

Determination of Factors Affecting Exclusive Breastfeeding for the First 6 Months among Turkish Mothers with Children Aged 0-2 Years

Melek Koç and Gül Pınar*

Yıldırım Beyazıt University, Faculty of Health Sciences,
Department of Nursing, Ankara, Turkey.

*Correspondence:

Gül Pınar, Yıldırım Beyazıt University, Faculty of Health Sciences, Department of Nursing, Cankırı Street, No: 3, Ulus, Ankara, Turkey.

Received: 02 November 2020; Accepted: 18 November 2020

Citation: Koç M, Pınar G. Determination of Factors Affecting Exclusive Breastfeeding for the First 6 Months among Turkish Mothers with Children Aged 0-2 Years. *Gynecol Reprod Health*. 2020; 4(4): 1-9.

ABSTRACT

Purpose: This study was conducted to determine the factors affecting the exclusive breastfeeding for the first 6 months among mothers with children aged 0-2 years.

Design: 258 mothers with children aged 0-2 years who presented to Ankara Pediatric Hematology Oncology Training and Research Hospital Pediatric Polyclinic constituted sample of the study. A data collection form developed in line with the relevant literature was used as a data collection tool. The data collection form consists of four sections. Percentage, mean, standard deviation were used for data analysis, Mann-Whitney U test for two-group comparisons, Pearson's correlation analysis for three-group and multiple group comparisons, and Kruskal-Wallis test or chi-square test of independence for relationships between variables. Statistical significance value was accepted as $p < 0.05$.

Result: The rate of exclusive breastfeeding for the first 6 months is 54.3% in the study. However, exclusive breastfeeding for the first 6 months was found statistically significant ($p < 0.05$) with regard to the mothers smoking, infant's birth weight, infant's first food, first breastfeeding time, use of pacifier and bottle, formula feeding at the hospital after delivery, attitude of the spouse and inner circle towards the breastfeeding. It was determined that the mothers who give premature and caesarean birth started breastfeeding later ($p < 0.05$). Approximately half of the mothers did not have adequate knowledge about infant feeding and as the knowledge score about infant feeding increased, the rate of exclusively feeding with mother's milk during the first 6 months increased ($p < 0.05$).

Conclusion: It was concluded in the study that the rates of the mothers feeding their babies with exclusively mother's milk during the first six months and their knowledge levels about this matter are not adequate. Scrutinizing of the factors that are determinative on this result with more detailed studies and appropriate support and trainings by health workers is suggested.

Keywords

Affecting factors, Breastfeeding, Exclusive breast milk.

Introduction

Mother's milk is regarded to be the most appropriate nutrition because it changes content depending on the requirements of the newborn, decreases infant mortality and morbidity rates, protects against infections, fulfills physiological and psychosocial

necessities of the infants alone for the first 4-6 months, and it is economic and ensures the infants to feel safe [1-3].

World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) proposes that the infants are fed with mother's milk exclusively for the first 6 months starting from birth, and feeding with appropriate supplementary food and breast feeding should continue until the

infant becomes two years old [4-6]. Exclusive breast feeding during the first six months is reported to be 37% in the world in 2014 health statistics of WHO. In the same report, this ratio is 35% in Africa, 31% in America, 47% in South East Asia, 36% in East Asia, and 30% in West Pacific [6].

Many studies showed that breastfeeding period is long in general although it changes according to the regions and socio-cultural levels of families in Turkey [5-7]. According to Turkey Demographic and Health Survey (TDHS) 2013 data, exclusive mother milk giving ratio during the first two months in Turkey is 58%, and this ratio retreats to 10% in 4-5- month infants [3]. Although the ratio of the infants feeding exclusively with mother's milk during the recent years in the world and Turkey increased, the feeding period is still not at the desired level [1,2].

Many factors that are effective in breastfeeding start and continuation are referred to in the literature. These can be listed as mother's age, family structure, educational level, employment status, economic state, desire for pregnancy and experiencing health problems during pregnancy, delivery method, breastfeeding start time, giving water or sugared water as a first food before starting feeding with mother's milk, previous experiences of the mother about breastfeeding, receiving counseling about breastfeeding, encouragement of the mother for breastfeeding by health personnel and the family, pacifier and feeding bottle use, and nipple problems [1,2,8-12]. Protection, encouragement and support of breastfeeding, which is regarded as a human right, are the natural task of all health personnel.

The present study was conducted to determine exclusive breastfeeding tendencies during the first 6 months of the mothers who had infants of 0-24 months old and applied to Ankara Children's Health and Disorders, Hematology Oncology Training and Research Hospital Pediatrics Polyclinic, their breastfeeding periods and the factors affecting these.

Methods

The research was planned as descriptive and cross-sectional type, and conducted during May 15, 2014-August 15, 2014. Mothers who applied to Ankara Children's Health and Disorders, Hematology Oncology Training and Research Hospital Pediatrics Polyclinic and had 0-2 years of old infants (N= 8694) made up the study population. The study sample was estimated as 258 by using the sample formula with the known population (event observance frequency was 50%, error margin was 6%, confidence level was 95%). The hospital where the study was conducted was infant-friendly.

A Survey Form, generated by using literature, was used in data collection [1,4,7,11,12]. The survey form consisted of four sections and 35 questions;

- 1) Sociodemographic characteristics (7 questions),
- 2) Habits – medical characteristics(8 questions),
- 3) Infant and breastfeeding characteristics (17 questions),

- 4) Mother's milk-breastfeeding awareness (3 questions and 20 sub items).

Prior to collecting data in the study, the required permits were obtained from the Ethical Committee (Date/Number 2014/34) and the hospital administration of the hospital where the research was conducted. After the mothers were informed about the study subject and purpose, written consents of the mothers who agreed to participate in the study were received and the survey forms were completed by the researcher by face-to-face method. Each interview lasted approximately 25-30 minutes.

The obtained data were evaluated by IBM SPSS (version 20.0) Statistical Package Program, and for analyses Ki-square test, Mann-Whitney U test, Kruskal-Wallis test and Pearson Correlation analysis was used. $p < 0.05$ was accepted as the statistical significance limit.

Results

Age average of the mothers included in the study scope was determined as 28.0 ± 6.1 (min=18, max=46). 39.9% of the mothers were high school graduates, 99.2% were married, 86% were housewives, 83.3% had a nuclear family structure and 69.4% had average income level. 12.4% of the mothers had chronic illness history (31.3% had asthma, 25.0% had hyperthyroid, 15.6% had hypertension, and 12.5% had diabetes). 39.5% of the mothers had their first delivery, 73.3% were planned pregnancy, 70.9% gave birth by normal vaginal way and 77.9% of them gave birth to normal weight infants (2500-3600 gr). BMI of 56.9% of the mothers was normal at the beginning of pregnancy and 23% were slightly overweight.

First nourishment of 89.9% of the infants was mother's milk, 55% received exclusively mother's milk during the first 6 months, 15.1% had formula at the hospital during the after delivery term, 42.6% used pacifier (min=1 month, max=18 months), and 67.1% used feeding bottle (min=1 month, max=23 months).

58.5% of the mothers indicated that they had breastfeeding experience before, 52.7% breastfed their babies during the half hour, 26.7% breastfed for 6 months, and 49.2% breastfed for 7-12 months. 71.3% of the mothers continued to breastfeed their babies, 37.2% breastfed when their babies cried, and 22.1% breastfed 4-5 times a day. 56.5% of the mothers stated that they would continue breastfeeding their babies until they quit. Moreover, 14.3% of the mothers experienced problem with breastfeeding and 37.8% of these problems originated from inexperience and 64.8% originated from nipple problems. When we examined the reasons for quitting breastfeeding, the mothers indicated that 64.9% quit breastfeeding because their babies did not take the breast, and 32.4% quit breastfeeding because their milk was not sufficient. 85.3% of the mothers expressed that they received information about infant feeding, and they received it frequently from health personnel (82.3%) and from family elders (51.4%).

In Table 1, although breastfeeding ratios of mothers who were educated, gave birth with normal vaginal way and had term infant were found high, the difference was not found statistically significant ($p>0.05$). However, higher exclusive breastfeeding ratios during the first 6 months of women who did not work after delivery and quit smoking cigarettes during breastfeeding term were also found to be significant statistically ($p<0.05$).

As it is shown in Table 2, characteristics such as positive attitude of the mothers, their spouses and the people around them to breastfeeding, 2500 gr and over infant birth weight, mother's milk to be the first nutrition of the infant, early feeding of the infant, use of pacifier and feeding bottle, and not giving formula at the end of delivery at the hospital, and giving mother's milk exclusively during the first 6 months was significantly high ($p<0.05$).

Although it was not significant statistically, the rates of giving mother's milk exclusively were found to be lower in women who had high BMI, had chronic illness history, had no breastfeeding experience, and had problems in breastfeeding ($p>0.05$).

Table 3 shows that the mothers who gave birth prematurely (before 37th week) and by caesarean birth with general anesthesia started breastfeeding later on following delivery ($p<0.05$).

In Table 4, average knowledge score of the mothers participating in the research about breastfeeding-infant feeding was 17.1 ± 1.8 (min=11, max=20)(average knowledge score of 32.2% of the mothers was <17 , and it was ≥ 17 of 67.8%). According to the performed analysis, as the breastfeeding-infant feeding knowledge score average increased, the rate of exclusive breastfeeding ratio during the first 6 months increased ($p<0.05$).

As it is shown in Table 5, breastfeeding-infant feeding knowledge score average of the group who lived in a large family and had low educational and income level was low as well. This difference was statistically significant ($p<0.05$).

There is a significant relationship between infant feeding knowledge score and age ($r=0.172$) ($p=0.006$). According to this, as the age of the mothers increased, breastfeeding-infant feeding knowledge score increased as well.

Characteristics	First 6 months feeding type				Analysis*	
	Exclusively mother's milk (n=142)		Mother's milk+ formula+ supplementary food (n=116)		x ²	p
	n	%	n	%		
Educational level						
Literate	5	23.1	10	76.9	5.509	0.138
Elementary education	41	50.6	40	49.4		
High school	58	56.3	45	44.7		
University and above	38	62.3	21	37.7		
Employment status						
Employed	19	52.8	17	47.2	12.996	0.024*
Unemployed + on maternity leave	123	72.8	99	27.2		
Income level						
Good	42	59.1	29	40.9	3.274	0.195
Average	98	54.7	81	45.3		
Poor	2	25.0	6	75.0		
Family type						
Nuclear	125	58.1	90	41.9	3.557	0.059
Large	17	39.5	26	60.5		
Cigarette smoking						
Yes	13	32.5	27	67.5	9.707	0.008*
I quit because I am breastfeeding	19	63.3	11	36.7		
No	110	58.5	78	41.5		
Delivery number						
1 time	60	58.8	42	41.2	4.689	0.196
2 times	58	58.0	42	42.0		
3 times	14	38.9	22	61.1		
4 times and above	10	50.0	10	50.0		
Pregnancy week						
Before 37 th week	11	34.4	21	65.6	4.689	0.196
Between 37 th -42 nd weeks	125	57.0	93	43.0		
After 42 nd week	6	71.4	2	28.6		
Delivery type						
Normal vaginal birth	101	55.2	82	44.8	0.000	0.997
Caesarean section	41	54.7	34	45.3		

Table 1: The distribution of infant feeding types of the mothers during the first 6 months based on socio-demographic, obstetric and individual habits. * $p<0.05$, ***Ki-square test was used.*

Characteristics	First 6-month feeding type				Analysis**	
	Exclusively mother's milk (n=142)		Mother's milk+ formula+ supplementary food (n=116)		x ²	P
	n	%	n	%		
Attitude of the spouse-relatives to breastfeeding						
Favorable	140	56.8	107	43.2	Fisher'sExact	0.046*
Unfavorable	2	20.0	9	80.0		
Birth weight of the infant						
<2500 gr	7	28.0	18	72.0	7.992	0.018*
2500-3600 gr	113	56.2	87	43.8		
>3600 gr	22	65.6	11	34.4		
First food of the infant						
Mother's milk/colostrum	136	58.6	96	41.4	10.293	0.001*
Sugared water, formula, water	6	23.1	20	76.9		
Breastfeeding period						
Early stage (within first 1st)	110	60.4	72	39.6	7.634	0.006*
Late stage (after first 1st.)	32	40.8	44	59.2		
Pacifier use						
Yes	52	47.3	58	52.7	4.279	0.039*
No	90	60.3	58	39.7		
Feeding bottle use						
Yes	81	47.1	91	52.9	12.201	0.000*
No	61	70.2	25	29.8		
Feeding with formula at the hospital after birth						
Yes	12	25.6	29	74.4	14.557	0.000*
No	130	60.2	87	39.8		

Table 2: The distribution of the first 6-month feeding type of the mothers based on breastfeeding and infant characteristics.

* $p < 0.05$, ***Ki-square test was used.*

Characteristics	Breastfeeding period**				Analysis**	
	Early breastfeeding (n=182)		Late breastfeeding (n=76)		x ²	p
	n	%	n	%		
Pregnancy week						
Before 37 th week	16	50.0	16	50.0	7.94	0.019*
Between 37 th -42 nd week	160	73.1	59	26.9		
After 42 nd week	6	85.7	1	14.3		
Delivery type						
Normal vaginal delivery	140	76.5	43	23.5	9.7	0.002*
Caesarean section	42	56.0	33	44.0		
Anesthetic taking types during delivery						
Normal vaginal delivery (no anesthetics)	122	77.2	36	22.8	14.6	0.0001*
Caesarean (regional)	42	68.9	19	31.1		
Caesarean (general)	18	46.2	21	53.8		

Table 3: The distribution of breastfeeding period based on obstetrics characteristics.

* $p < 0.05$, ***Ki-square test was used.*

Exclusively breastfeeding during the first 6 month	Breastfeeding-infant feeding average knowledge score (17.1 ± 1.8) (min.11, max:20)						Analysis*	
	n	\bar{X}	Min	Max	SS	Row mean	Z	p
Yes	142	17.2	11.0	20.0	1.7	133.3	-2.1	0.045*
No	116	16.5	12.0	20.0	1.9	107.4		
Total	258	17.1	11.0	20.0	1.8			

Table 4: The distribution of knowledge scores of the mothers about breastfeeding-infant feeding based on breastfeeding exclusively during the first 6 months.

* *Man-Whitney U test was used.*

Educational level	Breastfeeding-infant feeding average knowledge scores						Analysis**		
	n	\bar{x}	Min	Max	SS	Row mean	x ²	P	Paired comparison
Literate	13	15.7	15.0	20.0	2.0	73.7	16.4	0.001*	1-2 1-3 1-4
Elementary school	81	16.8	17.0	20.0	1.9	118.4			
High school	103	17.1	17.0	20.0	1.6	130.5			
University	61	17.6	18.0	20.0	1.6	154.3			
Income status									
Good	71	17.6	12.0	20.0	1.7	156.7	22.8	0.0001*	3-1 3-2
Average	179	16.9	12.0	20.0	1.7	122.6			
Poor	8	14.8	11.0	17.0	1.8	41.4			
Family type									
Nuclear	215	17.3	12.0	20.0	1.6	137.3	-3.7	0.0001*	-
Large	43	16.0	11.0	20.0	2.0	90.7			

Table 5: The distribution of knowledge scores of mothers about breastfeeding-infant feeding according to some socio-demographic characteristics.

* $p < 0.05$, **Kruskal Wallis Test was used.

Discussion

First year feeding of the infants is extremely crucial for growth, development and a healthy life. Feeding mistakes made during this term prepares the ground for obesity, allergic illnesses and chronic illnesses in advanced ages [1-3]. Although the requirement for support to the infants is disputable since their iron and zinc requirements are not fulfilled by mother's milk, the authorities such as WHO, UNICEF, and American Association of Pediatrics report that continuation of mother's milk feeding for at least 1 year is extremely important for both mother's and infant's health [5,6,13].

The studies conducted on this matter report that the infants who received exclusively mother's milk during the first 6 months showed better growth and development and had gastrointestinal system and respiratory tract infections in a lower rate in comparison to the infants who received exclusively mother's milk during the first 3-4 months [14,15]. Another study showed that obesity, hypertension, asthma and serum cholesterol levels of the infants who were fed with mother's milk exclusively during the first 6 months were lower than those of the infants who were fed with formula. Breastfeeding is suggested for establishment of special love connection between the baby and mother and in addition for protection of psychological health of mothers, and to reduce breast and uterus cancer risk [16,17]. Death rate of children who are not fed with mother's milk is 4-6 folds higher than that of the ones who are fed with mother's milk. According to WHO, lives of 1.5 million infants can be saved annually by breast-feeding? It is reported that post-neonatal death rate is reduced 21% by feeding with mother's milk in the United States of America [17]. Malnutrition case is observed in 25% of the children under five years old in Turkey. Approximately 15% of Turkey's population is under five years old and the death of 63,000 of these children presents a crucial problem [3].

In 2014 health statistics of WHO, exclusively mother's milk taking during the first 6 months and continuing mother's milk in the world is lower than expected (36%) [6]. Exclusively mother's milk feeding in the sixth month is reported to be 50% in Australia, 10%

in Austria, 40% in Brazil, and 26% in Canada [6,18]. According to TDHS 2013 results, starting to mother's milk feeding in Turkey is 98%, there are some important problems in the continuation of breastfeeding. Throughout Turkey, rate of exclusive feeding with mother's milk during the first two months is 58%, and this rate retreats to 10% in six month old babies because of early passage to supplementary nutrition [3]. In conclusion, only one out of 5 infants is fed with mother's milk during the first 6 months and this is under the target. In our study, mother milk feeding exclusively during the first six months of the infants was found as 55%. In the study of Şahin et al., mother milk feeding exclusively during the first six months was 60.8% [19]. This ratio was 52.8% in the study of Bolat et al. [20]. As it is clear, term of feeding exclusively with mother's milk is not at a desired level although it is a quite widespread behavior in the world and Turkey. Although the finding of our research is high in comparison to the country-wide result, it shows similarity to the other research findings. We think that this result is related to the regional and sociocultural practices and the hospital where the study is conducted to be a 'Baby Friendly Hospital'.

WHO and UNICEF suggests that breastfeeding should be started during the first half an hour following birth in the 4th step of the "10 Steps in Successful Breastfeeding" [5,6]. During the first half an hour term, which is known as the reactive term, search and suction reflex of the babies is much stronger and it is very important that this period is benefited affectively in terms of both breastfeeding and the connection of the mother and baby [21]. Breastfeeding times after birth by mothers can change in Turkey. According to TDHS 2013 data, 50% of the babies are breastfed during the first half an hour after delivery, and 27% are not breastfed at all during the first 24 hours [3]. It was determined that approximately 68.5% of the mothers in our study groups breastfed their babies during the first half an hour and the mothers in this group breastfed their babies for a longer period.

It is remarkable in our study that supplementary nutrition use is widespread (45.7%) and it starts in a quite early age ($4,6 \pm 1,9$ months). According to TDHS 2013 data, more than one fifth of

the babies who are younger than two months are fed with formula in addition to mother's milk; 9% are fed with water and other liquids in addition to mother's milk; this ratio goes up to 53% in 4-5 months [3]. The ratios of exclusive feeding with mother's milk during the first 6 months were found higher in babies who started their first nutrition with colostrum instead of formula and who did not use pacifier or feeding bottle ($p < 0.05$). The studies show that water giving tendency during the first 6 months in Turkey is still high. In the study of Sivri [22], it was reported that 42.6% of the mothers fed their babies with liquid foods and formula in addition to mother's milk during the first months; Unsal et al. [23] reported that 61.5% of the mothers fed their babies with water and herbal teas starting from birth, and this ratio climbed to 98.6% in the 4th month. In the literature, some situations are mentioned causing the change of mother's decision to feed with mother's milk at the beginning. It is indicated that especially harsh life conditions in rural regions, lack of information, ethnic origin, religious believes, and traditions are effective on breastfeeding. Based on the results of both our study and other studies, we think that starting to supplementary nutrition unnecessarily will be prevented and the rate of feeding exclusively with mother's milk can be increased by strengthening of the new data of the mother's milk encouragement program and following the babies in terms of weight gain.

It was determined in our study that numerous factors play a role affecting breastfeeding behavior of the mothers. Socioeconomic statue of the mothers was one of them. Exclusive breastfeeding rate during the first six months by working mothers was 12.5%. It was found in the statistical evaluation that mother's milk feeding rate during the first six months by working mothers was low ($p > 0.05$). In other studies conducted on this issue, employment of mothers was accepted as one of the important factors affecting breastfeeding behavior and term [23-25]. It is thought that working mothers started supplementary food earlier and breastfed for shorter periods because of the lack of opportunities in the work place for sufficient breastfeeding, milk suction and storage, change in sleep and resting order, work load and anxiety for staying away from their baby. It is thought that hospital policies, and knowledge, attitude and believes of midwives and nurses on this issue are effective on the development of breastfeeding behavior.

Based on TDHS 2013 data, average breastfeeding period is short in babies who are fed exclusively with mother's milk and as the educational level increases this ratio drops under two months [3]. In some studies, it is reported that as the mother's educational level increases breastfeeding behavior is more favorable, breastfeeding periods are longer and supplementary nutrition start periods are later [26-29]. In our study, as the educational level increased, exclusively mother's milk feeding rate in the first 6 months and mother's milk starting rate during the first 24 hours following birth increased although not significant statistically ($p > 0.05$). Although a different result was obtained in Turkey generally in our study, it was found to be compatible with the studies conducted in a local level. As the educational level of the mothers increased, it is thought that benefits of mother's milk understood better and breastfeeding behavior changed positively with this motivation.

Another factor affecting breastfeeding is socio-economic status. In our study, there was no significant difference between the income level and feeding babies during the first 6 months ($p > 0.05$), it was found that the group with high income level displayed breastfeeding behavior more during the first 24 hours following birth ($p < 0.05$). According to TDHS 2013 data, as the prosperity level of the mothers decreased, exclusively mother's milk feeding term drops under 2 months [3]. Although there are studies in the literature indicating that mothers with higher income level prefer breastfeeding more [30-32], there are also studies reporting that mothers with low socio-economic level breastfed their babies more [23,33].

In our research, exclusively mother's milk feeding ratio during the first 6 months was higher than that of the group which did not smoke cigarettes ($p < 0.05$). In another words, mothers who smoked cigarettes started supplementary nutrition earlier. Similarly, in the study of Hamada et al, it was observed that cigarette smoking mothers started supplementary food earlier [34]. In the study of Higgins et al., it was determined that quitting smoking during the breastfeeding period increased breastfeeding period [35]. Our study findings are compatible with the research results. It is estimated that smoking mothers had problems to continue mother's milk due to a decrease in milk quality and amount over time or due to anxiety for negative effects on their babies. Nevertheless, it was determined that the mothers who quit mother's milk feeding indicated insufficient milk as a reason in general. In this context, this matter should be indicated specifically in breastfeeding training and counseling and the factors increasing milk production should be integrated in the training scope.

Although it was expected that as the number of births and breastfeeding experience increased, mother's milk feeding period increased, such a result was not obtained in our study ($p > 0.05$). In the literature search, there was no significant difference found in some studies in terms of mother's milk feeding situation [20,36,37], in some studies, it was found that mother's milk feeding frequency and period was lower in new mothers [38,39].

It was found in our research that the rate of starting supplementary nutrition before the first 6 months was higher in mothers who gave premature birth although it was not significant statistically ($p > 0.05$). Furthermore, exclusively mother's milk feeding rate during the first 6 months was significantly higher in those whose birth weight was 2500 gr and above ($p < 0.05$). In a study conducted in Lebanon, the rate of supplementary food start before 6 months was higher in mothers who gave premature birth [34]. When the studies conducted in Turkey were examined, Bolat et al. [20] and Balci et al. [25] reported that exclusive mother's milk receiving ratio of premature babies during the first 6 months was low. In the study of Unsal et al, it was determined that mothers who had babies with low birth weight started supplementary nutrition earlier [23]. It is thought that some situations affect breastfeeding naturally and mother's milk amount negatively such as low suction strength and

skill of newborns and premature babies who are hospitalized in intensive care, late start to breastfeeding, stress, anxiety and sleep problems in mothers depending on hospitalization of their babies, and seeing their babies for shorter periods.

Caesarean delivery is another risk factor defined in terms of late start to mother's milk [20,40-42]. In the studies of Agboado et al, it was found that delivery type was not effective on the period of feeding with mother's milk [40]. In the study of Al-Shab et al. conducted in Canada, it was reported that the rate of mother's milk feeding during the sixth months in mothers who gave normal birth was higher [43]. Although there was not statistically significant difference in our study, the rates of feeding exclusively with mother's milk during the first 6 months were lower in mothers who gave caesarean birth ($p>0.05$). Nevertheless, it was found statistically significant that ($p<0.05$), the mothers who gave caesarean birth with general anesthesia had more problems in starting breastfeeding during the first 24 hours following birth in comparison to those who gave normal vaginal birth ($p<0.05$). It is predicted that delay in mother's milk production and secretion in caesarean delivery depending on anesthesia, post-operative pain, movement limitation and orientation problem could have an effect on the experience failure in breastfeeding. Therefore, it is necessary that pain of mothers following caesarean delivery should be minimized, and they must be supported in the matter of feeding their babies and caesarean delivery should be avoided unless there are medical indications.

In the present research, displaying positive attitude to breastfeeding by spouse or relatives and supporting mother affected immensely the situation of giving mother's milk exclusively during the first 6 months($p<0.05$). This is regarded as a positive result and especially spouse support is thought to be important. In the study of Lee et al, it was determined that spouses were the group with the greatest effect on the start and continuation of breastfeeding by mothers [44]. In the studies of Araz [41] and Tarrant [45], spouses of breastfeeding mothers supported mothers in breastfeeding issue and with this support there was an increase in breastfeeding periods. Our study results are similar to the literature. We think that for a success in the continuation of breastfeeding, hospital training given only in the term prior to delivery is not adequate, spouse support should not be ignored, and breastfeeding support and counseling of parents should be continued after delivery.

In our research, approximately one out of three mothers did not have adequate knowledge about breastfeeding and this is regarded as a negative result in terms of breastfeeding behavior. Thus, it was determined as a result of the conducted analysis, as the knowledge score decreased, the rate of feeding with mother's milk exclusively during the first 6 months decreased ($p<0.05$). Furthermore, knowledge scores of the mothers in the group who had low income, were uneducated and young were significantly low ($p<0.05$). As similar to the literature, it was emphasized that socio-cultural variables and breastfeeding counseling variety is determinant on the knowledge levels in breastfeeding issue

[11,23,46,47]. In the randomized controlled researches are conducted in 2011 [48] and Kresheh's research conducted in 2011 [49], a copy of the training content was provided with CD-ROM after delivery and it was determined that monitoring and counseling conducted by telephone at least once a month was not beneficial in the rate of mother's milk giving exclusively during the first 6 months. In the randomized controlled study of Lin conducted in 2008, it was concluded that exclusive mother's milk giving rate during the first 6 months was higher in the activities of breastfeeding training booklet giving and two times telephone monitoring-counseling in comparison to routine hospital breastfeeding counseling [50]. Moreover, randomized controlled studies investigated the effect of breastfeeding counseling, which started in prenatal term and continued for 6 weeks modularly after delivery (for 3 hours once a week) with web-based breastfeeding counseling, personal breastfeeding and counseling line by email, multidisciplinary lactation patient school program-workshop, peer support group and house visits, on the rate of exclusive feeding with mother's milk for the first 6 months, and as a result of these, important success was achieved and suggestions were made for the integration of these approaches in health service presentation [51-53].

In conclusion, it was determined as a result of our study that nearly half of the mothers did not comply with the suggested periods regarding start to give mother's milk, exclusively mother's milk feeding or continuation to mother's milk, and they started supplementary nutrition early and that numerous socio-demographic and medical factors were effective on this. Based on these results, it is suggested that this problem is cared by health workers and decision makers within a multidisciplinary approach, a widespread campaign is started in the issue of increasing the rate of feeding with mother's milk, social laws are made and supportive measurements are taken. Moreover, since in our study it was determined that the women, who received support about breastfeeding from their spouses and people around them, breastfed for a longer period, and it is suggested that support and counseling for families should continue with support groups, home visits and controls.

Limitation

This research is limited with the mothers who applied to Ankara Children's Health and Disorders, Hematology Oncology Training and Research Hospital, Pediatrics Polyclinic, and with the personal statements of these persons.

Acknowledgment

The authors would like to thank all the women and hospital staff who participated in this study.

References

1. İnce T, Kondolot M, Yalçın SS, et al. Breastfeeding consultation status of mothers. *Journal of Child Health and Diseases*. 2010; 53: 189-197.

2. Kepekçi M, Yalçınoğlu N, Devicioğlu E, et al. Evaluation of The Activities of A Breastfeeding Counselling Clinic. *J Child.* 2012; 12: 164-168.
3. http://www.hips.hacettepe.edu.tr/eng/TDHS_2013_main_report.pdf
4. Yıldız A, Baran E, Akdur R, et al. Breastfeeding Status And Effecting Factors Of Mothers Have 0-11 Months Babies At A Health Centre Area. *Journal of Ankara University Faculty of Medicine.* 2008; 61: 61-67.
5. www.unicef.org/sowc2012/pdfs/SOWC%202012-Main%20Report_EN_13Mar2012.pdf
6. http://www.who.int/gho/publications/world_health_statistics/EN_WHS2014_Full.pdf
7. Tunçel E, Dündar C, Canbaz S, et al. Searching Breastfed Status of Children of 0-24 Months Applied to a University Hospital. *Journal Of Cumhuriyet University School Of Nursing.* 2006; 10: 1-6.
8. Kumar D, Goel NK, Mittal PC, et al. Influence Of Infant Feeding Practices On Nutritional Status of Underfive Children. *Indian Journal Pediatr.* 2006; 73: 417-421.
9. Forster DA. Breastfeeding Initiation and Birth Setting Practices: A Review Of The Literature. *J Midwifery Womens Health.* 2007; 52: 273-280.
10. Can E, Süleymanoğlu S, Aydınöz S, et al. Evaluation of Breast Milk and Vitamin D Knowledge in a Training Hospital. *J Child.* 2008; 8: 37-39.
11. Özer A, Taş F, Ekerbiçer HÇ. Behaviour and determining factors on the breast milk and breast feeding for the mothers who have 0-6 month old babies. *TAF Preventive Medicine Bulletin.* 2010; 9: 315-320.
12. İnanç B. Breastfeeding related practices of 15-49 years old mothers and influencing factors. *Turkish Journal of Family Practice.* 2013; 17: 51-55.
13. American Academy of Pediatrics. Breastfeeding and the use of human milk, *Pediatrics.* 2012; 129: 827-841.
14. Kramer MS, Guo T, Platt RW, et al. Infant growth and health outcomes associated with 3 compared with 6 months of exclusive breastfeeding. *Am J Clin Nutr.* 2003; 78: 291-295.
15. Chantry C, Howard C, Auinger P. Full breastfeeding duration and associated decrease in respiratory tract infection in US children. *Pediatrics.* 2006; 117: 425-432.
16. ADA. Position of The American Dietetic Association: Promoting and supporting breastfeeding. *J Am Diet Assoc.* 2009; 109: 1926-1942.
17. <http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-Guidelines.pdf>
18. Stamp GE, Casanova HT. A breastfeeding study in a rural population in South Australia. *Rural Remote Health.* 2006; 6: 1-9.
19. Şahin H, Yılmaz M, Aykut M, et al. Risk factors for breastfeeding problems in mothers applied to two public healthcare centers in Kayseri province. *Turk Arch Ped.* 2013; 145-151.
20. Bolat F, Uslu S, Bolat G, et al. Factors Affecting Breast Feeding in the First Six Months of Life. *J Child.* 2011; 11: 5-13.
21. Eker A, Yurdakul M. The Knowledge and Practices Mothers to Related of Baby Feeding and Breastfeeding. *STED.* 2006; 15: 158-163.
22. Sivri BB. The Knowledge And Practices Of Mothers With 6 Month Old Babies Related With The Transition To Solid Complementary Feeding Food And Breastfeeding. *Journal of the Acibadem University of Health Sciences.* 2014; 5: 59-65.
23. Ünsal H, Atlıhan F, Özkan H, et al. The tendency to breastfeed in a certain population and influential factors. *Journal of Child Health and Diseases.* 2005; 48: 226-233.
24. Yorgancı SF, Aslan E. The Effect of Woman's Work Status on Breast-Feeding. *Florence Nightingale Nursing Journal.* 2012; 20: 62-68.
25. Balcı E, Kondolot M, Horoz D, et al. The factors affecting the duration of breastfeeding: A cross-sectional study from Kayseri, Turkey. *Turk Arch Ped.* 2012; 47: 101-105.
26. Wen LM, Baur LA, Rissel C, et al. Intention To Breastfeed and Awareness of Health Rec-Ommendations: Findings From First-Time Mothers in Southwest Sydney, Australia. *International Breastfeeding Journal.* 2009; 4: 30-38.
27. Vaaler ML, Parks SE, Erickson T, et al. Breastfeeding attitudes and behavior among WIC mothers in Texas. *J Nutr Educ Behav.* 2010; 42: 30-38.
28. Oakley LL, Renfrew MJ, Kurinczuk JJ, et al. Factors Associated With Breastfeeding In England: An Analysis By Primary Care Trust. *BMJ Open.* 2013; 3: 1-11.
29. Holbrook KE, White MC, Heyman MB, et al. Maternal Sociodemographic Characteristics And The Use Of The Iowa Infant Attitude Feding Scale To Describe Breastfeeding Initiation And Duration In A Population Of Urban, Latin Mothers. A Prospective Cohort Study. 2013; 8: 7.
30. Alp H. Duration of breastfeeding in children and related factors. *Journal of Current Pediatrics.* 2009; 7: 45-52.
31. Seid AM, Yesuf ME, Koye DN. Prevalence Of Exclusive Breastfeeding Practices And Associated Factors Among Mothers in Bahir Dar City, Northwest Ethiopia: a Community Based Cross-Sectional Study. *International Breastfeeding Journal.* 2013; 8: 1-8.
32. Beşbenli K, Avgen B, İncioğlu A, et al. The knowledge and practices of mothers from three different socioeconomic groups living in İstanbul on breastfeeding and supplementary foods. *Journal of Child Health and Diseases.* 2013; 56: 76-81.
33. Örün E, Yalçın SS, Madendağ Y, et al. The effects of mothers' psychopathologies and sociodemographic characteristics on exclusive breastfeeding during postpartum 1-1.5 months. *Journal of Child Health and Diseases.* 2009; 52: 167-175.
34. Hamade H, Chaaya M, Saliba M, et al. Determinants of Exclusive Breastfeeding in an Urban Population of Primiparas in Lebanon: A Cross-Sectional Study. *BMC Public Health.* 2013; 13: 702.

36. Higgins TM, Higgins ST, Heil SH, et al. Effects of cigarette smoking cessation on breastfeeding duration. *Nikotin Tob Res.* 2010.
37. Lande B, Andersen LF, Bærug A, et al. Infant feeding practices and associated factors in first six months of life: the Norwegian infant nutrition survey. *Acta Paediatr.* 2003; 92: 152-161.
38. Bülbül L, Uğur Baysal S, Gökçay G, et al. Correlation between exclusive breast feeding duration and blood hemoglobin levels, erythrocyte indices in six-month-old infants. *Turk Arch Ped.* 2008; 43: 119-126.
39. Ekstrom A, Widstrom Am, Nissen E. Duration of breastfeeding in Swedish primiparous and multiparous women. Department Health Sciences, University of Skoude, Sweden. *J Hum Lact.* 2003; 19: 172-178.
40. Tavoulari, EF, Benetou V, Vlastarakos PV, et al. Factors affecting breast-feeding initiation in Greece: What is important? 2015; 31: 323-331.
41. Agboado G, Michel E, Jackson E, et al. Factors associated with breastfeeding cessation in nursing mothers in a peer support programme in Eastern Lancashire. *BMC Pediatr.* 2010; 10: 3-7.
42. Çöl Araz N. Evaluation Of Socio-Demographic Factors That Affecting To The Initiation Of Breastfeeding In The Neonatal Period. *Türkiye Çocuk Hast Derg / Turkish J Pediatr Dis.* 2012; 6: 215-220.
43. Albokhary AA, James JP. Does cesarean section have an impact on the successful initiation of breastfeeding in Saudi Arabia? *Saudi Med J.* 2014; 35: 1400-1403.
44. Al-Sahab B, Lanes A, Feldman M, et al. Prevalence and predictors of 6-month exclusive breastfeeding among Canadian women: a national survey. *BMC Pediatr.* 2010; 10: 20.
45. Lee CY, Ip WY. The Efficacy of Breastfeeding in Chinese Women with Different Intrapartum, Hong Kong. *Journal of Gynaecology, Obstetrics and Midwifery.* 2008; 8: 13-17.
46. Tarrant M, Fong DY, Wu KM, et al. Breastfeeding Weaning practices among Hong Kong mothers: a prospective study. *BMC Pregnancy Childbirth.* 2010; 10: 27.
47. Jahangeer CN, Khan M, Khan HM. Analyzing The Factors Influencing Exclusive Breastfeeding Using The Generalized Poisson Regression Model. *International Journal of Mathematical And Statistical Sciences.* 2009; 3: 535-537.
48. Ekambaram M, Bhat BV, Asif M, et al. Knowledge, Attitude and Practice of Breastfeeding Among Postnatal Mothers. *Current Pediatric Research.* 2010; 14: 119-124.
49. Labarere J, Gelbert-Baudino N, Laborde L, et al. CD-ROM-based program for breastfeeding mothers. *Maternal and Child Nutrition.* 2011; 7: 263-272.
50. Khresheh R, Suhaimat A, Jalamdeh F, et al. The effect of a postnatal education and support program on breastfeeding among primiparous women: a randomized controlled trial. *International Journal of Nursing Studies.* 2011; 48: 1058-1065.
51. Lin CH, Kuo SC, Lin KC, et al. Evaluating effects of a prenatal breastfeeding education programme on women with caesarean delivery in Taiwan. *Journal of Clinical Nursing.* 2008; 17: 2838-2845.
52. Noel-Weiss J, Rupp A, Cragg B, et al. Randomized controlled trial to determine effects of prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration. *Journal of Obstetric, Gynecologic & Neonatal Nursing.* 2006; 35: 616-624.
53. Aksu, H, Kucuk M, Duzgun G. The effect of postnatal breastfeeding education/support offered at home 3 days after delivery on breastfeeding duration and knowledge: a randomized trial. *The Journal of Maternal-Fetal and Neonatal Medicine.* 2011; 24: 354-361.
54. Artieta-Pinedo I, Paz-Pascual C, Grandes G, et al. Antenatal education and breastfeeding in a cohort of primiparas. *Journal of Advanced Nursing.* 2013; 69: 1607-16.