

RESEARCH COMMUNICATION

Assessing the Efficacy of a Peer Education Model in Teaching Breast Self-Examination to University Students

Arzu Tuna Malak*, Aklime Dicle

Abstract

This study was conducted to evaluate the effectiveness of a peer education model in teaching breast self-examination to a late adolescence female student group attending the second class of Buca Educational Faculty of Dokuz Eylül University (DEU). A total of 15 volunteer students were given the breast self-examination training programme by a researcher and thereby became qualified as peer educators. Each then reached 10 peers and conveyed information on the Breast-Self Examination Programme. The identification forms of the students were filled out by the researcher. Evaluation forms I and II developed by Maurer (1997) for regular BSE practice and skills were used and evaluated with 100 points. The “paired t-test”, “Student’s t-test”, “McNemar test”, and “Pearson correlation test” were employed to for statistical assessment. According to the evaluation results; while the students’s average point of knowledge on BSE was 43.0 ± 11.7 before training, it became 88.9 ± 8.15 after a week, and 86.9 ± 9.69 after four weeks. It was obvious that there was a meaningful difference between those knowledge rates ($p < 0.05$). Similarly while the ratio of systematic practice of BSE among students was 2.6% before training it increased to 66% ($p < 0.05$). Additionally, the average point of the students BSE practice skills became 91.5 ± 7.25 at four weeks after the training with a significant increase as well ($r = 0.70$). Therefore we conclude that the peer education model is an effective method for teaching breast self examination to students.

Key Words: Breast-self examination - identity and social interaction - peer education model

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Introduction

Today, cancer is one of the most significant diseases threatening human health. The American Cancer Society (2007) has published figures showing breast cancer to be the most common cancer among women. According to Turkish Ministry of Health’s Statistics 1999, breast cancer among women in Turkey also holds first place, accounting for 24% of the total. Fidaner et al (2001) similarly found breast cancer was the most frequent cancer of women, accounting for 26.7 % of female cancers in Western Turkey.

Methods for early detection of breast cancer include mammography, clinical breast examination (CBE) methods and breast self examination (BSE). BSE provides an alternative and relatively simple low-cost method of early detection (Epstein 2003, Anderson et al., 2003). While the Kokta Pilot Project found that BSE improved early detection and reduced mortality (Hakama et al., 1995), Russian (Semiglazov et al., 1999) and Chinese () studies revealed no stage shifts or mortality reduction. Nevertheless, the American Cancer Society (2007) recommends young women that beginning in their 20s, women should be told about the benefits and limitations of BSE. Women can notice changes by being aware of how their breasts normally look and feel and by palpating for changes or by choosing to use a step-by-step approach

and using a specific examination schedule.

The key word is awareness. Self-awareness is vital to detecting breast cancer early (UPMC, 2007). Maurer (1997) has emphasized that women should start to practice BSE in late adolescence, and during this period as a result of increase in peer identity and social interaction, the importance of peer education increases in spreading BSE among women and helping them to adopt and see it as a part of their lives.

Because female students identify with each other and have peer interaction during late adolescence, the present research was planned to evaluate effectiveness of peer education model in teaching Breast Self-Examination to students.

Peer group is a social group whose essence is “unity”. The message given to an individual by the social group is “be like us, identify your self with group” (Morris and Richard, 1988). “Identity” means that someone adopts some one else’s characteristics, feelings, attitudes, values and beliefs and makes those things as part of his /her own personality. Identity; is the unconscious maturation of an individual as a result of social interaction during the transition period experienced from childhood to adulthood (Öztürk, 1990). Identity in late adolescence was defined first by Ericson (1963), a development theorist. According to Erikson, identity in late adolescence demonstrates dependence on peers with regard to development of

*For Correspondence: Dokuz Eylül University School of Nursing, Medical Surgical Nursing Department İzmir/Türkiye, email: arzu.tuna@deu.edu.tr

personal values; therefore, late adolescence peer groups are very important and late adolescents prefer being with their peers instead of being with their parents (Erikson, 1980). According to Bandura (1977) identity and social interaction increase the level of social learning. In developing positive health behaviors for young women; being aware of the effect of peer group interaction and identity, peer education model has become important (Bag, 1998).

The “Peer education model” is a planned model which is made for the purpose of changing knowledge, behaviors and attitude in the groups which have social interaction to each other, equal status, identity, similar language, attitude and behaviors (Turner and Shepherd, 1999; Family Health International Institute, 2006). In studying inspecting peer education and peer support effects in BSE which is one of the positive health behaviors of women in society for early detection of breast cancer, while in the beginning the ratio of BSE practice among women was 55% it became 98% in 6 months and the importance of peer support was proven (Lierman et al., 1994). In another studying inspecting peer education on this subject, four months after learning breast self-examination (BSE), it is found higher among women who have peer support (Hailey et al., 1992). As another studying, female students mean scores for performing BSE after training given by peer guides were increased and the peer group training was found to be effective (Sevil et al., 2005). In developing women health, by using peer education, BSE can be practiced in social environment of university. By being affected from their peers late adolescents in university may present a social assistance by giving education to each other on being healthy (Maurer, 1997).

Materials and Methods

Design

In this research, peer educators were trained by researchers and university students were then trained by peer educators on “Breast Cancer and BSE” and their knowledge and skills were subsequently evaluated.

Examples

Research was implemented from October 2001 to January 2002 (4 months) with female students attending II. Class of Science, Turkish Language and Class Teacher branches of Buca Educational Faculty of Dokuz Eylül University. Research reached 202 students 20 volunteer peer educators were educated. 5 of peer educators left studyings during the implementation of research. Each

Table 1. Average BSE Knowledge and BSE Implementation Skill Points of Peer Educators

Knowledge Level	Average Point	P
Before Education ^a	47.7 ± 9.79	0.001 (Z a-b:3,49)
In a week ^b	92.7 ± 7.98	
In 4 weeks ^c	93.7 ± 5.87	0.000 (U a-c:0,00)
BSE Implementation skill point -d	100 ± 0.00	0.000 (r c-d= 1)

a-b p<0,05, a-c p<0,05, c-d r = 1

peer educator gave education to 10 students and 150 students were reached by using 15 peer educators.

Characteristics of Peer Educatees and Assessment

The average age of peer educatees was 20.1±0.59 and 66.7% of them were at the age of 20. There was no one who have cancer diagnosis among the close relatives of 93.3% of students. The vast majority of the students never applied BSE education before and 86.7% of them didn't have education on self-breast examination. Before training 73.3% of peer educators stated that they did not apply BSE because they did not know, and 40% of them stated that they never thought of applying it before.

In peer education, in order to make the education of peer educators effective and sufficient, it is required that peer educators have “at least 75 points on BSE knowledge” and “at least 100 points on BSE implementation skills”. Average points of peer educators on BSE knowledge and BSE practice skills are shown in Table 1.

Comparison of baseline and one week after education using the Wilcoxon signed rank test revealed a significant difference (a-b p <0,05). With the Mann Whitney U test there was a meaningful difference between the average points at four weeks and before education (a-c p<0,05). A Secondary education was also given to peer educators on breast examination in order to make it possible to show the way how examination would be practiced by student groups. After this second practice skill education, average BSE practice skill point of peer educators increased to 100 (±0,00) and peer educators became sufficiently qualified. According to Pearson correlation analysis there was a clear relation between average points of BSE knowledge and practice skill (c-d r =1,00). BSE practice of peer educators were observed by two observers and by using Kappa test it was seen that the ratio of harmony between observers was 93,7%. As a result peer educators became sufficiently qualified on breast cancer and BSE practice education programme.

Data collection

In the research, Researcher filled out the “Identification Form” including information about peer educators and students and the reasons why they had not practiced BSE previously. In order to evaluate the students BSE knowledge and practice skill points and to get the ideas of students on the programme; following evaluation forms developed by Maurer (1997) was used:

“BSE Knowledge Evaluation Form – I” consisting of a total of 20 multiple choice questions of which 8

Table 2. Average BSE Knowledge Points of Students and their BSE Implementation Skill Levels

Knowledge Point	Average Point	p
Before Education-a	43.0 ± 11.7	0.001 (t a-b :3.49)
1 Week After Education- b	88.2 ± 8.15	0.001 (t a-c :0.00)
4 Weeks after education -c	86.9 ± 9.69	0.07 (r c-d :1,00)
BSE Implementation Skill Point -d	91.5 ± 7.25	

a-b p< 0,05, a-c p<0,05, c-d r = 1

questions are about breast cancer and its 12 questions are about knowledge on BSE ,

“BSE Knowledge Evaluation Form – II” consists a total of 13 open end questions of which its 9 questions are on BSE knowledge and practice and its 6 questions about the form of breast and also consists a total of 12 multiple choice questions of which its 11 questions about breast cancer and its 9 questions about BSE practice

“BSE Implementation Skill Evaluation Form” consists a total of 7 items determining the area/ pressing type/ massage type /position of arm / hand movement / BSE time period/ Detecting particle by BSE,

“Form evaluating whether BSE Practice is made regular or not” includes the evaluation of whether practice was made on regular base /or not. The effectiveness of language used in forms were confirmed by 3 experts and 3 experts’s opinions were taken on the effectiveness of contents as well. All Forms were evaluated over 100 points.

Education plan

The education programme contains the importance of breast cancer, risk factors of breast cancer, the importance and practice of BSE. Slides, posters, brochures, breast maquette and a CD were used as education material (Breast Cancer An Interactive Information Programme, Bristol-Myers Squibb Company). Peer educators continued the research by using materials they learned from researcher. In education programme researcher and peer educators gave theoretic information by using active teaching methodes, BSE was practiced on (Breast Cancer Training Model, Adam- Rouilly Health Education Catalogue-AK018). Researcher trained peer educators by two groups, and peer educators did the same for students.

Evaluation of Data

Students’ knowledge level before and one week after they were trained by peer educators was evaluated by paired t-test, their knowledge level before and four weeks after training by Student’s t-test, regular practicing situations of BSE before and after training was evaluated by McNemar test, relation between knowledge level in four weeks and practice skill level was evaluated by Pearson correlation test.

Results

Some 59.3% of students graduated from state high schools of Ministry of Education, 38 % of them were attending Class Teacher classes. Some 92 % of the students’s close relatives didn’t have any type of cancer diagnosis. A total of 97.3% of the students didn’t practice BSE before this training and 86.7 % of them didn’t have any kind of training on BSE before. Because 88% of them didn’t know BSE and 43.3% of them didn’t take required pains to their health, the students who took training from peer educators in the research stated that they didn’t apply BSE before. Average BSE knowledge points of stutendts and their BSE practice skill levels are shown in Table 2.

Avarage knowledge level points of students before and 1 week after the education they took from peer educators

on BSE were significantly different by paired t-test ($p < 0.05$). While the students’ BSE practice ratio was 2.66% before training, it increased to 66% after training. According to the McNemar test there was a meaningful difference between the ratio of systematic practice of BSE before and after training ($p < 0.05$).

Discussion

It was determined that the relation between average BSE knowledge points and average practice skill points was intensive and there was a meaningful increase between the avarage points of BSE knowledge before and after education given to students by peer educators on protecting from breast cancer and learning BSE.

It was stated by Lierman et al in 1994 that education and peer support are important to ensure women regularly apply BSE every month. Our results are in accordance and also showed that students who took education from peer educators started to apply BSE on regular basis by the effect of peer support. However, because the period was limited situation of students’s BSE practice couldn’t be evaluated in six months and in a year.

Maurer (1997) has stated that volunteer peer educators increase the effectiveness of education on positive health development. In research it can be said that peer educators’s being volunteer to participate in education programme contributed to the increase of points of knowledge and practice skills gained after education and also affected students in changing their behaviours to practice BSE regularly. The way peer interactions are formed and systematic planning of peer education programmes are important to develop health behavior (Wolf et al., 2000). Again our results provide support.

Hogg and Turner (1987) stated that with social identity, behaviors convenient to the rules determined by group are adopted. Social identity and social interaction increase social learning (Arkonaç, 1992). According to the result of research, it is found that social learning, identity and social interaction theories form the theoretic fundamentals of having confident and equal relationship with peers in increasing students’s knowledge and skills and in their having behavioral changings after education. Bandura (1977) who is the founder of social learning theory defines the basic concepts of social learning as imitating, observing, taking as a model. According to this approach peers can change eachothers health behaviors by way of social learning because they identify with eachother, imitate eachother and they take eachother as models (Bag, 1998). The results in the related literature showing the effect of well planned and volunteer basis peer education model used in positive health devoloping, supports this theory scientifically. In this research it can be said that peer eduaction model plays a key role in protecting from breast cancer which is one of the most risky cancer type for women and in developing skill, knowledge and behavior about BSE and it supports social learning theory as well.

The following proposals are given related to results obtained from research.

- Teaching women the way of protecting from breast

cancer and practicing BSE and helping them to adopt BSE by using peer education model and observing differences in knowledge and in behavioral changes every six months and year.

- Using peer education model in trainings given to develop positive health behaviors in other areas as well.

- Observing positive health behaviors developed by peer education periodically in order to check their continuity, giving supportive programmes to change knowledge and behavior.

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