

The effects of training in breastfeeding counseling on breastfeeding knowledge and attitudes of midwifery students

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Abstract

Context: Training in breastfeeding counseling has positive effects on breastfeeding knowledge and attitudes of health professionals.

Aims: This study aims to determine the breastfeeding knowledge and attitudes of midwifery students who received breastfeeding counseling training.

Settings and Design: This study was carried out as a pretest-posttest semi-experimental study with a single group of students in the Midwifery Department of University of Health Science, Istanbul, Turkey, between February and May 2019.

Materials and Methods: The sample consisted of all students (58 students) who agreed to participate in the study in the 2nd year of studies in the Midwifery Department. At first, all students were trained about breastfeeding counseling by the researcher. Then, the students were divided into 14 groups and the educational content was shared through peer-assisted learning for 2 h/week during 14 weeks. A “Personal Information Form,” “Breastfeeding Knowledge Evaluation Form,” and the Iowa Infant Feeding Attitudes Scale (IIFAS) were used as data collection tools.

Statistical Analysis Used: Data were analyzed using descriptive statistics, a dependent-groups *t*-test, and a McNemar’s test.

Results: The students’ knowledge of the benefits of colostrum, breast milk, and breastfeeding in maternal health increased after the training ($P < 0.05$). A significant difference was found between the mean scores of the students on the IIFAS before (65.6 ± 9.7) and after (69.7 ± 7.8) the training ($P = 0.008$).

Conclusion: Breastfeeding counseling training improves students’ understanding of basic physiological processes related to breastfeeding and as well as knowledge of and attitudes toward breastfeeding.

Keywords: Attitudes, Breastfeeding, Educational intervention, Knowledge, Peer-assisted learning

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INTRODUCTION

The World Health Organization (WHO) recommends that mothers exclusively breastfeed infants for the child's first 6 months and continue breastfeeding for up to 2 years of age or beyond. However, global breastfeeding rates remain far below WHO's recommendations.^[1] In Turkey, the breastfeeding rate of infants during the first 6 months of their life is 30.1%, and about 35% of children start to receive complementary food within 2 months after birth.^[2] Another study found that only 9% of the mothers fed their babies exclusively with breast milk for the first 6 months in Turkey.^[3]

The breastfeeding intentions and attitudes of women are generally shaped before pregnancy in accordance with the cultural practices and beliefs of the society they live in. In addition, sociocultural factors affect women's views about the proper duration of breastfeeding.^[4] It has been found that breastfeeding education and/or support and interactive counseling strategies have been successful in increasing breastfeeding rates.^[5] Consulting strategies that have been found to be effective include support from mother to mother, use of peer counselors, home visits with lay consultants or trained staff, and telephone support.^[5] Evidence-based education programs also encourage families to make informed decisions about breastfeeding.^[6] A systematic review of 34 studies also found that practices that support breastfeeding resulted in a significant increase in breastfeeding rates.^[5] Another systematic review showed that when a protocol for provider training is available and when interventions are maintained during both prenatal and postnatal periods, practices that promote breastfeeding increase exclusive breastfeeding up to 6 months after birth.^[6]

WHO and United Nations International Children's Emergency Fund recommend breastfeeding education in schools and various programs to increase students' awareness and positive attitudes toward breastfeeding.^[1] Hence, improving midwifery and nursing students knowledge of breastfeeding is necessary for them to be able to provide effective consultancy services about sustained breastfeeding. Although the importance of this subject has been emphasized in the international literature, there have been no studies on this topic.^[7] Research indicates that although nurses/midwives generally have a positive attitude toward breastfeeding,^[8,9] their knowledge about breastfeeding is often insufficient to provide adequate breastfeeding support.^[10,11]

Including coverage of breastfeeding counseling in the midwifery education curriculum would enable students

to understand basic physiological processes related to breastfeeding and can help them develop a positive attitude toward breastfeeding.^[8] Students who have completed breastfeeding counseling training can improve self-efficacy perceptions of pregnant women by providing educational and counseling services in their prenatal period.^[12] Furthermore, when education reaches larger populations, cultural norms can be positively affected, and the value of breastfeeding as the most natural means of infant nutrition can be supported.^[7]

Peer-assisted learning is a teaching method with high student participation with features such as collaboration, reflection, communication, and peer assessment.^[12] Peer-assisted learning has advantages such as provides social and fun learning, reduces the stress caused by hierarchical ordering, and increases educational success.^[13] Including written materials and video demonstrations, teleconferences, video conferences, web-based training, etc., which can be provided by peer counselors or healthcare professionals, in breastfeeding training, is widely emphasized in the literature.^[14-16]

There is a lack of evidence about using this method to train midwifery students about breastfeeding counseling, so this study was carried out to determine the breastfeeding knowledge and attitudes of midwifery students who received training in breastfeeding counseling with peer-assisted learning.

MATERIALS AND METHODS

Design

The research was carried out as a pretest-posttest semi-experimental study on a single group of 2nd-year students in the Midwifery Department of University of Health Science, Istanbul, Turkey, between February and May 2019.

Research hypotheses

Breastfeeding counseling training provided by peer-assisted learning increases nursing/midwifery students' knowledge of breastfeeding and positively affects their breastfeeding attitudes.

Sample

It was conducted with a convenience sample of 2nd year midwifery students at a university. The sample size of the research has calculated as 51 students with a power of 80% and $\alpha = 0.05$ error level, using the effect size obtained from the reference study (2.71 ± 0.99 , 2.22 ± 0.99) with G* Power 3.0.10 program.^[10] Due to the possibility of sample drop, the sample size of the study has consisted of

58 students. Inclusion criteria included 2nd year midwifery students who agreed to participate in the study and had not received breastfeeding counseling training previously who volunteered to participate in the study. Exclusion criteria were defined as students who did not attend the sessions, who wanted to withdraw from the study, who did not complete the pre- and post-test.

Instruments

A personal information form, breastfeeding knowledge evaluation form, and Iowa Infant Feeding Attitudes Scale (IIFAS) were used as data collection tools.

Personal information form

This form includes questions about the student's age, whether they have previously received breastfeeding counseling training, their thoughts about breastfeeding, and the way they would feed their baby in the future.

Breastfeeding knowledge evaluation form

The researcher created this information form based on a review of the literature.^[17-20] This form consists of 11 items that evaluate the interpretation student's knowledge about breastfeeding and breast milk. The questionnaire included the "Correct," "Incorrect," or "Don't know" category. Based on this classification, the percentages of the correct answers were calculated.

Iowa Infant Feeding Attitudes Scale

The IIFAS was designed to assess women's breastfeeding attitudes, their choice of infant feeding method, as well as estimate the duration of breastfeeding.^[21] The scale consists of a 5-point Likert type and 17 items ranging from 1 (strongly disagree) to 5 (strongly agree). Nine items of the scale include positive expressions about breastfeeding and eight items for feeding with formula. Formula and feeds are reverse scored. The total attitude score ranges from 17 (showing a positive attitude to bottle feeding) to 85 (reflecting a positive attitude toward breastfeeding). The scale developed by De La Mora and Russell was tested and the Cronbach's alpha coefficient was 0.86 in the study.^[21] Permission from the authors to use this scale was obtained through E-mail.

Procedure

In the literature, it is stated that health professionals should receive at least 20 h of breastfeeding training.^[22,23] Before the training, each of 58 students was given the three forms mentioned in the previous section. The researcher prepared the evidence-based breastfeeding training program^[22,24-27] and trained all students about breastfeeding counseling. Subsequently, breastfeeding counseling training was

carried out by peer-assisted learning. Fifty-eight students were divided into 14 peer trainer groups (4 or 5 students each) and shared the educational content together for the 14-week training program. The peer trainers were trained through booklets prepared by the researcher. They were told that they could use the methods (Slideshow, video streaming, drama, models, and similar teaching techniques) in which they could explain the subjects most easily using their creativity. The 2 h training programs prepared by the peer trainers were rehearsed under the control of the researcher and necessary arrangements were made. After the training, students were given Breastfeeding Knowledge Evaluation Form and the IIFAS for the second time. The effectiveness of training was determined by evaluating pre-test and post-test questionnaires.

The training included anatomy of the breast, physiology of lactation and milk production, the importance of counseling and breastfeeding counseling, self-efficacy in breastfeeding, assessment of breastfeeding, and breastfeeding techniques.

Data analysis

The data were analyzed using the IBM SPSS Statistics version 22 (IBM SPSS Statistics for Windows, IBM, Armonk, NY, USA) using descriptive statistics such as mean, standard deviation, frequency, and percentage were used. The normal distribution suitability and homogeneity of the data were assessed by the single sample Kolmogorov-Smirnov test and Levene's test, respectively. Since the significance values were higher than 0.05, parametric tests were used in advanced analysis. For parametric tests, the dependent *t*-test was applied, and McNemar's test was used to evaluate the dependent categorical variables. It was considered statistically significant at $P < 0.05$ level.

Ethical considerations

Ethical approval was received from the University of Health Science Research (Turkey) Ethics Committee (REF: 19/94, June 28, 2019). Participation was voluntary. Furthermore, verbal and written consent was obtained from participants after they were informed of the aim, method, and potential contributions to the study. Participants were told that they were free to leave the study whenever they wished.

RESULTS

The mean age of the students participating in the study was determined as 19.82 ± 1.09 years. About 72.4% of the students stated that they did not receive any information about breastfeeding, according to their response to the

pretraining personal information form; 56.9% indicated breastfeeding is a more appropriate feeding method for infants, and 86.2% reported that they would feed their babies only with breast milk in the future.

Results reveal that the knowledge levels of the students about first milk (colostrum), breast milk, and breastfeeding had increased significantly in comparison to the preeducation level [Table 1]. Furthermore, results indicate that, although the students received an average score from the IIFAS test before the training, their mean scores increased after the training. A significant difference was found between the mean scores of the students before and after the training [$t = -2,732, P = 0,008$; Table 2].

DISCUSSION

This study assessed breastfeeding knowledge and attitudes of midwifery students who received breastfeeding counseling training with peer-assisted learning.

Knowledge levels of midwifery students were at midlevel before breastfeeding training. Before the training, students achieved respectively high and low scores on breast milk knowledge and benefits of colostrum and breastfeeding for the mother. After the training, the knowledge levels of the students generally increased, especially in the topics related to the benefits of colostrum and breastfeeding for maternal health; they took high scores. Similar to this study, there are studies in the literature showing that the nursing students have midlevel breastfeeding knowledge.^[18,19,28-30] A study conducted in Egypt reported that nursing faculty students had a weak mean knowledge score of 52%.^[31] In a study measuring the breastfeeding knowledge of medical and education faculty students in Saudi Arabia, it was stated that students scored low.^[32] According to the literature, the limited knowledge of nurses and midwives to support mothers in breastfeeding^[17,20] suggests that increasing the understanding of students about breastfeeding after training is essential.

Items that most of the students answered correctly before the training; “An infant should be breastfed in the first 1 h after birth,” “An infant should be given the first milk (colostrum),” “Colostrum protects infant from infections,” “First milk stimulates baby’s bowel movements,” “Baby should be given only breast milk for the first 6 months,” “Breast milk should be given to baby until 2 years old,” and “Breast milk protects baby from diseases.” Since 1991, the “Breastfeeding Promotion and Baby-Friendly Health Facilities Program” has been carried out in Turkey. While the duration of breastfeeding was 11.9 months in 1993, when the program was implemented, it became 16.7 in 2018, and the rate of exclusive breastfeeding in infants younger than 6 months increased from 10.4% in 1993 to 40.7% in 2018.^[33] Within the scope of the program, Baby-Friendly Health Institutions (hospitals, primary health care institutions, and neonatal intensive care units) and Baby-Friendly Provincial Projects were carried out. The strongest aspect of this program is that it is coordinated and financed by the state.^[33] The correct answers given by the students to the basic breastfeeding-related topics show that breastfeeding is assimilated by the society as a success of the safe motherhood and Baby-Friendly Hospital Program.

Items that students often answered incorrectly before the training; “Breast milk protects baby from diseases,” “Breastfeeding reduces postpartum bleeding,” “Breastfeeding protects against breast, uterus, and ovarian cancer,” “Baby’s gaining enough weight indicates that breast milk is sufficient,” and “First milk facilitates digestion.” It is considered that these items are the specific information obtained as a result of breastfeeding education, counseling courses, or professional training in the university curriculum. It is stated in the literature that breastfeeding education is not sufficiently emphasized in the curriculum.^[8,29,31] In a study conducted in Egypt, students’ knowledge was low despite the curriculum followed the WHO breastfeeding guidelines. It is stated that this result may be due to the lack of clinical experience.^[31] The way to increase breastfeeding

Table 1: Knowledge scores of midwifery students on infant feeding (n=58)

Knowledge questions	Correct answers before the training (n=58), n (%)	Correct answers after the training (n=58), n (%)	P*
1. An infant should be breastfed in the first 1 h after birth	50 (86)	56 (97)	0.10
2. An infant should be given the first milk (colostrum)	46 (79)	55 (95)	0.03
3. Colostrum protects infant from infections	47 (81)	58 (100)	0.001
4. First milk facilitates digestion	37 (63)	55 (95)	0.001
5. First milk stimulates baby’s bowel movements	49 (84)	57 (98)	0.02
6. Baby should be given only breast milk for the first 6 months	52 (89)	58 (100)	0.03
7. Breast milk should be given to baby until 2 years old	55 (95)	56 (97)	0.62
8. Breast milk protects baby from diseases	55 (95)	58 (100)	0.25
9. Breastfeeding reduces postpartum bleeding	37 (64)	56 (97)	0.001
10. Breastfeeding protects against breast, uterus, and ovarian cancer	34 (58)	46 (79)	0.03
11. Baby’s gaining enough weight indicates that breast milk is sufficient	38 (65)	47 (81)	0.10

*McNemar’s test

Table 2: Comparison scores of midwifery students on Iowa Infant Feeding Attitudes Scale (n=58)

	Mean±SD	Minimum-maximum	t*, P
Pretest score	65.6±9.7	29-78	-2.732
Posttest score	69.7±7.8	47-83	0.008

*Paired Student's *t*-test. SD: Standard deviation

knowledge is to develop different educational methods in which students' life skills, cultural experiences, theoretical knowledge, and practice-based skills are given in a holistic way.^[29] This study will shed light on future research as a different educational method aiming to increase students' breastfeeding knowledge.

The scores of students' knowledge and attitude about breastfeeding increased after training compared to the pretraining period. Several studies have reported positive effects of education given to midwifery/nursing students on breastfeeding behaviors and attitudes.^[7,8,10,18-20,29,31,34] Similar to this study, after the special education program using a variety of learning methods, including didactic input, group discussion, and small group tasks. It was reported that both the level of knowledge increased and the breastfeeding attitudes changed positively.^[35] However, unlike this study, there are studies showing that breastfeeding attitudes do not change while the level of knowledge increases after education.^[29,31] In one of these studies, it is stated that the breastfeeding attitude is high in Egyptian culture, so the result of the study is unexpected.^[31] In another study, it is emphasized that the breastfeeding attitude developed positively or negatively before the breastfeeding education and it may not have been affected by the breastfeeding education.^[29] Breastfeeding attitude can also be affected by various factors such as culture and previous breastfeeding experience. The data of this study confirmed the assumption that both knowledge and attitude scores will increase with education progress of the peer-assisted learning. The results are essential in influencing the rates of initiation and continuation of breastfeeding. Breastfeeding education in the school environment provides an opportunity for students from various socioeconomic and cultural backgrounds to develop their knowledge base, address misunderstood issues, and positively affect beliefs and attitudes.^[1] Including breastfeeding education in the curriculum of midwifery and nursing schools would help future nurses acquire the basic breastfeeding knowledge and skills which are necessary to support mothers.^[19]

The lack of control group, not-random sampling in the study and the inability to observe students for a long time after training are among the limitations of the study. Strength of the study is that in the study, the application

of peer-assisted learning together with visual and auditory methods, video streaming, drama, and similar approaches were effective in increasing breastfeeding knowledge. This method for midwifery students education about breastfeeding consultation was not considered in the other studies. The advantage of peer assisted learning is that it provides the student with an engaging learning experience, access to practical and timely support, and a sense of community. In this way, the student participation increases and the failure rate decreases.^[12]

CONCLUSION

In this study, the positive effects of breastfeeding counseling training on knowledge and attitudes of students toward breastfeeding were seen. Including breastfeeding counseling training in the education curriculum of midwifery students could positively change both breastfeeding decisions of students and breastfeeding attitudes and behaviors in society. After the training, the perception that breastfeeding is the most suitable method in feeding the infants can be strengthened. In order to develop cultural aspects related to breastfeeding, it is suggested that future studies should be planned to cover all genders in different educational disciplines.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

Conception and design: N. Ç. K. Data collection: N. Ç. K. Analysis: N. Ç. K. Manuscript Writing: N. Ç. K. Drafting the article or revising it critically for important intellectual content: N. Ç. K. Final approval of the version to be published: N. Ç. K.

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