about breast feeding but also having experience of breastfeeding were positively linked with EBF initiation in bivariate variable analysis (OR= 1.777, %95 CL=1.132-2.789; OR=2.257, %95 CL=1.393-3.655).

Table 3. The odds ratios of mother and child related factors with early breastfeeding

Variable			**Present***	**Absent**	**Odds ratios***	**%95 CI**	
						Lower	**Upper**
Mother Employment	Yes	n	34	41	0.921	0.552	1.537
		%	45	55			
	No	n	123	161			
		%	43.4	56.6			
		X2= 1.200		p=0.794			
Complicated pregnancy	Yes	n	17	104	0.111	0.082	0.197
		%	14	86			
	No	n	140	95			
		%	59.5	40.5			
		X2=4.122		p=0.000			
Complicated birth	Yes	n	6	101	0.040	0.017	0.094
		%	5.6	94.4			
	No	n	151	101			
		%	60	40			
		X2= 4.122		p=0.000			
Rooming-in	Yes	n	149	169	3.747	1.682	8.348
		%	46.8	53.2			
	No	n	8	34			
		%	19	81			
		X2=11.260		p=0.001			
Breastfeeding Information	Yes	n	60	76	1.034	0.673	1.588)
		%	44	56			
	No	n	97	127			
		%	43.4	56.6			
		X2=1.360		p=0.913			
Breastfeeding Experience	Yes	n	74	97	0.974	0.642	1.479
		%	43.2	56.8			
	No	n	83	106			

		%	44	56			
		X2=1.580 p=0.916					
Positive attitude of the partner to breastfeeding	Yes	n	152	197	1.929	0.369	10.078
		%	43.5	56.5			
	No	n	2	5			
		%	28.5	71.5			
		X2= 2.802 p=0.703					
Birth Weight	Preamaturity	n	12	123	0.648	0.312	1.346
		%	8.8	91.2			
	Normal	n	145	180			
		%	44.6	55.4			
		X2=1.280 p=0.284					
Mode of birth	Vaginal	N	98	107	1.490	0.975	2.278
		%	47.8	52.2			
	Cesarian	n	59	96			
		%	38	62			
		X2=6.110 p=0.069					
Smoking	Yes	n	7	5	1.848	0.575	5.937
		%	58.3	41.7			
	No	n	150	198			
		%	43.1	56.9			
		X2=0.280 p=0.378					

*presence= early breastfeeding; chi-square tests were used and statistical significant at level of $p < 0.05$.
** logistik regression analysis were used. CI=Confidence Interval

Table 4. The odds ratios of mother and child related factors with exclusive breastfeeding in the last 24 hours

Variables			**Present***	**Absent**	**OR**	**%95 CI**	
						Lower	**Upper**
Mother Employment	Yes	n	36.	39	0.626	0.375	1.046
		%	48.0	52.0			
	No	n	104	180			
		%	36.6	63.4			
		X2= 5.280 p=0.084					
Pacifier	Yes	n	77	165	1.307	0.454	3.758
		%	31.8	68.2			
	No	n	5	14			
		%	26.3	73.7			
		X2= 1.280 p=0.799					
First Feeding Style; Exclusive Breastmilk	Yes	n	114	56	2.257	1.393	3.655
		%	67.1	32.9			
	No	n	26	164			
		%	13.7	86.3			
		X2=11.202 p=0.000					
Mode of Birth	Vaginal	n	92	113	1.815	1.171	2.812
		%	44.9	55.1			
	Cesarian	n	48	107			
		%	31.0	69.0			
		X2 =10.800 p=0.000					
Early Initiation of Breastfeeding	Yes	n	63	94	1.097	0.716	1.681
		%	40.1	59.9			
	No	n	77	126			
		%	37.9	62.1			
		X2=1.205 p=0.744					
	Yes	n	56	60	1.777	1.132	2.789

Breastfeeding Information		%	48.2	51.8		
	No	n	83	158		
		%	34.4	65.6		
		X2=6.305 p=0.015				
Breastfeeding Experience	Yes	n	114	56	2.257	1.393 3.655
		%	67.1	32.9		
	No	n	26	164		
		%	13.7	86.3		
		X2= 9.280 p=0.000				

*presence= exclusive breastfeeding; chi-square tests were used and statistical significant at level of $p < 0.05$.
** logistic regression analysis were used. CI=Confidence Interval

Table 5. The odds ratios of mother and child related factors with any breastfeeding in the last 24 hours

Variables			***Present**	**Absent**	**OR**	**%95 CI** **Lower**	**Upper**
Mother Employment	Yeş	n	20	19	0.929	0.465	1.857
		%	51.3	48.7			
	No	n	89	91			
		%	49.4	50.6			
		X2= 1.120 p=0.861					
Pacifier	Yes	n	83	82	0.078	0.010	0.609
		%	50.3	49.7			
	No	n	13	1			
		%	92.9	7.1			
		X2= 9.370 p=0.002					
First feeding style; Exclusive Breastmik	Yes	n	46	10	3.004	1.706	5.288
		%	82.1	17.9			
	No	n	39	61			
		%	13.7	86.3			
		X2=14.967 p=0.000					
Mode of Birth	Vaginal	n	65	48	1.885	1.092	2.812
		%	57.5	42.5			
	Cesarian	n	45	62			
		%	42.1	57.9			
		X2= 10.820 p=0.015					
Early Initiation of Breastfeeding	Yes	n	81	29	3.000	1.700	5.200
		%	38.3	61.7			
	No	n	53	57			
		%	58.7	41.3			
		X2= 11.307 p=0.000					
Breastfeeding Information	Yes	n	39	21	2.395	1.393	3.656
		%	65	25			
	No	n	69	89			
		%	43.6	56.4			
		X2= 7.914 p=0.004					
Breastfeeding Experience	Yes	n	48	57	0.720	0.423	1.224
		%	67.1	32.9			
	No	n	62	53			
		%	13.7	86.3			
		X2= 1.476 p=0.230					

*presence= exclusive breastfeeding; chi-square tests were used and statistical significant at level of $p < 0.05$.
** logistic regression analysis were used. CI=Confidence Interval

DISCUSSION

Although the political commitments and the promotion is primarily a public health issue, breastfeeding prevalence especially EBF remains low[10]. In our study, the rate of feeding babies younger

than 4 months exclusively with breast milk was found to be 43.6%, while the rate of feeding the 4-month old babies only with breast milk was 26%, this rate decreased to 19% in the 6-month old babies. It was also found that the majority of the babies (78%) started taking supplementary food in months 4-6. When the situation in the world is considered, the rate of EBF is 37% in devoloping countries and falling up to 20 % in the least devaloped countries[5]. The indicator "EBF under six months of age" was used by none of the EU Member States, whereas the indicator "exclusive breastfeeding at six months of age" was used by 20 countries and ranged from 0.7% in Greece to 37.0% in Hungary[12]. Based on these findings, it can be said that both in our country and in other developing countries, the rate of exclusive breastfeeding is not adequate.

43.6% of the women who participated in our study were found to have breastfed their babies at the first hour after birth. WHO and UNICEF recommends women to start breastfeeding their babies within the first hour after birth and not give newborns any other food or liquid[7,13]. The meta-analysis conducted by Khan and colleagues emphasizes the relationship between starting breastfeeding early and decreasing the risk of newborn mortality)[14]. The study carried out by Rajsekar found that the frequency of starting breastfeeding early is 56.3% and that starting breastfeeding early decreases the rate of starting supplementary feeding early[15]. Similarly, other studies have also revealed that when a women starts breastfeeding within 30-60 minutes after birth increases the rate of feeding the baby with breast milk for 6 months and supports the bond between the women and the baby and the breastfeeding process[16,17]. This finding coincides with the findings of our study. Our study also found that the babies whose first feeding method was breast milk and who were fed with breast milk in early period had higher rates breastfeeding in the last 24 hours. This situation means that breastfeeding continuity is ensured in the babies who were fed within the first hour after birth.

Our study revealed a significant relationship between birth and pregnancy complications and breastfeeding the baby in the early period. Similarly, Genetu and colleagues found that the obstetric problems women experience has a negative effect on the process of breastfeeding[18]. Edmond and colleagues revealed that the illnesses that emerge in newborns lead to a postponement in starting breastfeeding[19]. In their study, Brown and colleagues found that cases like caesarean birth, bleeding at the end of birth, fetus problems, and stagnant delivery affect starting breastfeeding early 20. Birth and pregnancy complications have a negative effect on starting early breastfeeding.

Another important finding of our study is that when the women and the baby are in the same room after childbirth, breastfeeding in early period is affected positively. Crenshaw maintains that keeping the women and the baby in the same room offers numerous opportunities for breastfeeding and that keeping the healthy women and babies apart has a negative effect on the success of breastfeeding[21]. Similarly, other studies have also pointed to the positive and significant relationship between rooming-in, EBF and support for breast milk in the early period[22,23].

Our study revealed that vaginal birth has a positive effect on the continuity of breastfeeding. In women who had vaginal delivery, the rate of babies who had EBF in the last 24 hours was significantly higher (. Rajsekar found that caesarean birth affects starting breastfeeding negatively 3.9 times more and particularly after caesarean, women should definitely be supported regarding breastfeeding[15]. Similarly, other studies have also revealed that caesarean birth affects early breastfeeding negatively[20,23-27.] On the other hand, a negative relationship was revealed between the use of pacifier and breastfeeding in our study. It was found that the rate of breastfeeding is lower in babies who use pacifier. Some other studies have also found that use of pacifiers has a negative effect on the process of breastfeeding[23,28]. However, the number of studies on this topic is not extensive and the studies on this topic have not examined the reasons behind this finding. It is believed that because of pacifiers' and feeding bottles' ease of use and comfort, babies may withdraw themselves from breastfeeding[26].

Lastly, although our study did not point to a significant relationship between the breastfeeding experience of the women and having training about breastfeeding, and starting breastfeeding early, the women who have breastfeeding experience and training about breastfeeding had higher rates of EBF. Su et al. found that breastfeeding training before birth and postnatal breastfeeding support significantly increase the rates of breastfeeding and that post-childbirth support is more effective compared to antenatal training ($p<0.05$)[29]. Some other studies also found that training and support regarding

breastfeeding affect breastfeeding behavior positively[18,30-33]. Therfore, we foresee that, in addition to the importance of training about breastfeeding before birth, it is also useful to continue this training after birth.

This study also has some limitation. The study was conducted in a three-centres setting, which may result to the study sample not being strictly representative of the Turkey population. In addition, information on the EBF variable was obtained from respondents whose children were aged <24 months at the time of interview, potentially leading to recall bias. However, the definition of EBF was based on not only the 24-hour recall indicator of EBF in the questionnaire, but also the WHO definition that combines several variables (e.g., breastfeeding status, time of the introduction of complementary food, and prelacteal food status).

In conclusion, our study revealed that the rate of EBF is low and it is not in line with the recommendations of the WHO. On the other hand, pregnancy and delivery complications and mother-baby rooming-in after the delivery affect starting breastfeeding early. Furthermore, the type of birth, women's breastfeeding experience and receiving training about breastfeeding affect EBF condition. In this respect, it is evident that the training to be given to the women by nurses particularly before birth and after birth supports breastfeeding. Health professionals are significant people who are effective in women's decision to breastfeed, to start breastfeeding and continuing to breastfeed. During breastfeeding training, nurses and other health practitioners who could have a positive effect on the women and the father must organize breastfeeding training sessions that target family members, particularly the spouses. Moreover, countries and health organizations have significant responsibilities for the regular follow-up of women before and after birth, giving women good care, and preventing pregnancy and birth complications. Baby-friendly hospitals, which provide the highest level of medical care and which support rooming-in after delivery, must be established, and nutrition policies must be adopted for babies and children.

Yazar Katkıları: Çalışma konsepti/Tasarımı: HS, MB, NG, ATBB; Veri toplama: HS, MB, NG; Veri analizi ve yorumlama: HS, ATBB; Yazı taslağı: HS, MB, NG, ATBB; İçeriğin eleştirel incelenmesi: HS, ATBB; Son onay ve sorumluluk: HS, MB, NG, ATBB; Teknik ve malzeme desteği: ATBB; Süpervizyon: ATBB; Fon sağlama (mevcut ise): yok.
Bilgilendirilmiş Onam: Katılımcılardan yazılı onam alınmıştır.
Hakem Değerlendirmesi: Dış bağımsız.
Çıkar Çatışması: Yazarlar çıkar çatışması beyan etmemişlerdir.
Finansal Destek: Yazarlar finansal destek beyan etmemişlerdir.
Yazarın Notu: Bu çalışma daha önce 6. Uluslararası Fetal Hayattan Çocukluğa "ilk 1000 gün" Gebe ve Çocuk Beslenmesi Kongresi, 2018, sözlü sunum olarak sunulmuştur.
Author Contributions: Concept/Design : HS, MB, NG, ATBB; Data acquisition: HS, MB, NG; Data analysis and interpretation: HS, ATBB; Drafting manuscript: HS, MB, NG, ATBB; Critical revision of manuscript: HS, ATBB; Final approval and accountability: HS, MB, NG, ATBB; Technical or material support: ATBB; Supervision: ATBB; Securing funding (if available): n/a.
Informed Consent: Written consent was obtained from the participants.
Peer-review: Externally peer-reviewed.
Conflict of Interest: Authors declared no conflict of interest.
Financial Disclosure: Authors declared no financial support
Acknowledgement: This work has previously been presented as oral presentation at 7th International Congress on Maternal Infant Nutrition in the First 1000 Days, 2018.

REFERENCES

1. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. Cochrane Database Syst Rev. 2012;15:1-140.
2. Paul IM, Bartok CJ, Downs DS, Stifter CA, Ventura AK, Birch LL. Opportunities for the primary prevention of obesity during infancy. Adv Pediatr. 2009;56:107-33.
3. Cattaneo A, Monasta L, Stamatakis E, Lioret S. Castetbon K, Frenken F et al. Overweight and obesity in infants and preschool children in the European Union: a review of existing data. Obes Rev. 2010;11:389-98.
4. Luan N-N, Wu QJ, Gong T-T, Vogtmann E, Wang YL, Lin B. Breastfeeding and ovarian cancer risk: a meta-analysis of epidemiologic studies. Am J Clin Nutr. 2013;98:1020-31.
5. WHO. Global Strategy for Infant and Young Child Feeding. Geneva, World Health Organization,2003.
6. General OotS. The Surgeon General's call to action to support breastfeeding. 2011.
7. UNICEF. Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding. New Yrk, UNICEF, 2017.
8. UNICEF. The Baby Friendly Hospital Initiative. Available at: http:// www.unicef.org/programme/breastfeeding/baby.htm.
9. WHO. Global Targets 2025 to Improve Maternal, Infant and Young Children Nutrition. Geneva, World Health Organization, 2017.
10. Bosi ATB, Eriksen KG, Sobko T, Wijnhoven TM, Breda J. Breastfeeding practices and policies in WHO European region member states. Public Health Nutr. 2016;19:753-64.
11. WHO. Indicators for Assessing Infant and Young Child Feeding Practices: Part 1: Definitions: Conclusions of a Consensus Meeting held 6-8 November 2007 in Washington DC, USA, WHO, 2008.
12. WHO. Long-term Effects of Breastfeeding: A Systematic Review. Geneva, WHO, 2013.

13. WHO. Development of WHO Nutrition Guidelines. Geneva, WHO, 2010.
14. Khan J, Vesel L, Bahl R, Martines JC. Timing of breastfeeding initiation and exclusivity of breastfeeding during the first month of life: effects on neonatal mortality and morbidity—a systematic review and meta-analysis. Matern Child Health J. 2015;19:468-79.
15. Rajasekar G. Prevalence and factors associated with breastfeeding in a population with good literacy. Int J Community Med Public Health. 2017;4:1652-55.
16. Himani BK, Kumar P. Effect of initiation of breastfeeding within one hour of the delivery on" maternal-infant bonding. Nursing Midwifery Res J. 2011;7:99-109.
17. Moore ER, Anderson GC. Randomized controlled trial of very early mother–infant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health. 2007;52:116-25.
18. Genetu H, Yenit MK, Tariku A. Breastfeeding counseling and support are associated with continuous exclusive breastfeeding from one week to six months of age among HIV exposed infants in north Gondar zone, Ethiopia: a cross-sectional study. Int Breastfeed J. 2016;12:21-30.
19. Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR. Delayed breastfeeding initiation increases risk of neonatal mortality. Pediatrics. 2006;117:380-6.
20. Brown A, Jordan S. Impact of birth complications on breastfeeding duration: an internet survey. J Adv Nurs. 2013;69:828-39.
21. Crenshaw J. Care practice# 6: No separation of mother and baby, with unlimited opportunities for breastfeeding. J Perinat Educ. 2007;16:39-46.
22. Pechlivani F, Vassilakou T, Sarafidou J, Zachou T, Anastasiou CA, Sidossis LS. Prevalence and determinants of exclusive breastfeeding during hospital stay in the area of Athens, Greece. Acta Paediatr. 2005;94:928-34.
23. Tavoulari E-F, Benetou V, Vlastarakos PV, Andriopoulou E, Kreatsas G, Linos A. Factors affecting breast-feeding initiation in Greece: What is important? Midwifery. 2015;31:323-31.
24. Kasahun AW, Wako WG, Gebere MW, Neima GH. Predictors of exclusive breastfeeding duration among 6–12 month aged children in gurage zone, South Ethiopia: a survival analysis. Int Breastfeed J. 2016;12:20-6.
25. Khanal V, Scott JA, Lee AH, Karkee R, Binns CW. Factors associated with early initiation of breastfeeding in Western Nepal. Int J Environ Res Public Health. 2015;12:9562-74.
26. Tavoulari E-F, Benetou V, Vlastarakos PV, Psaltopoulou T, Chrousos G, Kreatsas G. Factors affecting breastfeeding duration in Greece: What is important? World J Clin Pediatr. 2016;5:349-55.
27. Vieira TO, Vieira GO, Giugliani ERJ, Mendes CM, Martins CC, Silva LR. Determinants of breastfeeding initiation within the first hour of life in a Brazilian population: cross-sectional study. BMC Public Health. 2010;10:760-68.
28. Kelly YJ, Watt RG, Nazroo JY. Racial/ethnic differences in breastfeeding initiation and continuation in the United Kingdom and comparison with findings in the United States. Pediatrics. 2006;118:1428-35.
29. Su LL, Chong YS, Chan YH, Chan YS, Fok D, Tun KT, et al. Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial. BMJ. 2007;335:596-604.
30. Dhakal S, Lee TH, Nam EW. Exclusive Breastfeeding Practice and Its Association among Mothers of under 5 Children in Kwango District, DR Congo. Int J Environ Res Public Health. 2017;14:455-61.
31. Mekuria G, Edris M. Exclusive breastfeeding and associated factors among mothers in Debre Markos, Northwest Ethiopia: a cross-sectional study. Int Breastfeed J. 2015;10:1-10.
32. Tewabe T, Mandesh A, Gualu T, Alem G, Mekuria G, Zeleke H. Exclusive breastfeeding practice and associated factors among mothers in Motta town, East Gojjam zone, Amhara Regional State, Ethiopia, 2015: a cross-sectional study. Int Breastfeed J. 2016;12:12-18.
33. Wong KL, Fong DYT, Lee ILY, Chu S, Tarrant M. Antenatal education to increase exclusive breastfeeding: a randomized controlled trial. Obstet Gynecol. 2014;124:961-8.