

# Training and Planning for Successful Breastfeeding among Pregnant Women

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## Abstract

**Background:** Breastfeeding training among mothers is necessary to ensure the continuation of this behavior. Given the great benefits of breastfeeding for children and mothers and the effective role of training in this process, studies have emphasized the importance of training, support, and follow-up. Therefore, the present study aimed to determine the impact of successful breastfeeding training on the knowledge and planning of pregnant women regarding this behavior in 2018.

**Methods:** This quasi-experimental study with a pre-/post-test design was carried out on 30 pregnant women with a gestational age of 32 weeks. At first, two comprehensive health centers were selected by cluster sampling. The dependent variable was successful breastfeeding, while the independent variables were awareness and planning for breastfeeding. The educational content was presented in three 45-minute sessions. Due to the lack of a standard questionnaire, a researcher-made questionnaire was prepared using the relevant references. After all, the data were entered into the SPSS 22 software and were analyzed using paired t-test and ANOVA.

**Results:** The mean score of the mothers' awareness of successful breastfeeding was increased from  $49.97 \pm 3.53$  to  $63.27 \pm 3.72$  and that of their planning for successful breastfeeding was increased from  $42.78 \pm 2.99$  to  $53.77 \pm 3.74$ ; these differences were statistically significant ( $P < 0.001$ ). The results revealed no significant relationships between the mothers' demographic characteristics and the questionnaire scores.

**Conclusion:** Successful breastfeeding training can improve awareness and planning for breastfeeding, which can lead to the continuation and promotion of this behavior.

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## Introduction

UNICEF and WHO have estimated that if all newborns are breastfed for at least the first six months of their lives, mortality and malnutrition will decline sharply worldwide.<sup>1</sup> Breastfeeding is an important solution in reducing child mortality<sup>2</sup> and a natural way to supply the nutrients required for newborns' proper growth. Because of the proven health benefits of breast milk, it is known as an ideal food for newborns.<sup>3</sup> Antibodies

in breast milk protect infants against diarrhea, acute respiratory infections (known as two major causes of death among children), pneumonia, and atopic skin disorders.<sup>4-6</sup> Ardic and Yavuz (2018) conducted a cohort study to determine the effect of breastfeeding on common infections amongst children and reported that breastfeeding for 12 months significantly reduced childhood infections such as middle ear infections and gastrointestinal infections in the first five years of life.<sup>7</sup> Breastfeeding also has long-term benefits for mothers,

including lower risk of ovarian cancer, lower risk of breast cancer before menopause, decreased obesity, type 2 diabetes, and heart diseases, and reduced risk of increased blood lipids and blood pressure.<sup>8</sup> On the other hand, the findings of epidemiological and biological studies have demonstrated that not breastfeeding infants can cause adverse effects on their health, nutrition, and development as well as women's health.<sup>6</sup> It has been estimated that 1.3 million children can be saved from death through breastfeeding training every year.<sup>9</sup>

Various factors can affect breastfeeding duration, including environmental, individual, social, physical, and maternal factors and socioeconomic status.<sup>10-12</sup> Paying attention to the factors affecting successful breastfeeding can help mothers in this important matter.<sup>13</sup> The probability of starting and continuing breastfeeding is higher among mothers who have been trained and informed about breastfeeding and its benefits. Mothers also need guidance and professional support in this regard.<sup>14</sup> Health professionals play an important role in empowering mothers and helping them during the initiation and continuation of breastfeeding.<sup>15</sup> Thus, their support can be effective in increasing breastfeeding.<sup>16</sup> Burgio et al. (2016) concluded that breastfeeding support was necessary for all mothers.<sup>1</sup> However, breastfeeding has been found to reduce in mothers with unsuccessful breastfeeding in their previous pregnancies.<sup>17</sup> Thus, studies have emphasized the important role of training, support, and follow-up in this respect.<sup>18</sup> Direct training and high participation of mothers in training processes can help them become successful in breastfeeding.<sup>9</sup>

Exclusive breastfeeding means breastfeeding from birth up to six months and not using any milk or food except vitamin supplements. Partial breastfeeding refers to using formula milk or other foods in addition to breast milk during the first six months of life.<sup>19</sup> In this context, successful breastfeeding is an important concept.

Successful breastfeeding is a complex concept in which the biological aspects of breastfeeding have been completed with comprehensive concepts of body, mind, and soul. Successful breastfeeding has been described as a good interactive process for both the infant and the mother, which improves their health.<sup>19</sup> The main feature of successful breastfeeding is interaction during this process.<sup>20</sup> Considering the great benefits of breastfeeding for both children and mothers and the effective role of breastfeeding training in this process, as well as the importance of achieving the WHO's breastfeeding objectives in 2025 and increasing awareness and planning about successful breastfeeding, the present study was carried out in 2018 to determine the impact of successful breastfeeding training. The results of this research can be used to plan and train pregnant women in health centers. They can also be considered an educational resource for students.

## Methods

### *Ethical Approval and Consent to Participate*

The Shiraz University of Medical Sciences Ethics Committee approved the interventions performed in the current study (approval number: IR.SUMS.REC.1397.600). All participants signed Informed consent forms.

### *Study Design and Participants*

This quasi-experimental study with a pre-/post-test design was conducted on 30 pregnant women in 2018. Two comprehensive health centers in Shiraz were selected by cluster sampling, and the cases were selected via purposive sampling.

### *Data Collection*

The inclusion criteria of the study were gestational age >32 weeks, not having any physical and mental problems for breastfeeding, having the ability to read and write, and having the capability to understand and apply the training. The exclusion criteria were missing more than one training session, withdrawal from the study, and history of attending breastfeeding training classes in the present pregnancy. Incomplete questionnaires were omitted, as well.

After obtaining informed consent forms and completing the pre-test, the training content was presented in three 45-minute sessions using group discussion, lecture, and question and answer. The first training session included the benefits of breastfeeding for infants and mothers, the benefits of starting breastfeeding after birth, the importance of exclusive nutrition, common misconceptions regarding breastfeeding, and feeding problems with formula milk. The second training session was held one week after the first session. In addition to reviewing the contents of the first session, the problems with starting breastfeeding were discussed, especially in mothers with cesarean section delivery. The signs and symptoms of correct infant attachment to the breast (latch-on), effective sucking during breastfeeding, and signals of infant's hunger and fullness were also explained. Then, various breastfeeding positions were taught using an infant replica. The last session was held the following week and included appropriate milking methods, milk storage conditions, ways to increase breast milk, and attention to drug interventions and breastfeeding. Temporary and permanent breastfeeding prohibitions were discussed, as well. Then, the post-test was done.

Due to the lack of a standard questionnaire, a researcher-made questionnaire was prepared using the relevant references. The questionnaire consisted of two parts. The first part of the questionnaire contained demographic information, and the second part was the

successful breastfeeding questionnaire that included 26 items. These items could be responded using a five-point Likert scale ranging from five (full agreement, very much) to one (disagreement, very little). Thus, the total score of the questionnaire could range from 26 to 130. After designing the questionnaire, its content validity and Cronbach's alpha coefficient were assessed to ascertain its validity and reliability. Considering quantitative content validity, the authors calculated both Content Validity Index (CVI) and Content Validity Ratio (CVR). To determine the CVI, the authors asked ten faculty members at Shiraz University of Medical Sciences to judge each question's content as essential, useful, or unnecessary. For each question, CVI values >0.79 were accepted.<sup>21</sup> In addition, CVR >0.62, according to Lawshe's table, was acceptable for each question.<sup>22</sup> Moreover, the internal consistency of the questionnaire was confirmed by Cronbach's alpha = 0.9.

*Statistical Analysis*

The data were entered into the SPSS software,

version 22, and were analyzed using descriptive and inferential statistics (paired t-test). P-values<0.05 were considered statistically significant

**Results**

The results of the Shapiro-Wilk test revealed the normality of the data. The mean age of the study participants was 30.7±4.4 years, ranging from 19 to 38 years. In addition, 43.3% of the participants were primiparous, 40% had high school diplomas, and most were homemakers (96.7%). Besides, 60% of the participants had no breastfeeding experience, 76.7% had planned pregnancies, and 56.7% had average family incomes. Moreover, 10 %of the women suffered from hypothyroidism, while the rest did not mention any particular illnesses. Additionally, 23.3% had a history of abortion in previous pregnancies. Among the husbands, 50% had Associate or higher degrees, and 66.6% were self-employed. The demographic characteristics of the participants have been presented in Table 1.

Paired sample t-test was used to compare the

**Table 1:** Demographic characteristics of the pregnant women

	Total (n)	Total (%)
Occupation		
Homemaker	29	96.7
Other	1	3.3
Gravidity		
First	13	43.3
Second	14	46.7
Third and more	3	10
Education level		
Primary school	7	23.3
Senior high school	12	40
Academic	11	36.7
Family income		
Good	8	26.7
Average	17	56.7
Bad	5	16.7
Husband's job		
Employee	9	30
Self-employed	20	66.6
Unemployed	1	3.3
Husband's education level		
Primary school	9	30
Senior high school	6	20
Academic	15	50

**Table 2:** Comparison of the mean scores and total scores of awareness and planning before and after the training

	Mean	SD	P value
Knowledge			
Before training	49.97	3.53	<0.001
After training	63.27	3.72	
Planning			
Before training	42.78	2.99	<0.001
After training	53.77	3.74	
Total			
Before training	93.3	5.01	<0.001
After training	117.03	6.16	

mean scores. The results revealed a significant increase in the mean scores of awareness ( $P<0.001$ ), planning for successful breastfeeding ( $P<0.001$ ), and total successful breastfeeding ( $P<0.001$ ) after the intervention. Comparisons of the mean scores of awareness and planning and the total score of the questionnaire, have been shown in Table 2.

Furthermore, the ANOVA and t-test indicated no significant relationships between the mothers' demographic characteristics and the questionnaire scores.

## Discussion

The results of this study demonstrated that successful breastfeeding training increased pregnant women's knowledge of successful breastfeeding and was effective in planning for this behavior. Similarly, Yilmaz and Aykut conducted research to determine the effect of breastfeeding training on exclusive breastfeeding and disclosed that training and supporting pregnant women and breastfeeding mothers in terms of breastfeeding increased their knowledge.<sup>23</sup> Khaliq et al. also assessed knowledge and breastfeeding practices among employed and unemployed mothers and revealed the importance of promoting awareness about breast milk.<sup>24</sup> Moreover, Syam et al. performed research titled "Early initiation of breastfeeding and sociodemographic factors, education and social protection" and demonstrated that mothers with a better knowledge of breastfeeding were more successful than those with lower awareness. Additionally, failure in breastfeeding was mostly associated with the mothers' low awareness. Hence, breastfeeding training was found to be important.<sup>25</sup> Syam and Amiruddin also investigated the inhibitory factors in the early onset of breastfeeding amongst mothers in rural areas and showed that the probability of failure in breastfeeding was related to the lack of awareness in this area.<sup>26</sup> In the same vein, Thomas et al. carried out research titled "the effect of the knowledge and attitudes of the support person on maternal feeding choice" and found that mothers' awareness of breastfeeding was effective in choosing how to feed (breast milk or formula milk).<sup>27</sup> Consistently, Chezem et al. performed a study titled "Breastfeeding knowledge, confidence breastfeeding, and infant nutrition, the impact on actual feeding practices" and indicated that breastfeeding was associated with the mother's decision to breastfeed before the infant's birth.<sup>28</sup> Generally, planning for successful breastfeeding is important during pregnancy and is effective in adhering to this behavior. Mothers can be assisted in this important process by being provided with training during pregnancy. Chezem conducted another study to determine couples' attitudes towards breastfeeding and planning for exclusive breastfeeding or mixed feeding. The findings showed that parents' attitudes and planning during pregnancy effectively choose the type of feeding.<sup>29</sup> Rahimi et al. also performed research titled "Analysis of

training needs of mothers on exclusive breastfeeding" and concluded that breastfeeding training was associated with an increase in breastfeeding performance scores.<sup>3</sup>

Furthermore, Wood et al. conducted a systematic study titled "Interventions that increase breastfeeding, initiation of the course, and exclusive breastfeeding" and reported that receiving training and skills was one of the factors that affected feeding practices.<sup>30</sup> In another study, Zielinska et al. evaluated the effect of breastfeeding knowledge on exclusive breastfeeding of newborns in the first six months of life. The results indicated that breastfeeding training effectively improved the breastfeeding rate.<sup>31</sup>

## Conclusion

The study results demonstrated that training exerted a positive effect on increasing the mothers' knowledge of successful breastfeeding. Accordingly, training focused on maternal knowledge and planning improved their awareness and planning, which was effective in successful breastfeeding. Hence, training programs for pregnant women are considered to promote exclusive breastfeeding and solve breastfeeding problems.

## Study Limitations

One of the study's limitations was that it was performed only on one group of pregnant women. Another limitation was that the participants were evaluated before and immediately after the intervention, but the long-term effects of the intervention were not evaluated. Thus, future longitudinal studies should be conducted with intervention and control groups to evaluate the long-term effects of successful breastfeeding training. Finally, similar to other educational interventions, the participants could acquire knowledge from other sources, which could not be controlled.

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## References

- 1 Burgio MA, et al. Breastfeeding education: where are we going? A systematic review article. Iranian journal

- of public health, 2016. 45(8): 970-5.
- 2 Espósito M, J.P. Córdoba, Advantages of Breastfeeding During Acute Infections: What The Evidence Says. *Current Tropical Medicine Reports*, 2018. 5(3): 204-10.
  - 3 Rahimi Z, et al. Analysis of training needs of mothers on exclusive breastfeeding; a study in health care centers. *International Journal of Pediatrics*, 2016. 4(12): 4089-98.
  - 4 Cangöl E. N.H. Şahin. The Effect of a Breastfeeding Motivation Program Maintained During Pregnancy on Supporting Breastfeeding: A Randomized Controlled Trial. *Breastfeeding Medicine*, 2017. 12(4): 218-26.
  - 5 Sohrabi Z, et al. Socio-demographic and lifestyle factors in breastfeeding mothers, referring to Isfahan health centers. *International Journal of Pediatrics*, 2016. 4(22): 1331-37.
  - 6 Victora C.G. et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet*, 2016. 387(10017): 475-90.
  - 7 Ardiç C, Yavuz E. Effect of breastfeeding on common pediatric infections: a 5-year prospective cohort study. *Arch Argent Pediatr*, 2018. 116(2): 126-32.
  - 8 Binns C, Lee M, Low WY. The long-term public health benefits of breastfeeding. *Asia Pacific Journal of Public Health*, 2016. 28(1): 7-14.
  - 9 Higman W, Wallace L, Dunlop A. A review of breastfeeding training intervention studies that evaluate staff knowledge outcomes in NICU. *Journal of Neonatal Nursing*, 2018. 24(4): 181-8.
  - 10 Buck CO, Gjelsvik A, Vivier PM, Monteiro K, Amanullah S. Prenatal Exposure to Stressful Life Events and Infant Breastfeeding. *Breastfeeding Medicine*, 2018. 13(6): 426-32.
  - 11 Khasawneh W. Breastfeeding Practices, Facilitators, and Barriers among Immigrant Muslim Arab Women Living in a Metropolitan Area of the Southwest of United States. 2017, Arizona State University: Arizona. p. 100.
  - 12 Soltanian M, Nikouee F. The Relationship between Duration of Breastfeeding and Mother's BMI. *JABS*. 2016; 6 (3): 409-15
  - 13 Mohammadi F, Kiani A, Gholamzadeh S, Asadi Noghabi F, Sadeghi T. The factors affecting successful breast-feeding (SBF). *Iranian Journal of Neonatology IJN*. 2018;9(2): 73-82.
  - 14 Brown A, Davies R. Fathers' experiences of supporting breastfeeding: challenges for breastfeeding promotion and education. *Maternal & child nutrition*, 2014. 10(4): 510-26.
  - 15 Alianmoghaddam N, Phibbs S, Benn C. Resistance to breastfeeding: A Foucauldian analysis of breastfeeding support from health professionals. *Women and Birth*, 2017. 30(6): e281-e91.
  - 16 Hughes MM, Saiyed SS, Roesch PT, Masinter L, Sarup A. Local Disparities in Breastfeeding Initiation and Duration: A Cross-Sectional Population-Based Survey in Ten Chicago Community Areas. *Journal of community health*, 2019. 44(4): 629-35.
  - 17 Rollins NC, Bhandari N, Hajeerbhoy N, Horton S, Lutter CK, Martines JC, et al. Why invest, and what it will take to improve breastfeeding practices?. *The Lancet*, 2016. 387(10017): 491-504.
  - 18 Pasyar N, Sharif F, Rakhshan M, Nikoo MH, Navab E. Changes in Daily Life of Iranian Patients with implantable Cardioverter Defibrillator: A Qualitative Study. *International journal of community based nursing and midwifery*, 2017. 5(2134-143).
  - 19 WHO;UNICEF.Global breast feeding scorcard 2019;Increasing commitment to breast feeding and improved policies and programm;world health organization :Geneva,Switzerland,2019
  - 20 Wood KM. Facilitators and barriers to successful breastfeeding among Chuukese mothers who have migrated to Guam. 2014, University of Hawaii at Manoa: Honolulu.
  - 21 Mohammadi F, Rostami K, Gholamzadeh S, Noghabi FA, Sadeghi T. Analysis of the Concept of Successful Breast-Feeding. *International Journal of Medical Research and Health Sciences*, 2017. 6(10): 65-75.
  - 22 Almanasreh E, Moles R, Chen TF. Evaluation of methods used for estimating content validity. *Research in Social and Administrative Pharmacy*, 2019. 15(2): 214-21.
  - 23 Yılmaz M, Aykut M. The effect of breastfeeding training on exclusive breastfeeding: a randomized controlled trial. *The Journal of Maternal-Fetal & Neonatal Medicine*, 2021. 34(6): 925–32.
  - 24 Khaliq A, Qamar M, Hussaini SA, Azam K, Zehra N, Hussain M. Assessment of knowledge and practices about breastfeeding and weaning among working and non-working mothers. *J Pak Med Assoc*, 2017. 67(3): 332-8.
  - 25 Syam A, Syafar M, Amiruddin R, Muzakkir D, Darmawan S, Mallongi A. Early Breastfeeding Initiation: Impact of Sociodemographic, Knowledge and Social Support Factors. *Pak. J., Nut*, 2017. 16(4): 207-15.
  - 26 Syam A, Amiruddin R. Inhibitor factors of early initiation of breastfeeding among mothers in rural district Bone, South Sulawesi, Indonesia. *Asian Journal of Epidemiology*, 2015. 8(1): 1-8.
  - 27 Thomas C, O'Riordan MA, Furman L. Effect of the Knowledge and Attitudes of a Support Person on Maternal Feeding Choice. *Journal of Human breastfeeding*, 2017. 33(1): 195-204.
  - 28 Chezem J, Friesen C, Boettcher J. Breastfeeding knowledge, breastfeeding confidence, and infant feeding plans: effects on actual feeding practices. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 2003. 32(1): 40-7.

- 29 Chezem JC. Breastfeeding attitudes among couples planning exclusive breastfeeding or mixed feeding. *Breastfeeding Medicine*, 2012. 7(3): 155-62.
- 30 Wood NK, Woods NF. Outcome measures in interventions that enhance breastfeeding initiation, duration, and exclusivity: A systematic review *MCN*. The American journal of maternal child nursing, 2016. 41(5): p. 299-305.
- 31 Zielinska MA, Sobczak A, Hamulka J. Breastfeeding knowledge and exclusive breastfeeding of infants in first six months of life. *Roczniki Państwowego Zakładu Higieny*, 2017. 68(1): 51-9.