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İkiz Bebek Bekleyen Gebelere Verilen Emzirme Eğitiminin Emzirme Niyetlerine Etkisi

The Effect of Breastfeeding Education Provided to Pregnant Women Who Expect Twins on Their Breastfeeding Intention

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ÖZ

Amaç: Çalışma ikiz bebek bekleyen gebelere verilen emzirme eğitiminin gebelerin emzirme niyeti üzerine etkisinin belirlenmesi amacıyla gerçekleştirilmiştir.

Materyal ve Metot: Çalışma tek grup ön test- son test tasarımlı olup, Sakarya ilinde bir eğitim ve araştırma hastanesinde Ağustos-Aralık 2017 tarihleri arasında yürütülmüştür. Çalışmanın örneklemini hastanenin gebe polikliniklerine gelen, çalışmaya katılmayı kabul eden 20-34. gestasyon haftası arasında olan 38 ikiz gebe oluşturmuştur. Çalışmada veriler, araştırmacılar tarafından hazırlanan ‘‘Tanıtıcı Bilgi Formu”, “İkiz Bebeklerin Emzirilmesi ile İlgili Bilgi Formu” ve “İkiz Bebek Bekleyen Gebelerde Emzirme Niyet Ölçeği” kullanılarak toplanmıştır. Veriler SPSS programı ile yüzde, ortalama ve Bağımlı örneklme t testi kullanılarak değerlendirildi.

Bulgular: Gebelerin yaş ortalaması 29,84 yıldır (SD=5,63). Gebelerin ölçekten aldıkları toplam puan ortalaması eğitim öncesi 22,84±4,46 ve eğitim sonrası 29,68±3,09 olup, aradaki farkın istatistiksel olarak ileri derecede anlamlıdır (t= -13,577, p=0,000). Bu anlamlı farklılığın etki büyüklüğü 2,930 olup, yüksektir.

Sonuç: Antenatal dönemde verilen emzirme eğitiminin ikiz bebek bekleyen gebelerin emzirme niyetlerini etkilediği belirlendi (p<0,05).

Anahtar Kelimeler: Emzirme eğitimi, emzirme niyeti, hemşire, ikiz bebek, ikiz gebelik

ABSTRACT

Objective: The study was conducted to determine the effect of breastfeeding education provided to pregnant women expecting twins on their breastfeeding intention.

Materials and Methods: The research was conducted as a single group pre-test-post-test design study in the antenatal education class of a training and research hospital between August and December 2017. The study sample consisted of 38 pregnant women expecting twins between 20 and 34 weeks of gestation who came to the hospital's pregnant outpatient clinics and agreed to participate in the study. In the study, data were collected using the "Descriptive Information Form," "Information Form on Breastfeeding of Twin Babies," and "Breastfeeding Intent Scale for Twin Expecting Pregnant Women." The data were evaluated in the SPSS program, using percentages, averages, and paired Student’s t-test.

Results: The mean age of the pregnant women was 29.84 years (SD=5.63). The mean total score obtained by the pregnant women from the scale was 22.84±4.46 before the education and 29.68±3.09 after the education, and the difference between them was statistically highly significant (t= -13.577, p=0.000). The effect size of this significant difference is 2.930, which is high.

Conclusion: It was determined that breastfeeding education provided in the antenatal period affected the breastfeeding intention of pregnant women expecting twins (p<0.05).

Keywords: Breastfeeding education, breastfeeding intention, nursing, twin infants, twin pregnancy

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INTRODUCTION

Since the usage rate of assisted reproductive techniques has increased in recent years, the twin pregnancy rate and, in turn, the number of twin infants have increased significantly in the world and Türkiye.[1-3] Breast milk, one of the important health indicators, is also the most suitable and valuable nutritional source for multiple and single infants. Since twins are usually born in premature labor with low birth weight and health problems, affecting important systems like the respiratory and gastrointestinal systems, feeding with human breast milk becomes even more important.[4]

Breast milk is a unique, natural, and universal nutrient with excellent content that ensures the healthy growth and development of infants.[4,5] Although an adequate quantity and quality of milk production have been documented even for high multiples, it seems difficult for mothers rearing multiples to breastfeed for many reasons.[4,6-8] Studies have reported the rates of exclusive breastfeeding of twin infants in the first 6 months as 2-25%. The studies have emphasized that the breastfeeding durations and rates for twin infants are lower than for single infants and below the desired level.[9-12] There are several factors affecting the fact that breastfeeding rates of twin infants are low and under the desired level, and the most important factor is a mother's decision and intention to breastfeed her infants in the antenatal period.[6,13,14] Providing training on breastfeeding and human breast milk (benefits, breastfeeding method, frequency and positions, etc.) to increase the knowledge, awareness, and breastfeeding intention of pregnant women expecting twins is among nurses' educational roles.

Nowadays, it is recommended to maintain the continuity of lectures and use different materials to provide training to healthy and ill persons. Using different teaching methods and techniques for training, nurses can ensure the effectiveness of the education and memorability of the learned information. Accordingly, nurses should develop different unusual teaching materials and enhance the efficiency of training using such materials.[15,16]

A literature review that has been conducted to reveal studies and training on breastfeeding twin infants has demonstrated that these studies and training are very limited. It is a remarkable and significant situation. This study, which has arisen from the said needs, has been planned with the intent to determine the effect of breastfeeding education provided in the antenatal period on the breastfeeding intention of pregnant women expecting twins.

MATERIALS AND METHODS

Ethics Committee Approval: Ethical approval was obtained from the Health Ethics Committee of Sakarya University in Türkiye (Date: 02.11.2015, decision no: 138). Necessary written permissions were obtained both from the management of the hospital where this study was conducted and from the directorate to which the hospital was affiliated. The participants were informed about the study's aim, the privacy of answers, where and how the data would be used, and the study was carried out with pregnant women whose verbal and informed written consent was obtained and voluntary mothers who wanted to continue working afterward.

Design and Sample: The study has a single group pre-test-post-test design. We conducted the study in the antenatal education class of a training and research hospital in Sakarya Province of Marmara Region of Türkiye between August and December 2017. According to the hospital's data for 2017, 94 pregnant women expecting twins were admitted to the hospital between the data collection dates. The study sample consisted of 38 pregnant women who accepted to participate in the study and met the criteria set forth to include them in the study. Seventeen pregnant women with a week of gestation higher than the 34th week of gestation, 18 pregnant women who did not want to participate in the study, 5 pregnant women who lost one of their infants during the study, 2 pregnant women who had given birth to twins before, 4 pregnant women who settled in a different city during the study period, and 10 pregnant women whose contact numbers could not be reached were not included in the study. When 38 pregnant women were reached during the study period, the study power was calculated using the NCSS PASS 11 program. A sample size of 38 achieves 100% power to detect a mean of paired differences of 6.8 with a known standard deviation of differences of 3.1 and with a significance level (alpha) of 0.05000 using a two-sided paired z-test.[17] According to this power level, the sample size was quite sufficient, and the study was terminated with 38 people. The inclusion criteria are as follows: (a) visiting the pregnancy services of the hospital where this study was conducted; (b) volunteering to participate in the study; (c) not having any communication problems; (d) being older than 19 years; (e) being between the 20th and 34th weeks of gestation; (f) not having given birth to twin infants before the study.

The exclusion criteria are as follows: (a) being a mother who has never thought of breastfeeding; (b) being a mother who has lost one and both infants.

Data Collection Tools

Descriptive Information Form: The descriptive information form prepared by the researchers contains 15 closed-ended questions about the pregnant women's socio-demographic (age, education and

employment status, etc.) and pregnancy-related information (week of gestation, number of pregnancies, planned pregnancy status, etc.).

Information Form on Breastfeeding of Twin Babies: The "Information Form on Breastfeeding of Twin Babies" prepared by the researchers consists of 9 closed-ended questions. The form contains questions about feeling competent in breastfeeding, sufficient breast milk for twin infants, the number of infants for which a mother's breast milk is sufficient, and the type of nutrition considered for infants.

Breastfeeding Intent Scale for Twin Expecting Pregnant Women: The "Breastfeeding Intent Scale for Twin Expecting Pregnant Women," developed by Menekşe and Çınar (2018), was used before and after the education.[18] Every item of the scale, which consists of 7 affirmative items in a 5-point Likert type and which has been developed to evaluate the breastfeeding intention of twin expecting pregnant women, is scored from 1 to 5, and the scores change according to answers given to the items. The minimum score that can be received from the scale is 7, and the maximum score is 35. A high total score obtained from the scale means that the breastfeeding intention of a twin expecting pregnant woman is high.

Data Collection: The data collection process was initiated by obtaining the contact information of twin expecting pregnant women. The study's purpose was explained again, and the participants' questions regarding this issue were responded. Written consent of volunteer participants was received by asking them to fill out the 'Informed Volunteer Form.' The participants were asked to fill out the data collection form to collect data belonging to the pre-training period. The researcher received forms back from the participants by checking whether they had been filled out completely or not. The data collection procedure lasted for about 15-20 minutes. After completing all data collection activities, the researcher provided training on breastfeeding twin infants using visual teaching tools (PowerPoint presentation and animation). During the training, there was no one in the room except for the researcher and participant. The training was provided by the individual (one-to-one) interview method. Explanation, demonstration, and question-answer methods were applied during the training, and a picture guide and animation were used as training materials. After providing information about breastfeeding positions, animations demonstrating the positions were shown. Questions of expectant mothers regarding breastfeeding or labor and infant care were also answered after the presentation. The duration of education/training was around 40-45 minutes. Figure 1 presents the data collection flow chart.

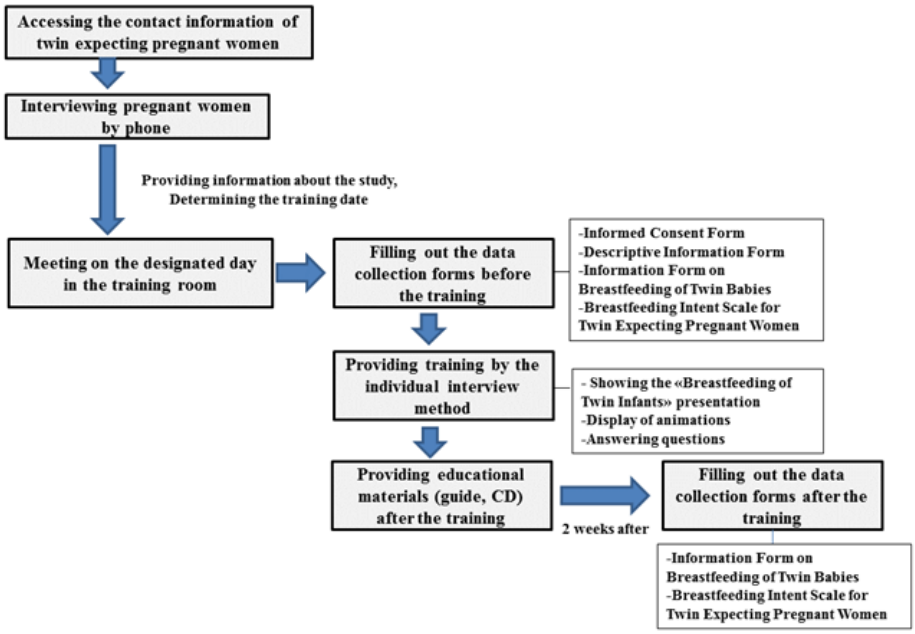

Figure 1. Flow chart of the study.

Details of the Materials Used for Training

Breastfeeding Education Presentation: The presentation (76 slides) titled "Successful Breastfeeding of Twin Infants," prepared by the researchers within the scope of the training, was shown to the participants in one session. The training presentation consists of the following topics: introduction, the importance and benefits of breastfeeding, the importance of breastfeeding for twin infants, the early initiation of breastfeeding, successful breastfeeding of twin infants, breastfeeding techniques and positions for twin infants, understanding whether the milk is sufficient or not, burping of twin infants, milking, storing, and using human breast milk, increasing the amount and quality of milk and nutrition of breastfeeding mothers.

Successful Breastfeeding Guide for Mothers with Twins: The "Successful Breastfeeding Guide for Mothers with Twins" was prepared by the researchers. It was supported with guide images to make it easier for expectant mothers to understand burping and breastfeeding positions, especially in twin infants, and increase memorability. The positions in Figure 2 were drawn by a professional in the fields of animation, drawing, and graphics under the researchers' consultancy.

Animation CD with Positions of Simultaneous Breastfeeding Methods for Twin Infants: Animations for simultaneous breastfeeding positions used to breastfeed twin infants were prepared by a professional in the field of animation under the researchers' consultancy (Figure 2). The CD with the animations was placed in the internal part of the back page of the guide to allow expectant mothers to examine breastfeeding positions again after the breastfeeding training, and those CDs were delivered to the participants.

Statistical Analysis: At this stage of the study, the data of 38 participants were statistically evaluated in the computer environment using the IBM SPSS Statistics 23 program. For descriptive statistics (n, %), the mean and for repetitive measurements at different times, the paired Student's t-test were used. The scale total was shown as mean ± standard deviation (SD). A p-value < 0.05 was considered statistically significant.

RESULTS

The descriptive characteristics of the pregnant women and findings regarding their pregnancy are given in Table 1.

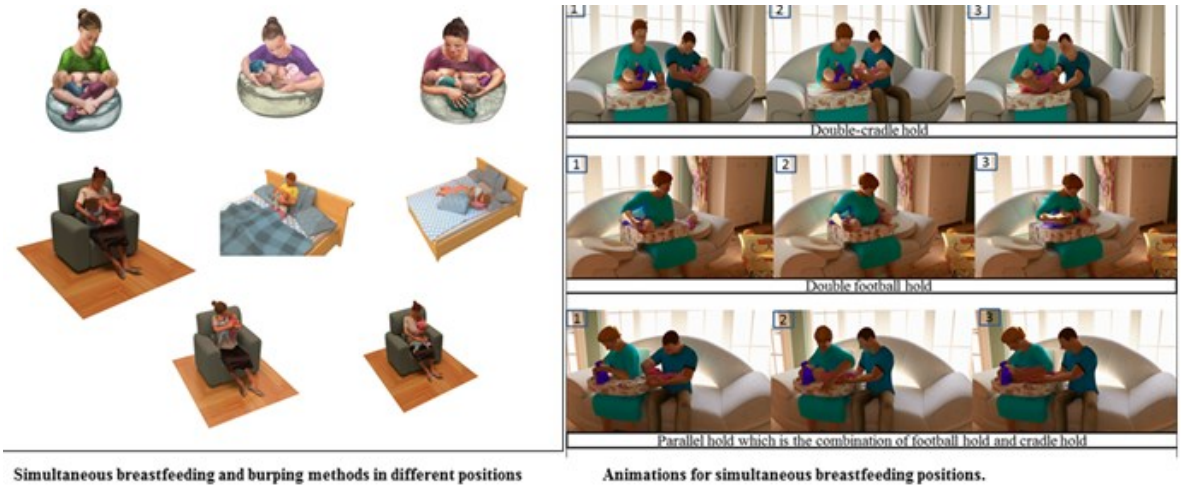

Figure 2. Images and animations for breastfeeding positions.

Table 1. Descriptive characteristics and findings regarding the pregnancy process.

Descriptive Characteristics and Findings Regarding the Pregnancy Process		**Mean ±Sd (min; max)**
Age		29.84±5.63 (20; 42)
Gestational week		26.87±4.81 (20; 34)
		n (%)
Education	Primary school	17 (44.7)
	High school	13 (34.2)
	University	8 (21.1)
Employment status	Employed	8 (21.1)
	Unemployed	30 (78.9)
Economic status (According to the participants' statements)	Income is less than expenses	1 (2.6)
	Income is equivalent to expenses	21 (55.3)
	Income is more than expenses	16 (42.1)
Family type	Nuclear family	33 (86.8)
	Extended family	5 (13.2)
Having children	Yes	18 (47.4)
	No	20 (52.6)
Smoking during pregnancy	Yes	3 (7.9)
	No	35 (92.1)
Gravida (Including the last pregnancy)	Primigravida	18 (47.4)
	Multigravida	20 (52.6)
Previous miscarriage	Yes	7 (18.4)
	No	31 (81.6)
Planned pregnancy	Yes	30 (78.9)
	No	8 (21.1)
Pregnancy type	Spontaneous	24 (63.2)
	Assisted reproductive technique	14 (36.8)
Having health problems during pregnancy	Yes	13 (34.2)
	No	25 (65.8)
Regular antenatal follow-ups	Yes	38 (100)
	No	-
Preferred mode of birth	Vaginal delivery	10 (26.3)
	Cesarean delivery	28 (73.7)
Total		**38 (100)**

Table 2 contains findings regarding pregnant women's views on feeding twin infants. Considering the views of the pregnant women participating in the study on feeding twin infants, 76.3% felt competent about breastfeeding, 44.7% stated that they had a moderate and 44.7% had a good level of breastfeeding proficiency (Table 2).

The total score averages of pregnant women before and after the training and the comparison of the score averages can be observed in Table 3. The total score average obtained by the participant pregnant women from the "Breastfeedıng Intent Scale for Twin Expecting Pregnant Women" before the training was 22.84±4.46, and their total score average obtained from the "Breastfeedıng Intent Scale for Twin Expecting Pregnant Women" after the training was 29.68±3.09. Upon comparing the score averages received by pregnant women from the "Breastfeedıng Intent Scale for Twin Expecting Pregnant Women" before and after the training, it was found that the score average after the training was higher than the score average before the training, and the difference between the two scores was statistically highly significant (t= -13.577, p=0.000). The effect size of this significant difference is 2.930, which is high (Table 3).

Table 2. Findings regarding pregnant women's views on feeding twin infants.

Features of Twin Infant Nutrition		**n (%)**
Feeling competent about breastfeeding	Yes	29 (76.3)
	No	9 (23.7)
Perceived efficacy of breastfeeding	Poor	4 (10.5)
	Moderate	17 (44.7)
	Good	17 (44.7)
Sufficient breast milk for twin infants	Yes	8 (21.1)
	No	14 (36.8)
	I don't know	16 (42.1)

Table 2. Continue.

Number of infants with enough milk from one mother	Only one infant	18 (47.4)
	Two infants	7 (18.4)
	Three infants	1 (2.6)
	I don't know	12 (31.6)
State of knowledge about the amount of milk a mother can produce per day *	Yes	4 (10.5)
	No	34 (89.5)
Knowledge of approaches to increase milk production *	Yes	27 (71.1)
	No	11 (28.9)
The type of feeding considered for infants	Breast milk	15 (39.5)
	Breast milk + Formula	23 (60.5)
The person who wants to receive support during breastfeeding **	Mother	23 (34.8)
	Husband's mother	11 (16.7)
	Husband	24 (36.4)
	Sister	8 (12.1)
Total		**38 (100)**

*: According to the participants' statements; **: Percentage was taken over the total answers because more than one marking was made.

Table 3. Comparison of the score averages of the "Breastfeedıng Intent Scale for Twin Expecting Pregnant Women" before and after the training.

Training Time	n	Mean± Standard deviation	Min- Max	t	p	Effect Size
Before Training	38	22.84±4.463	14-33	-13.577	**0.000***	**2.930 (2376-3.485)**
After Training	38	29.68±3.094	25-35			

*: $p<0.05$.

DISCUSSION AND CONCLUSION

A mother's intention to breastfeed is one of the most important factors that ensure successful breastfeeding in twin infants.[14] Breastfeeding intention is a pregnant woman's visualization of breastfeeding, her willingness and thinking beforehand, and her decision on this matter. The mother's perception of breastfeeding self-efficacy shows whether the mother will breastfeed, how much effort she will put into it, her thoughts on breastfeeding, and her ability to cope emotionally with the difficulties she will encounter during breastfeeding.[19]

The mother's decision on what to feed her infants with (breast milk or formula) is the most important factor affecting the breast milk intake rate of twin infants.[13,20] The lack of belief of mothers with multiple infants on the issue, "Can I produce breast milk of sufficient quality and quantity to my infants?" hinders successful breastfeeding.[13] Before the training, 36.8% of the pregnant women participating in our study stated that the breast milk of mothers with twin infants was insufficient to feed their infants, and 42.1% stated that they did not have knowledge about this issue (Table 2). Moreover, while 10.5% of the pregnant women gave the answer "completely agree" to the statement "I think I will have enough breast milk for both of my infants" before the training, 42.1% of them gave the answer of "strongly agree," and 52.6% gave the answer "agree" after the training (Table 4). In the literature, it is stated that one of the leading reasons for discontinuing breastfeeding among mothers with twins, as well as mothers with a single infant, is insufficient breast milk or the perception that the mother's breast milk will not be sufficient for infants.[1,10,13,21] Furthermore, studies carried out with mothers of twin infants reported that 55% of mothers discontinued breastfeeding,[22] 40% discontinued breastfeeding when their infants were two months old, and 21.6% discontinued breastfeeding when their infants were seven months old[23] due to insufficient breast milk production. The study by Odei (2013) stated that 66% of mothers with twin infants and 14% of mothers with a single infant had the perception that their breast milk would not be sufficient.[14] In the study by Çınar et al. (2016), 60% of mothers with twin infants reported that their breast milk would not be sufficient for their infants.[10] The results of our study before the training and other study results showed that there were misconceptions and perceptions that pregnant women and mothers expecting twins would not have sufficient breast milk. In line with our study results, education on the successful breastfeeding of twin infants provided to pregnant women increased the perception/knowledge of pregnant women concerning the adequacy of breast milk for twin infants.

It has been reported in the literature and many studies that breastfeeding education provided during the

antenatal period affects the breastfeeding intention of expectant mothers, developing positive attitudes and behaviors with regard to breastfeeding, and breastfeeding their infants.[1,6,24-26] It was revealed that 89.5% of the pregnant women who participated in the study did not receive training on breastfeeding twin infants during pregnancy (Table 2). Cinar et al. (2016) stated that 43.3% of the mothers with twins whom they followed up for six months did not receive training on breastfeeding multiple infants.[10] It is sad that the majority of pregnant women in the mentioned study and our study did not receive training on breastfeeding twin infants. Unfortunately, studies and training on breastfeeding twin infants are quite limited, which is remarkable.

It was determined that the difference between the two scores (before and after the training) was statistically highly significant (Table 3). This result indicates that breastfeeding training provided to twin expecting pregnant women increases their breastfeeding intention. No other measurement tool regarding this subject could be found in the literature review. The retrospective study conducted by Lutsiv et al. (2013) with 115,221 mothers who gave birth to a single newborn and twin newborns reported that twin expecting pregnant women had lower breastfeeding intention.[27] A mother with a low breastfeeding intention starts to breastfeed less, has a short breastfeeding time, or prefers other nutrients for feeding her infant during the postpartum period.[20,28] It has been stated that a mother decides to breastfeed her twin infants before or during the pregnancy.[23,25] Mothers with twin or multiple infants experience more difficulties with breastfeeding than mothers with one infant. Therefore, mothers with twin infants need more support, training and recommendations from nurses even before the pregnancy.[11,27,29] Maintaining this training and support after labor in line with mothers' needs is significant for the successful breastfeeding of twin infants. It is emphasized in the literature and studies that breastfeeding training provided during the antenatal period increases breastfeeding intentions of mothers with a single infant and also extends the duration of breastfeeding.[24,30] The literature, which clearly shows the importance of breastfeeding training provided during the antenatal period for the breastfeeding intention of expectant mothers, positively supports the results of our study.

In conclusion, the study results are valuable in terms of providing an overview of the breastfeeding intentions of pregnant women expecting twins, who take an important place in the breastfeeding spectrum. The study found that breastfeeding training provided by nurses positively affected the breastfeeding intention of twin expecting pregnant women. An increase in the breastfeeding intention of pregnant women demonstrates that the first step to the successful breastfeeding of twin infants has been taken. The results of this study are very impressive. It showed us the necessity of focusing on breastfeeding intention in breastfeeding education. Increasing the success of breastfeeding twin infants by increasing the willingness, competence, faith, and self-confidence of mothers in providing breastfeeding through this training is among the significant duties and achievements of nurses. In this context, it is important to determine and increase the breastfeeding intention, which affects the breastfeeding process, in the antenatal period. There is a need for prospective studies examining the effect of breastfeeding intention and breastfeeding education during pregnancy on breastfeeding success. It is recommended to conduct randomized controlled studies to determine which training method is more effective. The study has some limitations. It may take a longer time to reach the study sample with twin infants, and criteria for exclusion from the study may be encountered more frequently. Furthermore, it is very difficult to ensure standardization in randomized controlled studies in this group. Due to this limitation, the study was carried out as a pretest and posttest design on a single group. The study's strengths are using different educational materials to increase the effectiveness of breastfeeding education. Moreover, providing an opportunity for mothers to read and watch the guide and animations again after the training is thought to help increase the breastfeeding intentions of twin expecting pregnant women.

Ethics Committee Approval: Ethical approval was obtained from the Health Ethics Committee of Sakarya University in Sakarya (Date: 02.11.2015, decision no: 138).

Conflict of Interest: No conflict of interest was declared by the authors.

Author Contributions: Concept – DM, NÇ; Supervision – NÇ; Materials – DM; Data Collection and Processing – DM; Analysis and Interpretation – DM, NÇ; Writing – DM, NÇ.

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