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## **Effect of Exclusive Breast Feeding Education on Breast-feeding Self-efficacy and Maternal Stress**

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### **ABSTRACT**

Breast-feeding saves the lives of more than half a million infants every year. Multiple factors contribute to the breast-feeding including maternal age, confidence and education level. The aim of this Randomized Clinical Trial is to determine the effect of exclusive breast-feeding education on breast-feeding self-efficacy and maternal stress in Tehran, Iran. Data was collected through questionnaires. One hundred primiparous mothers were studied and were randomly enrolled in two case and control groups. In the case group, mothers received a face-to-face training for 45 min and were given an educational booklet, whereas the control group was not provided any extra training. One month later, the questionnaires were completed again by participants in both groups. Data analysis was accomplished using descriptive and inferential statistics, including t-test, paired-t and chi-squared test. The results showed a significant difference in mothers' breast-feeding self-efficacy in both groups before and after training and training had a significant effect on the rate of breast-feeding self-efficacy in mothers in the case group ( $t = 10.7$  and  $p < 0.01$ ). Also, The results showed a significant difference between maternal stress in the case group before and after the training and it had a significant effect on the rate of perceived stress in mothers in the case group ( $t = 2.20$  and  $p < 0.05$ ). It can be concluded that exclusive breast-feeding education, especially in the case of premature infants improves the breast-feeding self-efficacy and reduces stress in mothers and mothers with premature infants require special breast-feeding training.

**Key words:** Education, breast-feeding self-efficacy, maternal stress

### **INTRODUCTION**

Breast-feeding saves the lives of more than half a million infants every year (Carfoot *et al.*, 2005). It strengthens the emotional relationship between mother and child and plays a significant role in development of psychosocial personality (Masoumi and Tavakol, 2007). It bestows many benefits on mothers and their infants (Noel-Weiss *et al.*, 2006). The nutrients, growth factors and immunologic components a healthy term infant requires are provided in breast milk and fewer illnesses are reported for breastfed infants (Dole *et al.*, 2005). Multiple factors contribute to the breast-feeding duration including maternal age and education level, family income, family support,

prenatal intention (Thome *et al.*, 2006). Also timing of the decision to breast-feed, timing of first feeding and maternal confidence and breast-feeding self-efficacy play important role to the breast-feeding success (Esfahani, 2010). Perceived self-efficacy is defined as a person's beliefs about his/her capabilities to produce designated levels of performance that exercise influence over events that affect his/her life (Rahmatnejad, 2008). Breast-feeding self-efficacy refers to a mother's perceived ability to breast-feed her new infant and is a salient variable affecting breast-feeding duration (Bastani, 2009).

The hypotheses of the study are as follows:

- Exclusive breast-feeding education increases maternal breast-feeding self-efficacy in the early postpartum period
- Exclusive breast-feeding education decreases maternal stress in the early postpartum period

## **MATERIALS AND METHODS**

This study was designed as a Randomized Clinical Trial (RCT) conducted in three selected hospitals affiliated with medical universities in Tehran, Iran, with intensive care units for premature infants. 100 participants were enrolled postnatally and randomized into either the case group (50) or the control group (50). Both groups received standard care, including the choice of physician or midwife, frequency of prenatal visits and attending prenatal classes was defined by each mother. In addition to their standard care, participants in the case group attended a 45 min postnatal exclusive breast-feeding education program at least 5 h after delivery and also received an educational breast-feeding booklet. Approval for ethical consideration was obtained from both the university and hospital research ethics board.

**Data collection:** Participants were primiparous mothers with an uncomplicated birth, planning to breast-feed and literate at reading and writing level. All mothers completed a questionnaire postnatally; subsequently, the educational program was performed for the case group. One month later, all participants completed the same questionnaire again. The questionnaire consisted of three parts. The first part was on individual characteristics including age, education, occupation, family income, birth weight and gestational age. The second part dealt with breast-feeding self-efficacy consisting of 14 questions. Maternal breast-feeding self-efficacy was measured with the BSES-SF. The 14 items on the BSES-SF are statements about coping with, feeling capable of and managing breast-feeding. These ratings were summed into a total score ranging from 14-70, with a higher total score indicating a higher level of maternal breast-feeding self-efficacy. The third section includes 14 questions related to the perceived stress. Content validity was utilized to determine the validity of the first questionnaire. Breast-feeding self-efficacy and perceived stress questionnaires are standardized tests which have been confirmed in many studies by researchers and psychologists. In this study, we used the test re test method to estimate the reliability of these tests. The questionnaire was completed by ten samples once and then completed again by the same individuals after ten days. The correlation coefficient was 81% for the breast-feeding self-efficacy questionnaire and 82% for the perceived stress questionnaire. The ten samples were excluded from the main study.

**Data analysis:** Data was entered into SPSS version 15. Descriptive statistics (frequencies, percentages means and standard deviations) were used to describe demographic characteristics. Chi square test was used to explore the relationships between demographic variables in both groups. To determine any statistical significance difference between two groups before and after training T-test and Paired-T test were used. Statistical significance was determined at  $\alpha = 0.05$ .

**RESULTS**

The participants' age ranged from 21-25 years. The majority of participants had completed high school education and had a family income of 3000000-6000000R per months. Most of them were homemakers. The gestational ages ranged from 36-36.6 weeks and birth weight ranged from 2500-2999 g. There was no statistically significant distributional difference between the two groups.

The results show that before education percentages of cases with high and low self efficacy were 62 and 38%, respectively. In the control group 58% had high self-efficacy and 42% had low self-efficacy.

The mean breast-feeding self-efficacy score 44.8200 in the case group and 44.0600 in the controls group.

After education, the percentages of cases with high and low self-efficacy changed to 96 and 4%, respectively, whereas in the control group the percentages were 60 and 40%, respectively. Mean breast-feeding self-efficacy scores improved to 60.6800 in the case group and 44.4400 in the control group. t-test revealed no significant differences between the two groups regarding breast-feeding self-efficacy before and after education. However, paired t-test indicated a significant difference in the case group before and after education in terms of the percentage of participants with high self-efficacy (62 vs.96%) (Table 1).

Regarding stress perceived by mothers, our findings indicate no significant difference between the two groups prior to education: 78% of mothers in the case group and 80% of those in the control group had high stress levels. After education, however, the difference became significant, with the majority of mothers in the case group (58%) perceiving low stress levels. Moreover, paired t-test indicated a significant difference in the case group regarding perceived stress before and after education (Table 2).

Table 1: Maternal self-efficacy before and after education

Groups	Education							
	Before				After			
	Case	Control	Case	Control	Case	Control	Case	Control
Breast-feeding self-efficacy								
Low breast-feeding self-efficacy	19	38	21	42	2	4.0	20	40
High breast-feeding self efficacy	31	62	29	58	48	96.0	30	60
Mean	44.8200		44.0600		60.6800		44.4400	
Standard deviation	9.37145		9.45539		4.24956		9.77118	
Test results								
T-value	-0.404				10.777			
p-value	0.687				0.000			
Df	98				98			

Table 2: Perceived stress levels before and after education

Groups	Education							
	Before				After			
	Case		Control		Case		Control	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent
Stress								
Low stress 28-0	11	22	10	20	29	58	9	18
High stress 56-29	39	78	40	80	21	42	41	82
Mean	31.0200	-	44.0600		27.9600		30.4200	
Standard deviation	30.3800		4.54856		5.93145		5.19061	
Test results								
T-value	0.702				2.207			
p-value	0.485				0.003			
DF	98				98			

## DISCUSSION

Our findings provide a ground to verify the validity of our hypotheses, as follows:

- The results show a significant difference regarding breast-feeding self-efficacy in the case group before and after education, whereas breast-feeding self-efficacy in the control group at baseline and one month after education did not differ significantly. This indicates the efficacy of breast-feeding education in improving self-efficacy, thus confirming our first hypothesis
- Furthermore, our findings indicate a significant difference in level of stress perceived before and after training in the case group, while no significant difference was observed in the stress levels of the control group. This indicates the efficiency of education in alleviating perceived stress and confirms our second hypothesis. Some previous studies have demonstrated that strategies of specific efficacy-enhancing may influence breast-feeding self-efficacy significantly (Kingston *et al.*, 2007). Varee (2009) conducted a study to conclude that the intervention caused a significant difference in the breast-feeding success

## CONCLUSION

Exclusive breast-feeding education, especially in the case of premature infants improves the breast-feeding self-efficacy and reduces stress in mothers. It can be concluded that mothers with premature infants require special breast-feeding training.

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## REFERENCES

- Bastani, F., 2009. Independency of breast-feeding and perceived stress in primiparous women. Iran. J. Nursing, 12: 1-18.

- Carfoot, S., P. Williamson and R. Dickson, 2005. A randomized controlled trial in the north of England examining the effects of skin-to-skin care on breast-feeding. *Midwifery*, 21: 71-79.
- Dole, N., D. Savits, A. Hertz, P.I. Siega, A.M. Riz, M.J. McMahon and P. Bukens, 2005. Maternal stress and preterm birth. *Am. J. Epidemiol.*, 25: 375-375.
- Esfahani, M., 2010. Educational Series Promoting Breast Feeding. 1st Edn., Amir Kabir Publications, Tehran.
- Kingston, D., C.L. Dennis and W. Sword, 2007. Exploring breast-feeding self-efficacy. *J. Perinat. Neonatal Nurs.*, 21: 207-215.
- Masoumi, C. and F. Tavakol, 2007. Educational role in changing knowledge and attitudes of families about breast-feeding. *J. Breast-feeding*, 10: 32-36.
- Noel-Weiss, J., A. Rupp, B. Cragg, V. Bassett and A.K. Woodend, 2006. Randomized controlled trial to determine effects of prenatal Breast-feeding workshop on maternal breast-feeding self-efficacy and breast-feeding duration. *J. Obstet. Gynecol. Neonatal Nursing*, 35: 616-624.
- Rahmatnejad, N., 2008. Breast-feeding self efficacy and perceived stress in primiparous in Akbar Abadi Hospital, Tehran. M.Sc. Thesis, University of Medical Sciences, Iran.
- Thome, M., E.M. Alder and A. Ramel, 2006. A population based study of exclusive breast-feeding on Icelandic women: is there a relationship with depressive symptoms and parenting stress? *Int. J. Nursery Stud.*, 43: 11-20.
- Varee, L.A., 2009. Relationship between breast-feeding self-efficacy and breast-feeding status in mothers. *J. Nursing Midwifery*, 15: 38-41.