Original Article

Effects of the Delivery Type on the Breastfeeding Self-Efficacy Perception

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Abstract

Background: Breastfeeding self-efficacy is defined as the mother's perception that her milk supply is adequate. The stronger the sense of self-efficacy is the greater the mother's effort, insistence and strength to breastfeed is.
Aim: In the present study, it was aimed to determine the perception of breastfeeding self-efficacy among women in the early postpartum period according to the delivery type.
Methods: This descriptive study was conducted between March 2018 and May 2018 in two hospitals located in the city center of Antalya, a province on the Mediterranean cost of Turkey. The population of the study consisted of 254 postpartum women who gave birth between the aforementioned dates in the aforementioned hospitals. The study data were collected with the "Personal Information Form" and "Breastfeeding Self-Efficacy Scale" (BSES). In the analysis, in addition to the descriptive statistics, nonparametric tests (Kolomogorov-Smirnov, $p<0.05$) were used because numerical variables were not distributed normally.
Results: The mean age of the participating mothers was 27.92 ± 3.91 years, the mean number of pregnancies was 1.96 ± 1.00, the mean number of childbirths was 1.83 ± 0.84, the number of living children was 1.74 ± 0.79 and the mean baby birth weight was 3148.66 ± 274.28 gr.
Conclusions: In this descriptive study conducted to assess breastfeeding self-efficacy of women in the early postpartum period, it was determined that of the socio-demographic characteristics, educational status, employment status and economic status, and of the pregnancy characteristics, prenatal care status, time of first breastfeeding and the currently preferred feeding method affected the mothers' self-efficacy.

Key Words: breastfeeding, breastfeeding self-efficacy perception, delivery type, nursing, postpartum period.

Introduction

Healthy growth and development of children can only be achieved through an adequate and balanced diet. Breastfeeding meets the three essential elements of healthy nutrition needs: food, health and care. The fact that the modern technology discovers a new inimitable, mysterious feature of breastmilk every day indicates that it is the most suitable nutrient for the newborn. In terms of nutrition, there is nothing else to replace breastfeeding (Taskın, 2017).

The prevalence of cesarean section is increasing both in Turkey and in other countries of the world. To prevent complications occurring after cesarean section, the World Health Organization (WHO) recommends that the cesarean rate should not exceed 15% (Homer, et al., 2013). Cesarean section rates reported to be on the increase in many countries range from 30% to 50% in Taiwan, the United States, Australia, the United Kingdom, New Zealand, China and Canada.

The main factor leading to this increase in the caesarean section rates is the increased rate of repeat cesarean sections (Homer, et al., 2013; Ouyang, & Zhang, 2013; Gardner, Henry, Thou, Davis, & Miller, 2014). During the last 20 years in Turkey, the cesarean section rate which was 6.9% in 1993 increased to 14.0% in 1998, to 21.2% in 2003, to 36.7% in 2008 and to 51.1% in 2014. According to 2016 data, this rate was 53%

(Ministry of Health Health Statistics Yearbook, 2016). Due to the rising cesarean section rate in Turkey, the Ministry of Health began to carry out follow-up studies on the indications of caesarean section, developed the "Childbirth and Cesarean Section Program" and prepared the "Management of Birth and Cesarean Section Guideline" in order to decrease the increasing rate of cesarean sections, to protect the maternal and child health and to inform the health workers who provide health service on this issue (Ministry of Health Birth and cesarean section management guide, 2010).

In several studies, socio-demographic and psychological variables affecting breastfeeding have been investigated, and the factor which has the strongest effect on the outcomes of breastfeeding was determined to be the mother's perception of breastfeeding self-efficacy (Thulier & Mercer, 2009; Tokat, 2009; Yenal, Tokat, Ozan, Cece, & Abalın, 2013; Wu, Hu, McCoy, & Efird, 2014).

Breastfeeding self-efficacy is defined as the mother's perception that her milk supply is adequate. The stronger the sense of self-efficacy is the greater the mother's effort, insistence and strength to breastfeed is. In their study (2002), Blyth et al. assessed the effect of mothers' self-efficacy perception on the duration of breastfeeding and found that the duration of breastfeeding was higher among mothers whose self-efficacy perception was high (Blyth, Creedy, & Dennis, 2002). In the literature, the mother's age (Dennis, 2006), education and socioeconomic status ((Thulier & Mercer, 2009)), type of delivery (Wutke, & Dennis, 2007), time of first breastfeeding, supplementary food intake (Gerhardsson, Hedberg, Mattsson, Volgsten, Hildingsson, & Lotta, 2014), previous breastfeeding experience, support by others regarding breastfeeding (Dennis, 2006), psychological status, perception that her breast milk is inadequate, having breast-related problems and adaptation to postnatal period have been determined to affect breastfeeding self-efficacy .

Increased levels of oxytocin in the natural process of labor cause contractions to begin.

As oxytocin levels increase so do endorphin levels. In late labor, the mother's body produces hormones to help her deal with pain, which stimulates her baby's adrenal glands to produce high levels of catecholamines (Tokat, 2009). Catecholamines stimulate the baby and give energy to the mother. The oxytocin hormone also makes milk flow down the milk ducts. Because caesarean delivery does not begin by the release of oxytocin, the onset of lactation is delayed. Mothers who give birth through caesarean section can breastfeed their babies as do mothers who give birth through vaginal delivery. However, mothers who give birth through caesarean section may have more problems in breastfeeding and may need more support (Tokat, 2009).

Women who have delivered their baby through cesarean section can breastfeed their babies only after 4 hours of birth. However, if the cesarean section is performed under epidural anesthesia, this period is shortened and varies from half an hour to 1 hour. Women who give birth through caesarean section need more help in breastfeeding than those who give birth vaginally. In addition, the delay of breastfeeding after cesarean delivery can cause the engorgement of the breasts. Breast engorgement may be a risk factor for mastitis and breast infection.

There can be significant differences between mothers who give birth through cesarean section and mothers who give birth vaginally in terms of seeing, cuddling and starting to breastfeed their babies. This may affect the initiation and maintenance of breastfeeding. In the present study, it was aimed to determine the perception of breastfeeding self-efficacy among women in the early postpartum period according to the delivery type.

Method

Study design

This descriptive study was conducted between March 2018 and May 2018 in two hospitals that is located in the souht of Turkey. The population of the study was composed of giving birth women in two hospitals providing secondary healthcare service under the Ministry of Health.

Sample

The sample group consisted of 254 women. The sample of the study consisted of women in the early postpartum process before they were discharged from the hospital. The voluntary women who could speak Turkish and did not have any communication obstacle were included in the study.

Data collection

The data of the study were collected by receiving approval of ethics committee (Decision No: 70904504/82) and the institutional permission from the hospitals. The women were informed about the study and their consents were obtained, they were included in the study.

In order to collect data, "Personal Information Form" with 22 questions which was prepared by the researchers, and "Breastfeeding Self-Efficacy Scale" were used.

Personal Information Form: It is a form prepared by the researchers in accordance with literature information. It includes questions to investigate socio-demographic characteristics of women.

Breastfeeding Self-Efficacy Scale (BSES): The BSES short form developed by Denis includes 14 items which assess breastfeeding self-efficacy (Dennis, 2003). The items on the scale are rated on a 5-point Likert scale ranging from 1 (not at all confident) to 5 (always confident). The lowest and highest possible scores to be obtained from the scale were 14 and 70 respectively. The higher the score is the higher the breastfeeding self-efficacy level is. Dennis (2003) recommended that the scale should be used in the postpartum period (Dennis, 2003). Alus Tokat, Okumuş and Dennis (2010) conducted the reliability and validity study of the Turkish version of the Breastfeeding Self-Efficacy Scale Short Form and found its Cronbach's value as 0.86, and considered that the scale was appropriate for Turkish culture (Alus Tokat, Okumus, & Dennis, 2010). In the present study, the Cronbach's alpha value was 0.95, and the mean score for the overall scale was 48.29±13.04.

Ethical considerations

The data of the study were collected by receiving approval of ethics committee (Decision No: 70904504/82) and the institutional permission from the hospitals. The women were informed about the study and their consents were obtained, they were included in the study.

Data analysis

The data of the study were assessed by using "SPSS" (Statistical Package for Social Sciences) for Windows 23.0 program in the computer environment. Number, percentage ratio, mean, standard deviation, Kolomogorov-Smirnov Test, Mann Whitney U Test, parametric, and correlation were used for data analysis. The level of $p<0.05$ was accepted as statistically significant.

Results

It was found that 49% % of the women participating in the study were primary school graduates. 54.6% of the women were unemployed. Nuclear family was the most common type of family (79.5%), 78.3% were willingly conceived, 91.3% were no health problem during pregnancy, 64.6% were health checks, and 72.0% of the women were vaginal delivery.

The mean age of the participating mothers was 27.92 ± 3.91 years, the mean number of pregnancies was 1.96 ± 1.00, the mean number of childbirths was 1.83 ± 0.84, the number of living children was 1.74 ± 0.79 and the mean baby birth weight was 3148.66 ± 274.28 gr.

The comparison of the mean BSES scores according to socio-demographic and pregnancy characteristics of the mothers demonstrated that there were statistically significant differences between the mothers' scores in terms of socio-demographic characteristics such as education status, employment status and economic status, and pregnancy characteristic such as prenatal care status ($p < .05$) but that there were no significant differences in terms of the other variables ($p > .05$) (Table1).

The comparison of the mean BSES scores according to breastfeeding characteristics of the mothers demonstrated that there were statistically significant differences between the mothers' scores in terms of the variables such as the time of the first breastfeeding and the currently preferred feeding method ($p < .05$) but that there were no significant differences in terms of the other variables ($p > .05$) (Table 2).

The comparison of the mean BSES scores according to the breastfeeding characteristics of the mothers demonstrated that there were statistically significant differences between the mothers' scores in terms of the variables such as lack of adequate knowledge about breastfeeding, the infant's inability to latch on, lack of experience and inverted nipple ($p > .05$) (Table 3).

The relationship between the mean scores the participating mothers obtained from the BSES in

terms of some of their socio-demographic and obstetric characteristics was evaluated with the correlation analysis. There was a moderate and positive statistically significant relationship between the mean BSES scores and the following variables: the mean number of pregnancies (r_s = .591), the mean number of births (r_s = .576) and the number of living children (r_s = .570) (p < .05) (Table 4).

Table 1. Comparison of the mean Breastfeeding Self-Efficacy Scale scores in terms of socio-demographic and pregnancy characteristics of postpartum women.

Characteristics	Number	(%)	BSES	Test and Significance
Education Status				
Illiterate	3	1.2	63.00±8.66	**KW=24.031**
Primary school	124	49.0	51.79±13.26	**p=.000**
High school	95	37.5	43.69±12.09	
University	31	12.3	47.19±10.40	
Employment status				
Employed	90	35.4	44.36±11.93	**U=5348.50**
Unemployed	164	64.6	50.72±13.10	**p=.001**
Family type				
Nuclear	202	79.5	47.73±13.03	U=4525.50
Large	52	20.5	50.72±12.97	p=.180
Economic status				
Good	27	10.6	49.22±10.76	**KW=6.307**
Moderate	206	81.1	47.53±13.46	**p=.043**
Bad	21	8.3	54.52±9.89	
Is the pregnancy intended?				
Yes	199	78.3	47.85±13.13	U=5074.00
No	55	21.7	49.87±12.71	p=.408
Health problems experienced during pregnancy				
Yes	22	8.7	52.36±9.29	U=1990.50
No	232	91.3	47.90±13.29	p=.088
Having health checks				
Yes	164	64.6	47.16±12.12	**U=6217.50**
No	90	35.4	50.35±14.42	**p=.038**
Delivery type				
Vaginal	183	72.0	47.93±13.30	U=6124.50
Cesarean section	71	28.0	49.21±12.39	p=.479
Baby's gender				
Girl	127	50.0	47.69±13.00	U=7567.00
Boy	127	50.0	48.89±13.11	p=.395

Table 2. Comparison of the participating mothers' postpartum Breastfeeding Self-Efficacy Scale scores in terms of their breastfeeding characteristics.

Characteristics	Number	(%)	BSES	Test and Significance
Time of the first breastfeeding				
Immediately after delivery	96	37.9	47.14±12.74	**KW=10.577 P=.005**
Within the first hour after delivery	100	39.5	51.37±13.29	
One hour after delivery	57	22.5	45.00±12.20	
Receiving information about breastfeeding				
Yes	232	91.3	48.16±13.18	U=2415.00
No	22	8.7	49.68±11.62	p=.677
The first food given to the baby				
Colostrum	253	99.6	48.32±13.06	U=0.306
Formula	1	0.4	40.00±0.00	p=.580
The currently preferred feeding method				
Exclusive breastfeeding	188	74.3	49.51±13.43	**U=4810.00 p=.011**
Breast milk and formula	65	25.7	44.89±11.31	
The reason for giving food other than breast milk				
Inadequate milk supply	50	80.6	44.40±10.62	KW=2.570 p=.577
Baby's reluctance to suckle	11	17.7	48.62±11.64	
Others	1	1.6	63.00±0.00	

Table 3. Comparison of the participating mothers' postpartum Breastfeeding Self-Efficacy Scale scores in terms of the factors leading to their inability to breastfeed.

Characteristics	Number	(%)	BSES	Test and Significance
Lack of adequate knowledge about breastfeeding				
Yes	59	37.3	41.23±11.17	**U=1148.00**
No	99	62.7	55.44±12.07	**p=.000**
The infant's inability to latch on				
Yes	90	49.2	41.34±11.13	**U=1376.00**
No	93	50.8	56.54±10.69	**p=.000**
Perception of inadequate milk supply				
Yes	151	66.8	43.84±11.53	**U=2115.00**
No	75	33.2	57.89±10.84	**p=.000**
Lack of experience				
Yes	100	53.5	42.51±12.18	**U=1818.00**
No	87	46.5	56.05±11.21	**p=.000**
Inverted nipple				
Yes	41	28.9	45.09±8.84	**U=1134.50**
No	101	71.1	54.52±12.73	**p=.000**
Presence of wounds or cracks on the nipple				
Yes	17	14.3	53.82±11.60	U=848.00
No	102	85.7	53.55±12.39	p=.885
Presence of breast infection				
Yes	8	6.8	57.00±11.17	U=375.50
No	110	93.2	53.72±12.49	p=.489
Mother's health problem				
Yes	4	3.4	48.50±8.34	U=147.00
No	113	96.6	54.35±12.37	p=.235
Baby's health problem				
Yes	6	5.1	48.66±6.31	U=203.50
No	111	94.9	54.43±12.46	p=.108

Table 4. The relationship between the mean scores the participating mothers obtained from the Breastfeeding Self-Efficacy Scale and their socio-demographic and obstetric characteristics.

Socio-demographic characteristic	BSES	
	r_s*	p
Age	0.121	.055
Obstetric characteristics		
The number of pregnancies	0.591	**.000**
The number of childbirths	0.576	**.000**
The number of living children	0.570	**.000**
Baby birth weight	0.061	.333

* r_s: Spearman correlation coefficient

Discussion

In the present study, education status, employment status, economic status and prenatal care status were determined to statistically affect the participating mothers' perception of breastfeeding self-efficacy. In Gokceoglu and Kucukoglu's study (2017), higher education level and higher income status were determined to improve the participants' perception of breastfeeding self-efficacy (Gokceoglu & Kucukoglu, 2017). Pakseresht, Pourshaban, & Khalesi (2017) conducted a study to compare breastfeeding self-efficacy at postpartum week 1 and 6, and found a significant relationship between the participants' employment status and their mean BSES scores (Pakseresht, Pourshaban, & Khalesi, 2017).

In several studies, some sociodemographic characteristics of mothers (employment status, education level, income level and delivery type) have been stated to affect their self-efficacy (Gokceoglu & Kucukoglu, 2017; Pakseresht, Pourshaban, & Khalesi, 2017; Margotti & Epifanio, 2014). Most of the studies found that attitudes of women who had higher education towards breastfeeding were more positive (Araújo, Lima, Oliveira, Carvalho, Duailibe, & Formiga, 2013; Hahn-Holbrook, Haselton, Dunkel Schetter, & Glynn, 2013). However, in one study, some sociodemographic characteristics of mothers (education level, employment status and income status) were determined not to affect mothers' breastfeeding self-efficacy levels (Kucukoglu, Celebioglu, & Coskun, 2014). In the present study, the mothers' education status, employment status, economic status and receiving pre-natal care affected their BSES scores adversely, which was probably due to the fact that approximately half of the mothers had primary education, more than half of them were unemployed, and the majority of them had a moderate income level. Therefore, it can be assumed that education and income are important factors in accessing information and the health system.

In the present study, the type of delivery had no effect on the mothers' mean BSES scores. In Kucukoglu et al.'s study (2014), no statistically significant difference was determined between cesarean delivery and vaginal delivery in terms of breastfeeding self-efficacy, which is consistent with the findings of the present study (Kucukoglu, Celebioglu, & Coskun, 2014). On the other hand, contrary to the findings of the present study, in some other studies, the type of delivery affected breastfeeding self-efficacy. Dennis (2003) and Alus Tokat, Okumus, & Dennis (2010) found that the mothers who delivered their babies through cesarean section had lower BSES scores, which was due to the lack of maternal-infant interaction in the early postpartum period (Alus Tokat, Okumus, & Dennis, 2010; Dennis, 2003). Caesarean section is an operation necessary to prevent certain situations from occurring likely to put mother-baby health in danger. Given the mother-infant health, caesarean section is not superior to natural birth. In fact, it may pose many risks to the newborn such as respiratory problems, post-cesarean hypovolemia, and hypotension. In addition, cesarean section may lead to problems in the establishment of mother-infant attachment, delay in the first breastfeeding, decrease in breastfeeding duration, and pathological weight losses in newborn more frequently. In the present study, although the relationship between the type of delivery and the breastfeeding self-efficacy was not significant, the score obtained by the mothers who gave birth vaginally was lower. There arise some difficulties in starting breastfeeding after cesarean section and the time elapsed between the delivery and the first breastfeeding is long. Therefore, it is important to start breastfeeding within the first half hour both for mothers who haven given birth through cesarean section and for mothers who have given birth vaginally.

In the present study, statistically significant differences were determined between the mean scores obtained by the mothers in terms of the time of the first breastfeeding and currently preferred feeding style. The review of studies conducted in Turkey with similar results demonstrated that 88.0% of the mothers in Bostancı and İnal's (2015) study and 70.8% of the mothers in Yesilcicek Calik et al.'s study (2017) breastfed their babies within the first hour after birth (Bostanci, & Sevil, 2015; Yesilcicek Calik, Cosar Cetin, & Erkaya, 2017). In the literature, it has been reported that there is a close relationship between delivery type and breastfeeding behaviors. In their meta-analysis study (2012), Prior et al. determined that of the mothers, those who gave birth through cesarean section began to breastfeed later than did those who gave birth vaginally (Prior, Santhakumaran, Gale, Philipps, Modi, & Hyde, 2012). In their

study conducted to investigate the relationship between the delivery type and breastfeeding among new mothers in Nicaragua (2017), Kiani et al. found that 68.8% of the mothers started to breastfeed within the first hour after birth and 12.67% of them continued breastfeeding for 6 months (Kiani, Rich, Herkert, Safon, & Pérez-Escamilla, 2017). No significant relationship was determined between the delivery type and the initiation of breastfeeding among the mothers who participated in the study in Nicaragua (Kiani, Rich, Herkert, Safon, & Pérez-Escamilla 2017). In a study conducted in Nepal, the type of delivery vaginal delivery 45.7% and caesarean section 25.8% affected the time of the first breastfeeding (Khanal, Scott, Lee, Karkee, & Binns, 2015). In another study, no correlation was determined between the type of delivery and breastfeeding behaviors (Rabiepoor, Hamidiazar, & Sadeghi, 2017). In the present study, the majority of the participating mothers (72%) gave birth vaginally, which resulted in the fact that the women whose first breastfeeding time was early constituted the majority of the participants.

In the present study, a statistically significant relationship was found between the mean scores obtained by the participating women and the following variables: lack of adequate knowledge about breastfeeding, infant's inability to latch on, lack of experience and inverted nipple. Humaj-Grysztar et al. conducted a study (2017) to investigate the lactation process in the early postpartum period in 100 primiparous women who gave birth through cesarean section and 100 primiparous women who gave birth vaginally, and determined that milk production was inadequate in 58% of the women in the former group and in 35% of the women in the latter group, and that 27% of the women in the latter group had cracks on the nipples; therefore, these mothers had to feed the infants with formula besides breast milk. In the same study, 15% of the mothers who delivered vaginally and only 4% of the mothers who gave birth through cesarean section had no lactation problems (Humaj-Grysztar, Bobek, Matuszyk, & Put, 2017). In another study, 41% of the participating women believed that their milk supply was inadequate (Józefów, Przestrzelska, & Knihinicka-Mercik, 2013). In Bączek Golubińska, & Dmoch-Gajzlerska study (2012), in the postpartum period, 41% of the participating women thought that their milk supply was inadequate and 58% of them started to give formula besides breast milk (Bączek, Golubińska, & Dmoch-Gajzlerska, 2012). In their study (2016), Kilci and Coban investigated the relationship between breastfeeding self-efficacy perception and breast problems experienced in the early and late postpartum periods, and determined that breastfeeding success in the early postpartum period reduced breast problems and increased breastfeeding self-efficacy in the late postpartum period (Kilci & Coban, 2016).

In the present study, a moderately positive statistically significant relationship was determined between the mean BSES scores and the variables such as the number of pregnancies, the number of births and the number of living children. Several studies have shown that breastfeeding self-efficacy levels of primiparous women are significantly different from those of multiparous women (Pakseresht, Pourshaban, & Khalesi, 2017; Margotti & Epifanio, 2014). The BSES scores of the multiparous mothers were significantly higher than those of the primiparous mothers (Dennis, 2003; Gokceoglu & Kucukoglu, 2014). According to Dennis (2002), mothers' previous experiences affect their breastfeeding self-efficacy (Dennis, Hodnett, Gallop, & Chalmers, 2002). In another study, the mean breastfeeding self-efficacy scores of women with four and more pregnancies were found to be higher (Gercek, Sarikaya Karabudak, Ardic Celik, & Saruhan, 2017). Gokceoglu and Kucukoglu's study (2017), it was stated that multiparous women's breastfeeding self-efficacy levels were higher.

Conclusion

In this descriptive study conducted to assess breastfeeding self-efficacy of women in the early postpartum period, it was determined that of the socio-demographic characteristics, educational status, employment status and economic status, and of the pregnancy characteristics, prenatal care status, time of first breastfeeding and the currently preferred feeding method affected the mothers' self-efficacy. In the present study, a moderately positive statistically significant relationship was determined between the mean BSES scores and the variables such as the number of pregnancies, the number of births and the number of living children.

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