Araştırma Makalesi/ Research Article

THE EFFECTİVENESS OF PEER EDUCATİON ON BREAST SELF-EXAMİNATİON AND HEALTH BELİEFS İN NURSİNG STUDENTS: QUASİ-EXPERİMENTAL STUDY

HEMŞİRELİK ÖĞRENCİLERİNDE KENDİ KENDİNE MEME MUAYENESİ VE SAĞLIK İNANÇLARINA YÖNELİK AKRAN EĞİTİMİNİN ETKİNLİĞİ: YARI-DENEYSEL ARAŞTIRMA

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Abstract

Aim: To assess the impact of peer education on university students' self-breast examination (BSE) practices and their health beliefs.

Materials and Method: A single-group pretest-posttest quasi-experimental study was conducted. The study sample consisted of 113 students from a total of 560 first and second year students at the Faculty of Nursing, at University. Among the 4th year nursing students, 10 students were selected as peer trainers. Each peer educator was expected to educate between 11-12 peers. The data were collected between January and May 2022 using the "Descriptive Information Form" and "Champion's Health Belief Model Scale" (HBM). Dependent groups t test and Mc-Nemar test were used to evaluate the data.

Results: When the students' status of performing BSE before and after the training was compared, it was found to be statistically significant (Mc-Nemar: 74.112, p>0.000). There was no statistically significant difference in the participants' perceptions of HBM sensitivity and seriousness before and after the BSE training (p>0.05). However, a statistically significant difference was found in the perceptions of HBE motivation, benefit, barrier and self-efficacy of university students before and after the training (p<.005).

Conclusion: The students' breast self-examination status increased with peer education compared to the pre-training period, and an increase was found in the perception of motivation, benefit, barrier and self-efficacy from health beliefs about breast self-examination compared to the pre-training period. It is recommended to conduct studies in which peer education is used in different skill trainings in nursing students.

Keywords: Nursing student, Self breast examination, Peer education, Health Belief Model.

Öz

Amaç: Akran eğitiminin hemşirelik öğrencilerinin kendi kendine meme muayenesi yapma durumlarına ve sağlık inançlarına etkisinin belirlenmesidir.

Yöntem ve Gereçler: Tek gruplu ön test son test yarı deneysel bir çalışmadır. Türkiye'deki bir Üniversitenin Hemşirelik Fakültesinde birinci ve ikinci sınıfta öğrenim gören toplam 560 öğrenciden 113 kişi çalışmanın örneklemini oluşturmaktadır. Hemşirelik 4. Sınıf öğrencileri arasından 10 öğrenci akran eğitmen olarak seçilmiştir. Her bir akran eğitmen 11-12 arasında akranına eğitim vermiştir. Veriler Ocak-Mayıs 2022 tarihleri arasında "Tanımlayıcı Bilgi Formu", "Champion'un Sağlık İnanç Modeli Ölçeği (SİM) kullanılarak toplanmıştır. Verilerin değerlendirilmesine bağımlı gruplarda t test ve Mc-Nemar testi kullanılmıştır.

Bulgular: Öğrencilerineğitim öncesi ve sonrası KKMM yapma durumları karşılaştırıldığında istatistiksel olarak anlamlı bulunmuştur (Mc-Nemar: 74.112, p>0.000). Katılımcıların BSE eğitimi öncesi ve sonrası SİM duyarlılığı ve ciddiyeti algılarında istatstiksel olarak anlamlı fark bulunmamıştır (p>0.05). Ancak üniversite öğrencilerinin eğitim öncesi ve sonrası SİM motivasyonu, fayda, engel ve özyeterlilik algılarında anlamlı fark bulunmuştur (p<.005).

Sonuç: Öğrencilerin akran eğitimi ile kendi kendine meme muayenesi yapma durumları eğitim öncesine göre artmıştır ve kendi kendine meme muayenesine yönelik sağlık inançlarından motivasyon, yarar, engel ve öz etkililik algısında da eğitim öncesine göre artış saptanmıştır. Akran eğitiminin hemşirelik öğrencilerinde farklı beceri eğitimlerinde kullanıldığı araştırmaların yapılması önerilmektedir.

Anahtar Kelimeler: Hemşirelik öğrencileri, Kendi kendine meme muayenesi; Akran eğitimi, Sağlık inanç modeli.

INTRODUCTION

Cancer is an important public health problem with rapidly increasing incidence both in Türkiye and worldwide. Breast cancer ranks first among the cancer types seen in women. While the prevalence of breast cancer is 11.7% worldwide, this rate is 10.3% in Türkiye. The incidence of breast cancer is reported to be 46.8 per 100 thousand in the world and 48.6 per hundred thousand in Turkey, and the age of incidence is gradually decreasing (1).

Due to the fact that breast cancer is the most common type of cancer in women and its incidence is increasing, it is important to create breast cancer awareness in the society and to implement early diagnosis and screening programmes (2). Methods known to provide early diagnosis of breast masses include breast self-examination (BSE), physical examination and mammography. In Türkiye, breast screening is recommended every 2 years for women aged 40-69 years. Mammography is used as a screening method, and clinical breast examination is also performed for women participating in screening in order to increase the effectiveness of mammography. At the same time, counselling services are provided to every woman after the age of 20 for breast self-examination in order to raise awareness in the society (3). Previous studies have shown that women who undergo breast cancer screening tests have a 30% lower risk of death from breast cancer than women who do not undergo screening (4).

As one of the breast cancer screening tests, BSE is a simple, fast and cost-free practice that can be performed by the woman herself without the use of any tools (5). The American Cancer Society states that by performing regular breast examinations every month, all women can recognise their breast tissues and detect any changes that may occur early (6). Therefore, BSE is one of the easiest and most convenient ways of early detection of breast problems (7,8). In support of this, studies have found that approximately 80-90% of breast masses are discovered by the affected women themselves (9,10).

Despite the recommendation of BSE in the early diagnosis of breast cancer, studies conducted with women of different age groups and students have found that women either do not perform BSE at all or do not perform it regularly (10-12). Researches have shown that education is very important in increasing the rate of BSE (11). However, it was found that even trained student nurses did not perform regular BSE (13). From this point of view, it is understood that different approaches other than traditional methods are needed to raise awareness about breast cancer screening. It is thought that the peer education method will be more effective in conservative communities where discussing and examining the breast is taboo (14). Peer education is a planned educational model used to change the knowledge, attitudes and behaviour of a group of people of various ages, equal status, similar in language, attitude and behaviour. This model is based on the positive characteristics of peer groups, their identification with each other and their social interaction (15). In the literature, the effects of peer education on the development of positive health behaviours at various developmental stages have been reported (14).

There are various models used to help individuals acquire positive health behaviours. In the literature, the Health Belief Model (HBM) is one of the most frequently used models to provide positive health behaviours to individuals in breast cancer screening. (16-18). The main concepts and assumptions of the HBM include perceived susceptibility (a person's individual perception of the risk of developing a disease), perceived seriousness (perceived individual beliefs about the seriousness of the disease), health motivation (willingness to perform health promotion behaviours), perceived benefit (perception of the effectiveness of the behaviours to be developed to reduce the threat of disease), perceived barriers (negative beliefs about the difficulty of performing the recommended health behavior), perceived self-efficacy (belief in one's ability to perform this behaviour in the development of the health behavior), and

enablers (the mechanism that triggers the desired health behaviour in the individual) (19,20). Moreover, women who perceive more benefits from BSE/mammography and fewer barriers to BSE and mammography are more likely to perform this preventive care. In addition, the more motivated women are to improve their health and the more confident they are in their ability to perform BSE, the more likely they are to perform BSE (19).

In several studies, it has been reported that the level of knowledge, sociodemographic characteristics and experiences as well as the individual's beliefs about health (such as sensitivity perception, severity perception, self-efficacy perception, health motivation and threat perception) are important in breast cancer prevention (21,22). In the literature, while there are descriptive studies investigating students' knowledge, practice and beliefs about BSE, (2,23) there are few educational-focused experimental studies (16). In the curriculum of our department, first and second year courses include topics related to BSE and breast cancer. This study was planned because students who learn this information can transform what they have learnt into skills more easily with peer support (easier communication with peers, asking questions more easily, feeling comfortable) and their deficiencies can be eliminated before graduation. The aim of this study was to determine the effect of peer education on breast self-examination and health beliefs of university students.

MATERIAL AND METHOD
Type of Research
This research is a one-group pretest-posttest quasi-experimental study.

Population and Sample of the Study
This study was conducted between January-May 2022. The required sample size for the study was determined as 52-60 participants by using the mean scores and standard deviations of the sub-dimensions of the health belief model scale in the study of Durmaz et al. (2020) in the GPower statistical programme, based on 0.80 power, 0.05

significance level and t-test (24). The study sample consisted of 113 students from a total of 560 first and second year students at the Faculty of Nursing, Dokuz Eylül University. In clinical and field practices, 3rd year students are expected to teach BSE skills to women. Therefore, 3rd year students were not included in the study. Among the 4th year nursing students, 10 students were selected as peer trainers. We invited 1st and 2nd year students to participate in our research. Since there may be a dropout problem, 135 students were included in the study by keeping the sample number high. However, 22 students were excluded from the study because they left their education halfway through. The study was completed with 113 students. After the study was completed, the t test analysis for the dependent groups was performed in post hoc power analysis using the GPower statistical program at 95% confidence interval and p = 0.05 significance level. In this analysis, the power of the study was found to be 0.89.

The inclusion and exclusion criteria were determined as follows.

Sample Inclusion Criteria
Faculty of Nursing 1st or 2nd grade students who voluntarily accepted to participate in the study and had a consent form.

Exclusion Criteria
Students who did not complete the training programme were excluded.

Variables of the Study
The independent variable of the study was peer education and the dependent variables were the mean scores of Champion's Health Belief Model Scale sub-dimensions and the status of doing BSE.

Data Collection Tools
"Descriptive Information Form" and "Champion's Health Belief Model Scale (HBM)" were used to collect the data.

Descriptive Information Form
Descriptive Information Form was developed by the researcher. The socio-demographic form consisted of 5 questions: age, marital status, class level, status of practising BSE and where they learnt BSE.

Champion's Health Belief Model Scale

HBM is a scale consisting of sub-dimensions related to the concepts addressed in the health belief model. The scale, developed by Victoria Champion in 1984 to measure beliefs about breast cancer and BSE, includes five sub-dimensions and 39 items (19). The scale can be used separately with the mammography beliefs dimension and BSE beliefs dimension or both dimensions can be used together. A 5-point Likert-type scale ranging from 1 to 5 "strongly disagree" (1), "disagree" (2), "undecided" (3), "agree" (4), "strongly agree" (5)- was used to evaluate the scale. Each dimension of the scale is evaluated separately, not combined into a single total score. The scale consists of six sub-dimensions including. Susceptibilit, seriousness, health motivation, benefits, barriers and confidence/self-efficacy. The Cronbach alpha reliability coefficients of the sub-dimensions of HBM were found to be between .69 and .83 in Gözüm and Aydın's (2004) study, between .58 and .89 in Karayurt's (2003) study, and between .89 and .99 in test-retest reliability (25,26). The Cronbach's alpha was found to be between 0.70 and 0.84 in this study

Research Plan

A peer educator group was selected from the 4th year nursing students, consisting of 10 students who were sensitive to breast cancer due to a family history of breast cancer. While forming this group, characteristics such as volunteerism, assertiveness and entrepreneurship were used as eligibility criteria by the researcher.

Breast self-examination proficiency rating instrument was used to evaluate peer educators. It was developed by Robin in 1994 to assess women's ability to perform BSE and detect breast masses. It consists of 10 statements consisting of steps to make BSE. Each correct answer is scored as 10 points, while an incorrect answer is scored as 0. A minimum score of 0 and a maximum score of 100 can be obtained from the form. A score of 90 or above means "BSE was performed correctly", while a score of 80 or below means "BSE was not performed correctly" (28).

Peer educators were trained by the researcher for 5 weeks. In the theoretical training, breast cancer risk factors, breast cancer stages, symptoms of breast cancer, anatomical structure of the breast, early diagnosis and screening programmes and BSE were explained (2nd and 3rd week). Videos, PowerPoint presentations, and breast models were used during the program. In the 4th week, how to perform BSE with a breast simulation model was explained practically. In the last week, peer trainers were evaluated with Breast self-examination proficiency rating instrument. The skills training was repeated until at least 90 points were obtained. (Table 1).

Peer educators also told their peers how to perform BSE from the 6th week onwards. Each peer educator trained 11-12 peers. This training was not theoretical but only skills training. Students also performed the skill one by one. Breast self-examination proficiency rating instrument was used to assess whether the students acquired the skill or not (Table 2).

Data Analysis

The data of the study were analyzed using the IBM SPSS 22.0 statistical program. Socio-demographic data were analyzed using percentage, min-max and mean from descriptive analyses; t-test in dependent groups was used for the comparison of HBM scale scores before and after the training, and Mc-Nemar test was used for the comparison of BSE practice before and after the training.

Ethical Aspects of the Study

Before starting the study, written permission was obtained from Dokuz Eylul University Non-Interventional Research Ethics Committee (decision number 2021/37-09 dated 15.12.2021) and the institution where the research was conducted. Written informed consent was obtained from the participants included in the study. In addition, permission was obtained from the authors who adapted the scales used in the study into Turkish.

Table 1. Plan of the BSE Training Programme for Peer Educators

Time	Content	Duration
1. Week	A meeting to explain the purpose of the research and to provide information about the training process	40 minutes
2. Week	Training of peer educators by the researcher (Theoretical)	50 minutes
3. Week	Training of peer educators by the researcher (Theoretical)	50 minutes
4. Week	Training (BSE) to peer educators by the researcher (Skills Training) with Breast Model	90 minutes
5. Week	Researcher's evaluation of peer educators in terms of practice and skills	80 minutes

Table 2. Plan of the BSE Training Programme to Students

Time	Content	Duration
6. Week	Application of Descriptive Information Form and Champion's Health Belief Model Scale	30-45 minutes
7. Week	Training of students by peer education (demonstration with breast model)	60-90 minutes
13. Week	Application of Champion's Health Belief Model Scale	30-45 minutes

FINDINGS

The mean age of the students was in the study was 20.15±.45 years (min:20, max:23) and 50.4% of had never heard of BSE before (Table 3). them were in the 2nd grade. 97.3% of the participants were single and 34.5% stated that they

Table 3. Descriptive characteristics of the participants

Descriptive characteristics		n	%
Grade	1st grade	56	49.6
	2 nd grade	57	50.4
Marital status	Married	3	2.7
	Single	110	97.3
From whom he/she learnt BSE	In school	20	17.7
	Family members	6	5.3
	Social media/mass communication tools	32	28.3
	Health workers	16	14.2
	Never heard of it before	39	34.5
	Mean ±SD	Min	Max
Age (years)	20.15±.45	20	23

When the students' status of performing BSE before and after the training was compared, it was found to be statistically significant (p<0.001) (Table 4).

Table 4. The status of the students before and after the training.

Variable		Pre-training		Posttraining (6 week folloow up)		X2*	p
		n	(%	n	%		
Performing BSE	Regularly	20	17.7	98	86.7	74.112	.001
	Never	93	82.3	15	13.3		
	Total	113	100	113	100		

*Mcnemar Test

Before and after the BSE training, no statistically significant difference (p>0.05) was found in participants' perceptions of HBM sensitivity and susceptibility. However, students' perceptions of HBM motivation, benefits, barriers and self-efficacy were statistically significantly different (Table 5).

Table 5. Comparison of HBM sub-dimensionmean scores before and after the training

HBM sub-dimension	Pretraining	Posttraining (6 week follow up)	t-test	P
Susceptibility	8.07±2.24	8.36±2.28	1.15	.251
Seriousness	20.96±4.55	20.30±5.66	1.11	.269
Health motivation	20.53±2.86	21.53±3.78	2.83	.004
Benefits (BSE)	15.11±3.78	17.97±2.22	6.82	.001
Barriers (BSE)	20.54±4.62	14.50±3.89	11.51	<0.001
Confidence/self-efficacy	25.32±8.17	41.63±4.85	18.85	<0.001

DISCUSSION

Although there is no evidence that BSE reduces mortality from breast cancer, it has been reported that women should be encouraged to perform BSE. The purpose of BSE is to enable women to recognize breast tissue, to take responsibility for their health and to be able to notice changes in breast tissue with advancing age more easily and to engage in health-seeking behaviours (29). However, the most important challenge in this regard is to educate young women and encourage them to engage in health-promoting behaviours. The literature shows that the proportion of women practicing BSE varies between 18-36% in some countries (30,31) and 7.3-32.5% in Türkiye (31-33). In this study, an increase was found in the rate of BSE practice after the students received BSE training. Smilar to our findings, in studies conducted with nursing students in Turkey, it was observed that the frequency of performing BSE decreased in 1-year follow-up after the training (16,34). Single-group pre-test-post-test studies conducted in China and India also found similar findings to our findings (35,36). It is thought that the long duration of the training, the use of peer education and simulation are more instructive for nursing students.

There was no statistically significant difference in the participants' perceptions of HBM sensitivity and severity before and after the BSE training. Perceived susceptibility is one of the strong perceptions that are effective on people in adopting healthy behaviours. With the increase in perceived sensitivity, the likelihood of taking preventive action also increases. Perceived seriousness is the perception of the consequences if a person's disease is not treated. The combination of susceptibility and seriousness is defined as perceived threat. Women who recognised the seriousness of breast cancer and perceived themselves under threat of developing the disease were found to be more likely to perform BSE (19,20). In contrast to our findings, a significant increase was found in the mean scores of perceived sensitivity in a study conducted in Iran and both perceived sensitivity and perceived seriousness in a study conducted in Ethiopia (37,38). Similar to our findings, a study conducted in Turkey, an increase was found in the mean scores of perceived seriousness and sensitivity of nursing students compared to the baseline. However, it was not statistically significant (16). While the study conducted in Ethiopia and Iran was a pre- post control group study, the study conducted in Turkey did not include a control group similar to our study. The difference may be due to the design of the studies and may also be due to the fact that this study included students who believed that young women were less likely to develop breast cancer.

In terms of HBM health motivation and self-efficacy perceptions, a statistically significant difference was found among university students. Health motivation and self-efficacy play an important role in initiating and maintaining changes in preventive health behaviours. Health

motivation is defined as the desire to actually engage in a behaviour to protect and improve health. Motivation and self-efficacy is the level of involvement and confidence a person needs to have in order to achieve results. In the study of Kıssal et al. no statistically significant difference was found although there was an increase in health motivation and self-efficacy perception scores compared to the pre-training period (16). In the randomised controlled trial conducted by Seçginli and Nahçivan, a statistically significant difference was found in the intervention group in health motivation and self-efficacy perception after training. (40). The fact that the students were trained by their peers using the peer education method made them feel more comfortable and this was seen as a factor that increased their motivation.

In terms of beliefs about health, it is important for people to have a perception of benefits rather than barriers to adopting new behaviours and changing existing behaviours. The person thinks that performing the preventive health behaviour will benefit him/her. Perceived barrier is the perception of the factors that prevent or make it difficult to perform a health-related preventive behaviour. This benefit is the expectation that the likelihood of developing the disease will be reduced. If benefits are perceived more clearly than barriers, people are more likely to engage in preventive health behaviours. (15,16). The perception of the benefits of HBM among university students was found to be statistically significant. Studies conducted in Egypt and Ethiopia on nursing students with a pre-test and post-test control group based on HBM found smilar results to our study (38,39). In the study conducted by Kıssal et al. with nursing students, no statistical difference was found in the perception of benefit after training. (16). Bu çalışmadan farklı olarak bizim çalışmamızda arkan eğitim modeli kullanılması sonucu değiştirmiş olabilir.

In university students, a statistically significant difference in perceptions of HBM barriers was found. However, studies conducted in Egypt and Iran found no difference in the intervention group's perception of barriers after training (39). Two different studies conducted in Türkiye found an increase in the intervention groups' scores after

training, but no statistical difference. It is thought that the training method accounts for this difference in our results. We believe that receiving the training from their peers, the use of a breast model, made a difference.

LIMITATIONS OF THE STUDY

This study has several limitations, the most important of which is that the responses of nursing students consist of data based on self-reports. Another limitation, the research was conducted in a university in Western Anatolia in Türkiye, it cannot be generalized to the whole population.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the present study, it was concluded that BSE training based on the peer education model improved nursing students' health beliefs (the perception of motivation, benefit, barrier and self-efficacy) and affected their BSE behaviour. Nurses have important duties in the dissemination of public health awareness on the prevention and early diagnosis of breast cancer. For this reason, nursing students should have the necessary knowledge and experience about breast cancer screening in order to carry out their future duties. It is very valuable for nurses, whose most important independent function is education, to make practices that improve these roles while they are in the graduation stage. This study is thought to have two important outcomes. Firstly, students at the graduation stage had the opportunity to reinforce their educational roles for their future professional lives by having the experience of providing BSE education to their peers. Secondly, learning from a peer was a different experience for the student and positively affected her/his status of performing BSE. Although there are studies in the literature related to BSE, the use of different training techniques and materials that provide augmented virtual reality positively affected the students. In this context, fulfilling the requirements of the age in nursing education will increase the quality of education. Educators should use the concepts of the health belief model to increase breast cancer awareness and encourage them to perform regular BSE. It is recommended to conduct studies in which peer education is used in different skill trainings in nursing students.

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