



Study on the effect of exclusive breastfeeding education on breastfeeding self-efficacy in mothers referring to affiliated hospitals of Medical Sciences Universities in Tehran during 2010-2011

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ABSTRACT

Breastfeeding saves the lives of more than half a million infants in a year and cause strong emotional relationship between mother and child and their psychosocial development of personality. The aim of this study is to evaluate the effect of exclusive breastfeeding education on mothers' breastfeeding self-efficacy and stress. This experimental study with clinical trial has randomly selected three hospitals from hospitals affiliated to medical sciences universities of Tehran with intensive care units for premature infants, and 100 eligible nulliparous mothers were sampled during three months. Mothers are randomly classified into case and control groups (each group with 50 samples). The case group received breastfeeding education and educational booklet, but control group received no education. A month later, the samples re-answered to questionnaires. Data is collected through questionnaires and analyzed by descriptive and inferential statistics, T-test, paired-t, and Chi-Square tests. The results indicate that there is a significant difference between breastfeeding self-efficacy in pre and post-educational case group, so that education has significant effect on breastfeeding self-efficacy ($t=10.7$, $p<0.01$). Breastfeeding education especially in premature infants increases the mothers' breastfeeding self-efficacy, and thus the mothers with premature infants require special breastfeeding education.

Keywords: Education, breastfeeding self-efficacy, exclusive breastfeeding, premature infant

INTRODUCTION

Self-efficacy is an assurance under which a person successfully conducts a certain behavior and expects the desired results [1]. The sense of low self-efficacy can cause deterrent processes leading to decreased cognitive and behavioral functions [2]. Increased efficacy is correlated to improved quality of life and reduced emotional and mental symptoms [3]. Self-efficacy is one of the predictors of health behavior and shows to what extent a person has been determined in continuity of breastfeeding and tried to achieve that goal [2]. Stress has a negative impact on human physiological function as one of the most important studied issues in the field of mental health [4]. In general, despite the fact that motherhood is considered as a delighting and meaningful experience, this stage of life is associated with a series of sudden changes as a stressful life event [5]. Patient education can improve healthcare and reduce the anxiety level and increase satisfaction in patients [6].

The healthy human is the axis of development in any community, and thus the healthy women and mothers play major roles in children growth and development as the future makers of society. It is essential to investigate the maternal health especially breastfeeding mothers and it is considered as a necessity in health programs. Since the women's psychological issues are very important in their breastfeeding process, an overall assessment of breastfeeding mothers' mental health status [in terms of stress] is considered as an important index [4]. Self-efficacy of breastfeeding is influenced by factors such as previous experience of breastfeeding and maternal stress, so nulliparous women will be faced with serious problems for breastfeeding their infants due to the lack of enough experience. Short duration of breastfeeding the infants is one of the most serious health problems especially in developing countries and since this can lead to numerous complications such as malnutrition and its negative consequences, it is emphasized on combating and preventing its development by adopting appropriate strategies in line with mother's success in breastfeeding [7]. It is also important to provide appropriate strategies in order to increase breastfeeding self-efficacy and dealing with stress efficiently especially in nulliparous women and thus the healthcare providers should pay attention to some personal and psychological characteristics in mothers in order to improve the breastfeeding process. Due to the importance of exclusive breastfeeding with mother's milk in premature infants and the lack of studies on objectives of this study, the researcher decided to conduct this investigation about the impact of exclusive breastfeeding education on self-efficacy in nulliparous mothers with premature infants.

MATERIALS AND METHODS

This research is an experimental study with clinical trial type. This study randomly selected three hospitals (Akbar-Abadi, Imam Hossein, and Hazrat Rasoul-e-Akram Hospitals) from those hospitals affiliated to Medical Sciences universities of Tehran City with intensive care units for premature infants, and the researcher attended the selected hospitals and performed sampling from eligible mothers by random gradual approach, and put them alternately into case and control groups. The questionnaire with three sections is data collection tool in this research:

First section includes 7 questions about personal characteristics of studied subjects such as age, education level, employment status, family income, birth weight and infant's gestational age at the moment of birth.

Second section includes 14 questions about determination of breastfeeding self-efficacy and the questions are responded based on Likert scale (absolutely sure, I am sure, pretty sure, I am not so sure, I am not sure) and the scores of five, four, three, two, and one are considered for them.

Third section consists of 14 questions about perceived stress and the questions are responded by always, often, sometimes, rarely, never, and scores if four, three, two, one, and zero are considered for them respectively. The personal characteristics questionnaire is designed according to review of different literature, books and articles and its content studied by several professors in Tehran Medical Sciences Branch of Islamic Azad University, and ultimately a final questionnaire is developed and used by applying their views and correction points. The breastfeeding self-efficacy and perceived stress questionnaires are the standardized tests which have been validated by several researchers and psychologists. This research measures the "breastfeeding self-efficacy variable" by breastfeeding self-efficacy questionnaire (Dennis, 2003) and its validity is measured by Joey-Noel (2006), Varaei (2007) and reassessed by Bastani. Furthermore, the "perceived stress variable" is assessed by perceived stress questionnaire (Cohen, Kamarck, and Mermelstein, 1983) in this study and the validity of perceived stress questionnaire is evaluated by Joey-Noel (2006), Zarrabi at Iran University (2008), Hosseini (2007) and Bastani (2007). The retest test is used to estimate reliability in this study, so that the designed questionnaire is responded by ten eligible samples and again answered by the same samples ten days later. The correlation coefficient of breastfeeding self-efficacy questionnaire is obtained equal to 81% and the correlation coefficient of perceived stress questionnaire obtained 82%. However, these ten subjects are not the study samples. 100 qualified nulliparous mothers are included in this study after obtaining consent. The questionnaires are given to both case and control groups, and then a training program is held in a 45-minute session at least 5 hours after birth for 50 mothers participating in the case group in the form of speech and question and answer (Q&A) and face to face training with exclusive breastfeeding educational content and its benefits for premature infants, and finally a pamphlet is given to studied samples. There was not any training program for control group, and the questionnaires were again answered by samples in both case and control groups.

In this study, the data is quantitative (age, family income, infant's birth weight, gestational age at birth) and qualitative (employment status and educational level) and it is a two-group research in terms of number of study groups, and nominal-ranking based on scale, and bivariate according to the number of variables. The education is the independent variable of research and the breastfeeding self-efficacy and stress are the independent variables. The descriptive statistics including the tables of absolute and relative frequency distribution, mean and standard deviation are used for data analysis in this research; and the inferential statistics include the t, paired-t and chi-square tests.

RESULTS

In case group, the maximum percentage belongs to 21-25 years, the maximum percentage of educational level belongs to diploma, the maximum percentage of employment is related to the housewife, the maximum percentage of income level belongs to income of 60-300 Tomans, the maximum infant's birth weight belongs to 2500-2999, and the maximum gestational age belongs to 36 to 36.6. In control group, the maximum percentage of age belongs to 21-25 year, the maximum percentage of education is related to high school, the maximum percentage of employment is related to the housewife, the maximum percentage of income level belongs to 300-600 Tomans, the maximum percentage of infant's weight at birth belongs to 2500-2999, and the maximum percentage of gestational age is about 36 to 36.6. Chi-square test indicates

that there is not any significant difference between case and control groups in terms of personal characteristics.

Table 1: Comparison of breastfeeding self-efficacy scores in case and control groups before education and in case group after education, and in control group after the second test, and comparison of breastfeeding self-efficacy scores in case group before and after education

Education	Before education				After education			
	Case	Control	Case	Control	Case	Control	Case	Control
Breastfeeding self-efficacy								
Low breastfeeding self-efficacy	19	38	21	42	2	4.0	20	40
breastfeeding 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 result	T = -0.404 P = 0.687 Df = 98				T = -10.777 P = 0.000 Df = 98			

The above table shows that the maximum percentage (62%) of studied units has high self-efficacy and the minimum percentage (38%) of them has low self-efficacy in case control. In control group, the maximum percentage (58%) has high self-efficacy and minimum percentage (42%) has low self-efficacy. The mean rate of breastfeeding self-efficacy is 44.8200 in case group and 44.0600 in control group. According to T-test before education, there is not any significant difference between breastfeeding self-efficacy of case and control groups. In case group, the maximum percentage (96%) has high self-efficacy and the minimum percentage (4%) has low self-efficacy. In control group, the maximum percentage (60%) has high self-efficacy, and the minimum percentage (40%) has low self-efficacy. The mean rate of breastfeeding self-efficacy is 60.6800 in case group and 44.4400 in control group. According to t-test after education, there is not any significant difference between both case and control groups in terms of breastfeeding self-efficacy. The maximum percentage (62%) has high self-efficacy in case group before education; and the maximum percentage (96%) has high self-efficacy in case group after education. Paired t-test indicates a significant difference in mothers' breastfeeding self-efficacy before and after education in case group.

DISCUSSION

The findings indicate a significant difference in nulliparous mothers' breastfeeding self-efficacy with premature infants before and after education. Tavafian (2014) found that 64 percent of mothers in intervention group and 29.8 percent of mothers in control group did exclusive breastfeeding in the first 4 months of birth. Furthermore, the mean number of exclusive breastfeeding days was 92 ± 45 days in intervention group and 50 ± 50 days in control group and his difference was statistically significant ($P < 0.0001$). (8) Lin (2008) concluded that 38 percent of mothers in intervention group had exclusive breastfeeding and breastfeeding self-efficacy after giving birth compared with 21% of women in control group (9). Aza (2008) found that mothers' knowledge was significantly increased in intervention group, but it was not the same in control group ($p = 0.041$). The intervention group showed a gradual improvement in breastfeeding performance. Exclusive breastfeeding was 80 percent in intervention group and it was 40 percent in control group, and the breastfeeding problems were lower in intervention group. (10)

Furthermore, it is also found that there is a significant difference between mothers' breastfeeding self-efficacy in case group after education and in control group after the second test. Tavafian (2014) found that 64 percent of mothers in intervention group and 29.8% of mothers in control group exclusively breastfed in the first 4 months of their infants' birth.

Furthermore, the mean days of exclusive breastfeeding was 92 ± 45 days in intervention group and 50 ± 50 days in control group and this difference was statistically significant ($P < 0.001$) (8).

Weiss (2009) has concluded that prenatal education has valuable effects on increased breastfeeding self-efficacy and its duration (11). Azhari (2010) has concluded that the mean score of self-efficacy is significantly higher in experimental group than the control group at weeks 1, 4 and 8 and the subjects in experimental group are significantly more willing to exclusive breastfeeding than the control group (12). Caglar (2006) has found that the prenatal and postpartum breastfeeding education improves the exclusive breastfeeding results in the first 6 months after delivery, and both strategies are effective, but the use of postpartum education is more effective than prenatal education (13).

Lin (2008) has concluded that 38 percent of mothers in postpartum intervention group and 21% of women in control group have exclusive breastfeeding and breastfeeding self-efficacy (9).

According to determination and comparison of stress in case group after education and in control group after the second test, there is a significant difference between case group after education and control group after the second test in terms of mothers' stress. In case group and after educations, 58 percent of mothers have low stress and 42 percent have high stress. In other words, education has a significant effect on reduction of maternal stress.

According to Joseph et al (2005), the mothers with premature infants have high stress and depression during the postpartum period (14). According to Lee Davis et al (2010) in Australia, about 40 percent of mothers with premature infants admitted to intensive care units have depressive symptoms (15). Thome et al. (2006) have concluded that the exclusive breastfeeding education has a significant effect on reduction of mother's depression symptoms after delivery (16).

CONCLUSION

There is a significant difference between breastfeeding self-efficacy rate in studied units in case group after and before education. However, there is not any significant difference in breastfeeding self-efficacy of control group at the beginning of study and a month after test. It can be concluded that the education is effective in increasing the breastfeeding self-efficacy.

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