

The Association Between Breastfeeding Self-efficacy, Breastfeeding Attitude, Social-professional Support and Breastfeeding Control

Emzirme Öz-yeterliliği, Emzirme Tutumu, Sosyal-profesyonel Destek ve Emzirme Kontrolü Arasındaki İlişki

Başak DEMİRTAŞ HIÇYILMAZ,^a
İnci AÇIKGÖZ^a

^aDivision of Nursing,
Ankara University,
Faculty of Health Sciences, Ankara

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Yazışma Adresi/Correspondence:
Başak DEMİRTAŞ HIÇYILMAZ
Ankara University,
Faculty of Health Sciences,
Division of Nursing, Ankara,
TURKEY/TÜRKİYE
hicilyilmaz@ankara.edu.tr

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ABSTRACT Objective: The main aim of this study was to examine the relationship between prenatal breastfeeding self-efficacy and subscales of the Breastfeeding Attrition Prediction Tool including positive breastfeeding attitude, negative breastfeeding attitude, social-professional support, breastfeeding control. **Material and Methods:** It was a descriptive cross-sectional study. Using a power level of 0.80, an alpha level of 0.05, and medium-size effect, the estimated sample size was 187 and the study conducted with 187 pregnant women in their third trimester between March 28th and May 9th in 2012 at a prenatal out-patient clinic in a university hospital. Data were obtained using the “Socio-Demographic/Breastfeeding Questionnaire Form”, “Breastfeeding Attrition Prediction Tool” and “Breastfeeding Self-Efficacy Scale”. **Results:** The mean Breastfeeding Self-Efficacy Scale score was lower among pregnant women who had no previous breastfeeding experience (m=51.21, sd=10.33) than women who had. The score was also lower among women who breastfed less than six months previously than women who breastfed longer (p<0.05), while the score was higher (m=62.53, sd=6.42) among women who intend to breastfeed beyond two years than women who intend to breastfeed shorter (p<0.05). A positive correlation was identified between the Breastfeeding Self-Efficacy Scale score and the Breastfeeding Control Subscale score (r=0.494, p<0.05), while a strong positive correlation was identified between the Positive Breastfeeding Attitudinal score and the Social-Professional Support score (r=0.597). **Conclusion:** It was concluded that breastfeeding self-efficacy could be increased through increasing positive breastfeeding attitudes and increasing breastfeeding control prenatally.

Keywords: Pregnancy; breast feeding

ÖZET Amaç: Bu çalışmanın temel amacı, prenatal emzirme öz-yeterliliği ile Emzirmeyi Bırakma Eğilimi Ölçeğinin alt boyutları olan olumlu emzirme tutumu, olumsuz emzirme tutumu, sosyal-profesyonel destek ve emzirme kontrolü arasındaki ilişkiyi incelemektir. **Gereç ve Yöntemler:** Tanımlayıcı kesitsel bir çalışmadır. Bu çalışma bir üniversite hastanesinin gebe izlem polikliniğine 28 Mart-9 Mayıs 2012 tarihleri arasında başvuran gebelerle yapılmıştır. Gücü 0.80, alfa 0.05 ve orta etki büyüklüğü kullanarak tahmini örneklem büyüklüğü 187 olarak belirlenmiş ve çalışma üçüncü trimesterde olan 187 gebe kadınla yapılmıştır. Veriler, sosyo-demografik özellikler ve emzirme deneyimine ilişkin tanıttıcı bilgi formu, Emzirmeyi Bırakma Eğilimi Ölçeği ve Emzirme Öz-yeterlilik Ölçeği kullanılarak toplanmıştır. **Bulgular:** Emzirme deneyimi olmayan gebelerde (m=51.21, sd=10.33) emzirme deneyimi olanlara göre ortalama emzirme öz-yeterlilik puanı daha düşük bulunmuştur. Bu puan iki yıldan daha uzun süre emzirme niyeti olan gebelerde daha kısa süre emzirme niyetinde olanlara göre daha yüksek iken (m=62.53, sd=6.42) (p<0.05), daha önce altı aydan daha kısa süre emzirenlerde daha uzun süre emzirenlere göre daha düşüktür (p<0.05). Olumlu Emzirme Tutumu alt boyut puanı ile Sosyal-Profesyonel Destek alt boyut puanı arasında güçlü bir pozitif korelasyon olduğu belirlenirken (r=0.597), Emzirme Öz-yeterlilik Ölçeği puanıyla Emzirme Kontrolü alt boyut puanı arasında pozitif bir korelasyon olduğu belirlenmiştir (r=0.494, p<0.05). **Sonuç:** Prenatal dönemde gebelerin emzirme tutumunun olumlu yönde geliştirilmesi ve emzirme kontrolünün artırılması Emzirme Öz-yeterliliğini artırılabilir.

Anahtar Kelimeler: Gebelik; emzirme

Initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first 6 months of life, continued breastfeeding for 2 years and beyond, and introduction of adequate and appropriate complementary foods from 6 months onward were recommended by The World Health Organization (WHO) as optimal infant and young child feeding.¹ According to the latest 'Turkey Demographic and Health Survey', exclusive breastfeeding rate on the first day is 70.2%, and during the first 2 to 3 months 35.4% and the rate for exclusive breastfeeding until 6 months is 30%.² Although the average duration of breastfeeding is 16 months, supplementary foods and liquids are introduced before 6 months.²

Research results show that mothers' characteristics such as maternal age and education, maternal personality, working status of mother, previous breastfeeding experience, breastfeeding self-efficacy, breastfeeding confidence, intended breastfeeding duration influence breastfeeding initiation, duration and exclusivity.³⁻⁸ Additionally, it was also found out that in-hospital experiences such as postpartum or intrapartum complications, in-hospital supplementation, rooming-in practices, provision of information are among the factors that influence breastfeeding success.⁹⁻¹³

Breastfeeding self-efficacy is among the most significant modifiable variables that are predictive for the breastfeeding outcomes.¹⁴ People with high self-efficacy are more comfortable and confident when they confront with difficult tasks and events. De Jager et al. found that breastfeeding self-efficacy was the strongest correlate of exclusive breastfeeding duration.¹⁵ It was identified that the prevalence of exclusive breastfeeding increased with mothers' positive attitudes towards breastfeeding, high confidence in their own ability to breastfeed and strong faith in their ability to cope with breastfeeding.¹⁶⁻²⁰

In Turkey, the concern is that exclusive breastfeeding rate is less than desired, and to achieve the recognized health benefits of breastfeeding for mothers and their infants, continuous support to increase breastfeeding self-efficacy starting from prenatal pe-

riod must be a priority.^{10,21} As well as in other countries early postpartum period is not convenient for intervention to increase breastfeeding self-efficacy because of the shorter length of stay in hospital after birth in our country. Research results show that mothers needed to be better educated for breastfeeding prenatally, and the information should be consistent, realistic, and evidence-based.²²⁻²⁶ It was also emphasized that identifying the risk factors prenatally could prevent early termination of breastfeeding.²⁷ The intervention called *Milky Way* focused on the women's breastfeeding intention, self-efficacy and support.²⁸ It consisted of antenatal group sessions, antenatal take home learning activities and postnatal telephone consultations. Compared to the standard care, women in the *Milky Way* group had higher rates of breastfeeding at one, four and six month of postpartum.

Socio-demographic/breastfeeding characteristics, positive breastfeeding attitude, social-professional support, breastfeeding control are also important to increase prenatal breastfeeding self-efficacy. However, there is no any study to investigate the relationship among these variables in a single study. The main objective of this study was to examine the relationship among prenatal breastfeeding self-efficacy, socio-demographic/breastfeeding characteristics and subscales of the Breastfeeding Attrition Prediction Tool including positive breastfeeding attitude, negative breastfeeding attitude, social-professional support, breastfeeding control.

MATERIAL AND METHODS

STUDY DESIGN AND STUDY PARTICIPANTS

The purpose of this study was to examine the relationship among prenatal breastfeeding self-efficacy, socio-demographic/breastfeeding characteristics and subscales of the Breastfeeding Attrition Prediction Tool including positive breastfeeding attitude, negative breastfeeding attitude, social-professional support, breastfeeding control. A descriptive cross-sectional study was conducted with pregnant women in their third trimester who applied to the prenatal out-patient clinic to receive prenatal care between March 28th and

May 9th in 2012 at a university hospital in Ankara, Turkey.

The population of the study consisted of pregnant women in their third trimester. The inclusion criteria were: Turkish pregnant women who (1) were in their third trimester of pregnancy, (2) undertaken at least primary school education, (3) spoke Turkish, (4) were minimum 18 years of age, (5) were undergoing an uncomplicated pregnancy, (6) were planning to breastfeed. The exclusion criteria were as follows: having a risk of preterm delivery, having multiple gestation such as twins and triplets and having medical problems with the fetus. Using a power level of 0.80, an alpha level of 0.05, and medium-size effect, the estimated sample size was 187 and the study conducted with 187 pregnant women who met the inclusion criteria in their third trimester. Participants were recruited while waiting for the examination.

The study was also approved by the relevant ethics committee.

SETTING

The university hospital that provides clinical education and training to the future and current physicians, nurses, and other health professionals, serves for a socioeconomically diverse population. Nurses undertake the major responsibility for breastfeeding support at Maternity Department of the hospital. The department has been awarded with the Baby-friendly Hospital Initiative (BFHI) accreditation. BFHI is a worldwide program which aims to implement practices that protect, promote and support breastfeeding. Breastfeeding initiation rates in hospital and exclusive breastfeeding during the first six months have increased with BFHI. In Turkey, the majority of the hospitals have received their BFHI accreditation.

In Turkey, nurses receive education related to breastfeeding and lactation support and care during nursing education and in-service education. Additionally, as part of BFHI accreditation, the staff is required to have education and they have undergone this training. However, due to the shortage of nurses, early hospital discharge and high staff workload, every woman is not able to benefit from

breastfeeding support. The prenatal outpatient clinic is busy. Nearly 25 pregnant women visit the prenatal out-patient clinic of the hospital daily to receive prenatal care. In the clinic, prenatal examinations are conducted by an obstetrician. The nurse prepare women for exams and check the vital signs at the outpatient clinic. Currently, no prenatal breastfeeding education or support is offered during the prenatal exams.

DATA COLLECTION PROCEDURES

Data were obtained using the Turkish version of the 'Breastfeeding Self-Efficacy Scale', and the Turkish version of the 'Breastfeeding Attrition Prediction Tool', and 'Socio-Demographic/Breastfeeding Questionnaire Form'.^{6,29} In Turkey, none of these scales are used routinely in practice, but just used for researching purposes. Through using these questionnaires it was searched whether there is a relationship among prenatal breastfeeding self-efficacy, socio-demographic/breastfeeding characteristics and subscales of the Breastfeeding Attrition Prediction Tool including positive breastfeeding attitude, negative breastfeeding attitude, social-professional support, breastfeeding control.

In this study, women were asked to fill in the scales and the questionnaire after prenatal examination. The time allocated for a woman to complete these instruments was approximately 15-20 minutes.

MEASURES

Questionnaires

Socio-Demographic/Breastfeeding Questionnaire Form. The Questionnaire was based on a review of the current literature. This questionnaire consisted of 27 questions. These questions were adapted to determine socio-demographics (age, education, obstetric history and employment status), obstetric characteristics, breastfeeding experience and breastfeeding intentions.^{7,19,21,25,30}

Breastfeeding Attrition Prediction Tool. The 'Breastfeeding Attrition Prediction Tool' (BAPT) is based on the Theory of Planned Behavior (TPB).³¹ The reliability and validity of the Turkish version

were established by Muslu and Başbakal (2011).²⁹ According to the TPB, people are more likely to engage in a behavior if they believe that carrying out the behavior will achieve a desired outcome (attitude), if the behavior is considered to be worthwhile by others whom the individual wishes to please (subjective norm), and if the individual believes that the behavior will be easy to perform (control).³¹

BAPT is composed of four subscales and 50 items. The subscales are positive breastfeeding attitudinal scale (PBS), negative breastfeeding attitudinal scale (NBS), social and professional support scale (SPS), breastfeeding control scale (BFC). Subscale internal consistencies range from 0.79 to 0.85, with an overall internal consistency of 0.80. The PBS contained 14 items and consists of positive attributes on a 5-point scale about infant feeding. Higher scores indicated more positive attitudes toward breastfeeding. The NBS contained 15 items and it is identical in structure and scoring to the PBS but contains words and phrases with negative connotations. Higher scores indicated more negative attitudes toward breastfeeding. The SPS lists 11 categories of significant others. The women were asked to rate how those people thought she should feed her baby and to rate how much they cared about other persons' opinions. Higher scores indicated greater support for breastfeeding. The BFC scale contained 10 items. The women were asked to indicate the extent of their agreement with those statements. Higher scores indicated a stronger sense of perceived control and belief in their ability to breastfeed.

The instrument's overall Cronbach α was 0.88. Subscale reliabilities ranged from 0.80 to 0.92. The reliability and homogeneity of the scale were at sufficient level. As a result of BAPT confirmatory analysis, the breastfeeding perceived control (BPC) subscale factor loads were 0.61 to 0.72, the Negative Breastfeeding Sentiment (NBS) subscale factor loads were 0.33 to 0.65, the Positive Breastfeeding Sentiment (PBS) subscale factor loads were 0.27 to 0.76, and the SPS subscale factor loads were 0.48 to 0.90.²⁹

Breastfeeding Self-Efficacy Scale. According to Bandura (1977), self-efficacy is one's perceived belief to perform a specific task or behavior.³² Drawing on Bandura's self-efficacy theory (1977), Dennis (1999) developed the breastfeeding self-efficacy theory.³³ It determines whether a mother initiates breastfeeding or not, whether she will have self-enhancing or self-defeating thought patterns, and how she will respond emotionally to difficulties encountered during breastfeeding. Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF), developed by Dennis (2003), is a 14 itemed scale. It is a five-point Likert scale ranging from 1 (*not at all confident*) to 5 (*very confident*), with a total score of 70. Total scores were used to calculate each respondent's self-efficacy. Original BSES-SF Cronbach's alpha coefficient is 0.94 and item-total correlation is below 0.60.³⁴ The reliability and validity of the Turkish version were established by Tokat et al.⁶ In Turkish version, BSES-SF Cronbach's α coefficients is 0.87.

DATA ANALYSIS

Data were analysed using SPSS version 16.0 for Windows (SPSS Inc., Chicago, IL). Univariate and bivariate analysis were used to examine the differences between breastfeeding self-efficacy scale scores and socio-demographic characteristics. Descriptive statistics which including mean, standard deviation, and percents were used to describe the participant characteristics. Independent t tests and variance analysis were used to examine the differences between breastfeeding self-efficacy scale scores and socio-demographic characteristics. In addition to this, Pearson correlation analysis was used to identify relationship between the subscale scores of the breastfeeding attrition prediction tool and breastfeeding self-efficacy scale scores. P values $<.05$ were accepted as statistically significant.

ETHICAL ISSUES

The study was approved by the relevant ethics committee. The participants received a verbal explanation of the aims and content of the research. Written consent was obtained. People who were willing to participate were included in the study.

RESULTS

SOCIO-DEMOGRAPHIC/BREASTFEEDING CHARACTERISTICS

All of the women had health insurance and were married. Fifty-two point four percent of the women had previous breastfeeding experience. The percentage of the women who intended to breastfeed exclusively for the first six months was 75.9%. Sixty-five point eight of the women intended to breastfeed for 1 to 2 years (Table 1).

SCALE AND SUBSCALE SCORES

Minimum and maximum BSES-SF (Breastfeeding self-efficacy), PBS (Positive Breastfeeding Attitudinal Scale), NBS (Negative Breastfeeding Attitudinal Scale), SPS (Social and Professional Support Scale) and BFC (Breastfeeding Control Scale) scores possible were 14-70, 14-350, 15-375, 11-275 and 10-50 respectively. Taking into consideration these min. and max. scores, it can be suggested that the mean scores of BSES-SF (55.62 ± 10.23), PBS (262.46 ± 57.19), SPS (211.95 ± 55.65) and BFC (41.8 ± 6.77) are high whereas NBS scores (143.72 ± 51.87) are low in our study group.

THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC/BREASTFEEDING CHARACTERISTICS AND SCALE SCORES

There was a statistically significant difference between some participant characteristics such as employment, gravida, previous breastfeeding experience and BSES-SF and BFC scales mean scores ($p < 0.05$). Women who were employed had lower breastfeeding self-efficacy and breastfeeding control mean scores than women who were unemployed. women who graduated from high school (52.73 ± 9.40) and university (52.97 ± 10.12) had lower BSES-SF mean scores than less educated women whereas women who graduated from university had higher PBS mean scores (281.31 ± 33.96) than less educated women ($p < 0.05$) (Table 2). In the further analysis, it was determined that women who were employed were high school or university graduated. This may be the cause of their lower breastfeeding self-efficacy and breastfeeding control mean scores. On the other hand, women who had a high

TABLE 1: Participant characteristics.

Participant characteristics	N	%
Maternal Age (year)		
19 and below	3	1,6
20-25	74	39,6
26-30	62	33,2
31-35	31	16,6
36 and above	17	9,1
Maternal education		
Primary school	36	19,3
Secondary school	36	19,3
High school	79	42,1
University	36	19,3
Employment		
Employed	37	19,8
Unemployed	150	80,2
Husband education		
Primary school	30	16,0
Secondary school	23	12,3
High school	81	43,3
University	53	28,3
Gravida		
1	89	47,6
2 and above	98	52,4
Previous breastfeeding duration (n=98)		
Less than six months	9	9,2
6 to 12 months	36	36,7
13 to 18 months	27	27,6
19 to 24 months	26	26,5
Previous breastfeeding problem (n=98)		
Yes	43	43,9
No	55	56,1
Pregnancy		
Planned	162	86,6
Unplanned	25	13,4
Gestational week		
28-32 week	57	30,4
33-36 week	65	34,8
37-40 week	65	34,8
Receiving information about breastfeeding		
Yes	80	42,8
No	107	57,2

school/university graduated husband had higher PBS mean scores (275.09 ± 54.19) and higher SPS mean scores (224.54 ± 44.93) than women who had a husband with lower educational level ($p < 0.05$).

TABLE 2: BSES-SF and BAPT subscales mean scores according to participant characteristics.

Scales	Characteristics	n	\bar{X}	S	t/F	p
Breastfeeding Self-efficacy	Employment					
	Employed	37	52.16	8.00	-2.32*	0.021
	Unemployed	150	56.47	10.56		
	Previous BF experience					
	Yes	98	59.62	8.35	-6.14*	0.000
	No	89	51.21	10.33		
	Maternal education					
	Primary school	36	61.31	7.03	8.84**	0.000
	Secondary school	36	58.92	11.70		
	High school	79	52.73	9.40		
	University	36	52.97	10.12		
	Planned BF duration					
	0 to 6 months	8	51.63	8.94	4.95**	0.003
	6 months-1 yea	37	52.24	10.24		
	1 to 2 years	123	55.83	10.29		
beyond 2 years	19	62.53	6.42			
Previous BF duration						
Less than six months	9	52.33	10.46	2.76**	0.046	
6 to 12 months	36	60.64	7.76			
13 to18 months	27	59.59	7.54			
19 to 24 months	26	60.77	8.38			
Breastfeeding Control	Employment					
	Employed	37	38.86	6.90	-2.66*	0.008
	Unemployed	150	42.12	6.60		
	Previous BF experience					
	Yes	98	44.39	5.74	-6.91*	0.000
	No	89	38.27	6.37		
	Planned BF duration					
	0 to 6 months	8	35.75	6.14	4.61**	0.004
6 months-1 year	37	40.43	6.70			
1 to 2 years	123	41.55	6.73			
beyond 2 years	19	45.42	5.37			
Positive Breastfeeding Attitudinal Scale	Maternal education					
	Primary school	36	259.47	61.17	2.83**	0.039
	Secondary school	36	242.94	62.92		
	High school	79	264.13	58.98		
	University	36	281.31	33.96		
	Husband education					
	Primary school	30	244.03	62.57	3.70**	0.013
	Secondary school	23	238.04	69.10		
	High school	81	267.95	50.27		
	University	53	275.09	4.19		
Social and Professional Support Scale	Husband education					
	Primary school	30	197.50	73.01	2.85**	0.038
	Secondaryschool	23	196.17	61.82		
	High school	81	224.54	44.93		
	University	53	207.72	53.72		

* t test was used. (\bar{X} : mean, S: standart deviation) ** one -way analysis of variance was used. (\bar{X} : mean, S: standart deviation).

It was identified that women who did not have previous breastfeeding experience had lower BSES-SF (51.21 ± 10.33 ; 52.16 ± 8) and BFC mean scores than women who were experienced ($p < 0.05$) (Table 2). Women who breastfed less than six months previously had lower BSES-SF mean scores than women who breastfed longer ($p < 0.05$) (Table 2). Additionally, there was no statistically significant difference between previous breastfeeding duration and PBS, NBS, SPS ve BFC mean scores ($p > 0.05$). Pregnant women who intended to breastfeed beyond two years had higher BSES-SF (62.53 ± 6.42) and BFC mean scores (45.42 ± 5.37) than women who intended to breastfeed for shorter duration ($p < 0.05$) (Table 2). Additionally, there was no statistically significant difference between planned breastfeeding duration and PBS, NBS, SPS mean scores ($p > 0.05$).

The percentage of the pregnant women who had previous breastfeeding problem was 43.9%. Fifty-eight point two percent of the breastfeeding problems comprised of sore and cracked nipples. Maternal perception of insufficient milk supply (IMS) (22.5%), not properly latching-on (16.3%), got pregnant while breastfeeding (11.2%), baby's not gaining weight (8.2%) were among the reasons for breastfeeding cessation. Although not included in the tables, women who terminated previous breastfeeding as a result of perceived IMS had high BSES-SF (55.68 ± 9.14), PBS (260.09 ± 65.13), SPS (213.82 ± 61.50), BFC (41.95 ± 5.23) mean scores and low NBS (141.77 ± 47.72) scores. In the direction of these results, further analysis was carried out. In the further analysis, it was determined that 48% of the women who experienced sore/cracked nipples

breastfed 13 to 24 months previously. Additionally, 72.8% of the women who terminated breastfeeding as a result of perceived IMS breastfed 6 to 18 months previously. Eighty-one point nine percent of these women had plans to breastfeed for 6 months to 2 years. These findings demonstrate that women who experienced sore/cracked nipples and IMS previously, challenged breastfeeding problems and persisted in continuing to breastfeed. The findings also demonstrated that these women intended to breastfeed for longer duration and to exclusively breastfeed the next baby longer.

THE RELATIONSHIP BETWEEN BSES-SF SCORES AND SUBSCALE SCORES OF THE BAPT

Pearson correlation analysis was used to test the relationship between the BSES-SF score and subscale scores of the BAPT. A positive correlation was found between the BSES-SF score and the BFC score ($r = 0.494$, $p < 0.01$). Also a strong positive correlation was found between the PBS score and the SPS score ($r = 0.597$). There was a weak positive correlation between the PBS score and the BFC score ($r = 0.243$) ($p < 0.01$) (Table 3).

The study finding demonstrated that increased BFC mean scores would increase BSES-SF mean scores. Additionally, increased SPS mean scores would increase PBS mean scores. Finally, it was also found that increased PBS mean scores would increase BFC mean scores.

DISCUSSION

The participants enrolled in this study had high BSES-SF, SPS, BFC and PBS mean scores, while they had low NBS mean scores. In our study group,

TABLE 3: Correlation matrix of model variables (n=187).

Variable	1	2	3	4	5
1. Breastfeeding Self-efficacy Scale					
2. Negative Breastfeeding Attitudinal Scale	-0.003				
3. Positive Breastfeeding Attitudinal Scale	0.071	0.062			
4. Social and Professional Support Scale	0.068	-0.004	0.597**		
5. Breastfeeding Control Scale	0.494**	0.025	0.243**	0.133	

** $p \leq 0.01$ (two tailed test of significance.)

three quarters of the women intended to breastfeed their infants exclusively for six months, and more than half of the women were planning to breastfeed for a duration about 1 to 2 years. It can be derived that the pregnant women in this study were well motivated to breastfeed. In Turkey, all pregnant women are followed prenatally at hospital outpatient clinics regardless of the pregnant woman or fetus has a health problem or not. However, according to the Turkey Demographic and Health Survey, one quarter of the pregnant women did not get prenatal care at hospital.² As women in our study group visit hospital for prenatal examination self-motivatedly, it is thought that their health motivation and also breastfeeding motivation is high.

The study findings revealed that positive breastfeeding attitudes could increase breastfeeding self-efficacy through strengthening breastfeeding control. In Turkey, as hospital stays following the delivery get shorter, improving positive breastfeeding attitudes and breastfeeding control postnatally could be challenging. In the light of our study findings, increasing positive breastfeeding attitudes and breastfeeding control prenatally could be a major clinical change to achieve desired exclusive breastfeeding rates in Turkey.

Our study findings demonstrated that women who were employed had lower Breastfeeding Self-efficacy and Breastfeeding Control mean scores than women who were unemployed. In the further analysis, it was determined that women who were employed were high school or university graduated. This may be the cause of their lower breastfeeding self-efficacy and breastfeeding control mean scores. These findings suggest that women who were employed would need to be supported to increase their breastfeeding self-efficacy and breastfeeding control prenatally. Similarly, research results show that employment can cause early cessation of breastfeeding and employed women need additional help to struggle with breastfeeding problems.³⁵⁻³⁷ On the other hand, women who had a high school/university graduated husband had higher Positive Breastfeeding Attitudes mean scores and higher Social-professional Support mean scores than women who had a husband with lower

educational level. These findings suggest that husband participant has utmost importance to improve positive breastfeeding attitudes and support breastfeeding. It has been identified that fathers play an important role in breastfeeding success.¹²

In this study, interestingly, women who experienced previous breastfeeding problems such as sore/cracked nipples and IMS had high BSES-SF, PBS, BFC, SPS mean scores while they had low NBS mean scores. In the further analysis, it was identified that women who experienced sore/cracked nipples and IMS previously, challenged breastfeeding problems and persisted for breastfeeding. Similarly, Gill et al. determined that women who believed they had the skills and determination to breastfeed were more likely to begin and continue to breastfeed for a longer time than do women who did not have such confidence.³⁸ McCarter-Spaulding & Kearney (2001) identified that mothers who were confident in their breastfeeding skills and competence would believe in their milk supply.³⁵ Our study findings revealed that increased breastfeeding self-efficacy, increased breastfeeding control, increased social-professional support and increased positive breastfeeding attitudes could increase breastfeeding determination and confident commitment to breastfeed. Assessing breastfeeding attitudes as part of routine prenatal care, enhancing women's perceptions in their ability to manage breastfeeding are among the strategies to increase breastfeeding control and positive breastfeeding attitudes.^{14,30,39-42}

In the present study, it was identified that women who did not have previous breastfeeding experience had lower breastfeeding self-efficacy and breastfeeding control mean scores than women who were experienced. Similarly, in another study, it was identified that inexperienced women were at risk for early cessation of breastfeeding.²³ Dick et al. demonstrated that there were significant differences in the Breastfeeding Control subscale score, as the first-time breastfeeders having lower mean control scores than those who had previously breastfed.⁴³ Additionally, in our study, there were statistically significant differences between groups on the NBS subscale, with first-time breastfeeders

having more negative scores than those who had previously breastfed. Avery et al. concluded that if mothers achieved a level of confident commitment before the birth they were able to withstand common challenges that occurred as they initiated breastfeeding.²⁷ Prenatal educators should incorporate self-efficacy strategies into existing prenatal breastfeeding classes. Primiparous women who attended the prenatal breastfeeding workshop had higher self-efficacy scores and a higher proportion were exclusively breastfeeding compared to women who did not attend the workshop.³⁶ Our study findings revealed that women who are not having previous breastfeeding experience has decreased breastfeeding self-efficacy and decreased breastfeeding control score. Research results show that primiparous women who have no previous experience has decreased breastfeeding self-efficacy and breastfeeding control.²³ Providing women who have not previous experience breastfeeding support including knowledge, emotional and practical could increase breastfeeding self-efficacy and breastfeeding control.

The study findings demonstrated that women who intended to breastfeed beyond two years had higher BSES-SF and BFC mean scores than women who intended to breastfeed for shorter duration. Research results show that intended breastfeeding duration of fewer than 6 months as the most significant modifiable variable predictive of early cessation.^{14,44} Our study findings also identified that women who breastfed less than six months previously had lower BSES-SF mean scores than women who breastfed longer. Similarly, Cernadas et al. identified that as the prior duration got longer, the probability for current exclusive breastfeeding for six months increased.⁴ Our study findings revealed that women who breastfed less than six months previously have decreased prenatal breastfeeding self-efficacy. It was also identified that women who intending to breastfeed beyond two years had more breastfeeding self-efficacy and breastfeeding control score. Identifying expectant mothers who breastfed less than six months previously and identifying pregnant women who plan to breastfeed for a short time could be important to increase

their breastfeeding self-efficacy and breastfeeding control prenatally.^{11,37}

Our study findings showed that pregnant women who graduated from university had higher PBS mean scores, whereas they had lower BSES-SF mean scores than less educated women ($p < 0.05$). Conversely, Tokat et al. demonstrated that mothers with low education level had significantly lower breastfeeding self-efficacy scores than mothers with higher education level.⁶ Similarly, Evans et al. identified that women having undertaken less than a college education were less likely to breastfeed for eight weeks than those with baccalaureate education.⁴⁵ Research results also demonstrated that regardless of maternal educational level and previous breastfeeding duration, mothers with positive breastfeeding attitude were less likely to terminate exclusive breastfeeding earlier.^{4,7,15} In our study, lower BSES-SF mean scores among high school and university graduated women could be explained by the fact that women in our study group were mostly employed and they had to return work shortly after delivery.

A few limitations may have influenced the results of our survey. Pregnant women in their first and second trimester were excluded because breastfeeding becomes important subject for pregnant women in their last trimester.^{10,14,26} Only the women who visited the hospital to receive prenatal care were included in the study, whereas the women who did not visit hospital to receive prenatal care couldn't have been accessed.

CONCLUSION

The findings revealed that increased positive breastfeeding attitudes score and breastfeeding control score prenatally was correlated with increased breastfeeding self-efficacy score. If nurses are to increase breastfeeding self-efficacy, they should consider to increase positive breastfeeding attitudes and breastfeeding control prenatally. To improve positive breastfeeding attitudes and breastfeeding control prenatally, it is essential to provide necessary support to expectant mothers to gain determination to breastfeeding and confident

commitment. Women who have not previous breastfeeding experience, women who were employed, who breastfed less than six months previously and who plan to breastfeed for a short time could be benefitted from breastfeeding support to improve positive breastfeeding attitudes and breastfeeding control prenatally. This study also revealed that husband participant has utmost importance to improve positive breastfeeding attitudes and support breastfeeding. Only women who visit hospital for prenatal examination, who live in a big city, who apply for a university hospital included in the study were among the study limitations. Additionally, the study conducted at only one hospital and small sample size were among the other limitations.

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Conflict of Interest

Authors declared no conflict of interest or financial support.

Authorship Contributions

Idea/Concept: Başak Demirtaş-Hiçyılmaz; **Design:** Başak Demirtaş-Hiçyılmaz, İnci Açıkgöz; **Control/Supervision:** Başak Demirtaş-Hiçyılmaz, İnci Açıkgöz; **Data Collection and/or Processing:** Başak Demirtaş-Hiçyılmaz; **Analysis and/or Interpretation:** Başak Demirtaş-Hiçyılmaz, İnci Açıkgöz; **Literature Review:** Başak Demirtaş-Hiçyılmaz; **Writing the Article:** Başak Demirtaş-Hiçyılmaz, İnci Açıkgöz; **Critical Review:** Başak Demirtaş-Hiçyılmaz.

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