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IMPACT OF HEALTH EDUCATION ON IMPROVING WOMEN'S KNOWLEDGE AND AWARENESS OF BREAST CANCER AND BREAST SELF EXAMINATION

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KADINLARIN MEME KANSERİ VE KENDİ KENDİNE MEME MUAYENESİ BİLGİ DÜZEYLERİNİ VE FARKINDALIKLARINI ARTIRMADA SAĞLIK EĞİTİMİNİN ETKİSİ

ÖZET

Amaç: Meme kanseri, kadınlarda en sık görülen kanser türü olmakla birlikte aynı zamanda kanserden ölümlerin başlıca nedenidir. Bu araştırma, kadınların meme kanseri ve kendi kendine meme muayenesi hakkında bilgi ve uygulamalarını saptamak ve bu konularda gerçekleştirilen eğitim çalışmalarının bilgi düzeylerini ve farkındalıklarını artırmada etkisini değerlendirmek amacıyla planlanmıştır.

Yöntem ve Gereçler: Araştırma grubunu, Kütahya ili 80.Yıl İlköğretim Okulu'na bağlı Halk Eğitimi Merkezi'ne devam etmekte olan 15-49 yaş aralığında okuma yazma bilen, 33 kadın kursiyer oluşturmaktadır. Katılımcılara eğitimci tarafından hazırlanan ön test soruları eğitim programından üç gün önce uygulanmıştır. Eğitim programının tamamlanmasının ardından katılımcılara ön test olarak uygulanan anketler, beş gün sonra son test olarak yeniden uygulanmıştır. Veriler SPSS 14.0 istatistik programı ile değerlendirilmiştir.

Bulgular: Kendi kendine meme muayenesi hakkında bilgi sahibi olma durumu ile medeni durum karşılaştırıldığında evli olan kadınların bekâr olanlardan bu konuyla ilgili daha fazla bilgili oldukları gözlenmiştir (P<0.001). Çalışmada kadınlara yönelik düzenlenen meme kanseri ve kendi kendine meme muayenesi konusunda verilen eğitimin kadınların bilgi düzeylerinde bir artış olduğu sonucuna ulaşılmıştır (P<0.001).

Sonuç: Eğitim programı sonrasında kadınların bilgi düzeylerinde anlamlı gelişmeler belirlenmiştir. Sağlık personeli eğitim kurumları ile beraber meme kanseri erken tanısı için muayene yöntemleri hakkında kadınları bilinçlendirmeye yönelik eğitim ve tarama programlan düzenlemelidirler.

Anahtar sözcükler: meme kanseri, kendi kendine meme muayenesi, sağlık eğitimi

ABSTRACT

Purpose: Breast cancer is not only the most common cancer type but also the basic factor for mortality among women caused by cancer. This study was planned to define women's knowledge levels and practices on breast cancer and breast self-examination, as well as to assess the impact of health education activities implemented on this topic improving women's knowledge and awareness.

Materials and Methods: The study group consisted of 33 literate women in 15-49 age groups attending the courses in the Public Training Center of a primary school in Kütahya Province. A questionnaire developed by the researcher was answered by the participants three days before the interventional health education activities, as the pretest, and also five days after the intervention, as the posttest. The data were processed using the SPSS 14.0.

Results: Married women were found to have significantly higher knowledge levels in breast self-examination (P<0.001). Consequently, in this study, a significant increase was estimated on women's knowledge levels after the educational intervention in breast cancer and breast self-examination (P<0.001).

Conclusion: After the educational activity, significant progresses were defined on women's knowledge levels. Healthcare professionals should perform training and screening programs together with educational societies to increase women's awareness on examination methods for early diagnosis of breast cancer.

Key words: breast cancer, breast self examination, health education

Breast cancer is the first among all cancers detected in women around world with a ratio of one fourth, and in second place after lung cancer when men and women are evaluated together while it occupies fifth place among the deaths caused by cancer (1). According to the data of Cancer Control Department of Ministry of Health -Turkey, breast cancer, colo-rectal cancers and, thyroid cancer are the most common three cancer types in years 2004, 2005, and 2006. Breast cancer has the highest frequency among all cancer types in women with its case number of 6597 between the years 2004-2006 (2).

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Although breast cancer is the most seen and threatening cancer type among women, it can be detected by the patient herself (3). In the 58th World Assemble held in the year 2005, it was agreed that the increase in breast cancer load can be prevented through cancer prevention and control programs especially in developing countries. These programs cover annual mammographic and ultrasound graphic screenings, annual breast examinations, and monthly breast self-exams (BSE) (4, 5).

All women are expected to be aware of both the appearance of their breasts and the feeling given by them in order to detect the changes in their breasts, as well as to report them to their physicians (6). Although the American Cancer Society no longer recommends that all women perform monthly BSE, women should be informed about the potential benefits and limitations associated with BSE. Research has shown that self-awareness seems to be more effective for detecting breast cancer than structured BSE (6).

Women who detect their own breast cancer usually find it outside of a structured BSE while bathing or getting dressed. A woman who wishes to perform periodic BSE should receive instruction from her health care provider and/or have her technique reviewed periodically (6).

Women's recognition of their own breast tissue and their observation of the changes in their breasts can be realized through regular monthly BSE. BSE, when correctly and regularly practiced, is the most economic, simple, non-invasive, reliable and effective method in detecting breast cancer in its early stage (7, 8).

Among the fundamental responsibilities of health professionals in early detection of breast cancer are to inform women about risky conditions, to take part in activities towards early detection of breast cancer, to identify effective situations in displaying screening behaviours (Mammography, Clinic Examination, BSE) for breast cancer, to develop health training programs considering all these factors (9). By this way, decrease in breast cancer mortality, increase in life quality, and saving women's breast and lives respectively can be taken into account (9).

In Turkey, where breast cancer is the first among causes of diseases and deaths, teaching BSE to women, especially from the early years of adolescence, is the most important activity in improving awareness of breast health. Therefore, BSE application is particularly valuable for women to notice the mass in breast (10). Hence, this interventional study was planned to define the knowledge levels of women, who were attending courses in the Public Training Center of a primary school in Kütahya Province, about breast cancer and breast self-examination, as well as to assess the impact of health education activities implemented on this topic for women.

Materials and Methods

The study group of this research consisted of 33 literate women in 15-49 age groups attending courses in the Public Training Center of a primary school in Kütahya Province.

This is a quasi-experimental, pre-test/post-test model study. Descriptive methods were also used in the study. A questionnaire of 10 items about definition of breast cancer; risk factors symptoms; techniques, time and frequency of BSE; as well as situations for consulting physicians, were developed by the researcher. Each correct answer was given four points. The maximum point to be achieved by participants was 40 while the minimum point was zero.

The items of questionnaire, the knowledge test, were prepared as open-ended questions, and applied in individual interviews for a content validity study. The final questions were selected for the scale considering the opinions of experts upon the results of this content validity study. The scale was applied as a pre-test to the participants by the researcher three days before the educational intervention. Upon the completion of the three-days training activities, the scale was applied as the post-test within the following five days.

Training activities were designed based on the Health Belief Model (HBM), commonly used to explain the modification of health behaviours. The HBM is based on the individual value of escaping from disease or being healthy, and the expectation for preventive or curative effects of certain health behaviours (11).

HBM is widely used in explaining the behaviours about BSE and breast cancer screenings. According to this model, the sensitivity of a woman towards breast cancer, and the highness of the seriousness level of breast cancer yield in a significant increase for the possibility of BSE. Therefore, the more a woman feels she would likely develop breast cancer, the higher the possibility of BSE practices. Similarly, if women's perceptions about benefits of BSE predominates their perceptions about barriers of BSE, the ratio of BSE practices increases (11).

For the participants, an educational program was designed by the perceived seriousness, perceived susceptibility, perceived threat, changing factors, cues for action, perceived benefits, perceived barriers, motivation for health, and perception of self-efficacy of the HBM. Interactive educational methods were used during the interventional training activities. The trainer is a health education expert, and has completed the doctoral study in the Life Long Learning and Adult Education Program. Therefore, the principles of adult education were always taken into account in defining the achievements and failures, in ensuring the women's participation in activities of the training program, and in enhancing the continuity of education.

After sharing the aims and objectives of the training program with participants, an active introduction was performed by the trainer reading the story with the title of *"The Little Pink Cord"*. At the end of the story, as breast cancer is among the highest cancer types seen in women, and due to the simplicity of its examination, the possibility to detect it at the early stages, as well as its response to the therapy detection and treatment were explained to the women in an oral presentation. Following this activity, "Anatomic Structure of Breast" was shown on the flip-chart. The concept of breast cancer and its morbidity were shared with the participants.

Participants were asked the question "Which women are under the risk of breast cancer?" and upon receiving their answers, all risk factors were written on the board and the items were explained one by one in detail. Warning symptoms of breast cancer were presented on illustrations using power-point. Screening tests and BSE were introduced. Whether they practiced BSE before was interrogated.

Breast examination techniques were told using a power-point presentation first. Then, the trainer demonstrated the techniques both on a healthy breast model and another with cysts. After the demonstrations, all participants practiced breast examination techniques on both models. The surgical methods used for women with breast cancer were introduced briefly. The pink cord, the symbol of activities for drawing attention of people on the breast cancer, was prepared with participants, and they were told to wear the cord on their breasts. The training was concluded after the presentation of the slide show *"We, the Angels"*. Finally, the participants were asked to explain their opinions about the training program.

Data were processed in SPSS 14.0 using the statistics for reliability analysis, frequency, ratio, and average scores. Furthermore, Chi-square test, independent samples t-test and paired samples t-test were computed for comparing the differences.

Results

The demographic characteristics of 33 women participated in the training program are given in the Table 1. Their average age is 31.18 ±7.9, while minimum age was 15 years, and the maximum is 49. Majority of participating women (63.6%) had only primary school education. Almost one third of the women (36.4%) had high school or upper level education.

Table 1. Demographic characteristics of participants.

Age Groups	*n*	%
15-24	9	27.3
25-34	6	18.2
35 and olders	18	54.5
Total	33	100.0
Marital Status		
Single	11	33.3
Married	22	66.7
Total	33	100.0
Educational Status		
Primary School Gra.	21	63.6
High School Gra.	12	36.4
Total	33	100.0
Number of Children		
No Child	12	36.4
1 Child	4	12.1
2 Children	10	30.3
3 and more	7	21.2
Total	33	100.0

Only one participant (3.0% of women) stated that their family had a member with breast cancer in the past. Half of the women (51.5 %) were found to have no information about breast self-exam (BSE).

Results showed that married women had more information than unmarried women about BSE (Table 2). While 87.5% of married women stated that they had information about BSE, this ratio is only 12.5% among unmarried women. The difference between the two groups was found to be statistically significant (P<0.01). Similarly, while the majority of the married women (63.7%) practiced BSE, none of the unmarried women did so (P<0.01).

Table 2. Participants' information and practices about BSE by marital status*

	Marital Status						
Information about BSE	*Married*		*Single*		*Total*		*P*
	N	%	*N*	%	*N*	%	
Yes	14	87.5	2	12.5	16	100.0	0.013
No	8	47.0	9	53.0	17	100.0	
	Marital Status						
Practices about BSE	*Married*		*Single*		*Total*		*P*
	N	%	*N*	%	*N*	%	
Yes	14	100.0	0	0	14	100.0	0.000
No	8	42.1	11	57.9	19	100.0	

*Independent samples t-test was used.

The differences in comparison of women's practices and information about BSE with their educational levels were not found to be statistically significant (P>0.01).

On the other hand, a significant relation was estimated between the BSE practices and age groups of women (P<0.01, Table 3). The big majority (85.7%) of women in the age group of 35 years and more stated that they practiced BSE.

Table 3. Participants' practices about BSE by educational status and age*

	*Educational Status**						
Practices about BSE	*Primary School*		*High School and More*		*Total*		*P*
	N	%	*N*	%	*N*	%	
Yes	10	71.4	4	28.6	14	100.0	0.424
No	11	57.9	8	42.1	19	100.0	
	Age Groups						
Practices about BSE	*15-34*		*35 and more*		*Total*		*P*
	N	%	*N*	%	*N*	%	
Yes	2	14.3	12	85.7	14	100.0	0.000
No	13	68.4	6	31.6	19	100.0	

*Independent samples t-test was used.

A significant increase was estimated in women's knowledge levels on breast cancer and BSE after the training program (Table 4). While the mean of knowledge scores was 19.39 in the pre test, it increased to 34.66 in the post test [$t_{(32)}$=7.42, P<0.01].

Table 4. Participants' pre-test and post-test scores*

	N	$\bar{X}$	SD	SE	t	P
Pre-test Scores*	33	19.39	10.95	11,80	7.42	0.000
Post-test Scores*	33	34.66	5.80			

*Paired samples t-test was used.

These results of our study showed that the training program was effective in improvement of women's knowledge levels about breast cancer and BSE.

Conclusion and implications

Positive behaviour modification is the most important intervention in improving the healthy lifestyles of people. It can be realized by providing educational programs on creating awareness in people, as well as supporting them in converting their awareness to behaviour adoption. In our study, it was concluded that the interventional training program on breast cancer and BSE had been effective in improvement of knowledge levels of women towards a high level of awareness.

While half of the women (51.5%) in our study stated that they had no information about BSE, a similar percentage (45.9%) was estimated in Zincir's study (12). However, Atlı reported in his research that 83.1% of women in the study group had heard about BSE before, and that the ratio of the women practising BSE was 42.4% (13). On the other hand, Parlar et al observed that 31.6% of women participated in their study practiced BSE like in our study (14).

In this research, a general content was developed about which improvement activities would take place in the program, and the need for development of a specific program was defined through a needs assessment study. As a result of this preliminary process, the defects in knowledge and behaviours of women were detected first, and then the training program including specific activities to level up the defects was organized. Since a specific training program focused only on the women's needs for breast cancer and BSE, no significant relation was estimated between women's educational status and their knowledge levels and practices. However, Siahpush and Singh'in found in their study that women with lower educational status practiced BSE fewer than those who had higher educational status (15).

In another study, in which nurses implemented a specific theoretical training on breast cancer and BSE after measuring women's knowledge levels about breast cancer, diagnostic methods and general health, it was reported that a statistically significant increase was assessed in women's number of BSE practices and performance scores within four months after the training (16).

Elik conducted a controlled experimental study in 90 women between 20 to 60 years of age, where 42 of them constituted the experiment group while 48 represented the control group, to examine the effect of an interventional training based on the Health Belief Model on women's BSE practices. She reported that a significant increase was found in the experimental groups' women's knowledge level about BSE and breast cancer when compared to the control group (17).

Umeh and Gibson reported that they found the ratio of young women practising BSE regularly was 41.0 in their study in which they evaluated the BSE related health perceptions of women in terms of the Health Belief Model (18).

In their study on Chinese women's health beliefs about early detection, Hoeman et al. obtained the results that 80.0% of women believed that monthly BSE is important in detecting breast cancer (19).

Lierman et al. estimated a significant difference between experiment and control groups in terms of frequency and adequacy of BSE in their research in which they examined the impacts of health education and support on the frequency and adequacy of BSE in older women (20).

Lu reported in a study that not only women's knowledge levels but also their practice frequencies of BSE increased after an interventional training program using breast models (21).

In our study, the changes in the BSE knowledge and practice of women were found to be statistically significant, indicating that the interventional health education has a significant impact on improvement of both knowledge and practice about BSE.

The following implications were defined in the light of the basic results of our study in order to support the activities aiming to decrease morbidity and mortality caused by breast cancer in women.

- The settings such as Public Training Centers which provide women with specific training facilities, and make them accessible in groups for healthcare professionals should be taken into account for activities in protecting and promoting woman health in general.
- Healthcare educators are expected to believe in their invaluable contributions in BSE and early detection of breast cancer. Furthermore, they should be aware of their responsibility in teaching, maintaining and improving of BSE skills of women.
- Especially theory based health training activities should be expanded to cover all target groups for increasing women's awareness and own responsibility on regular BSE parctices.
- Educational materials such as booklets, leaflets, and posters on early detection of breast cancer should always be available particularly in Public Training Centers for free distribution to women.
- Health professionals who are experienced in adult education should be assigned and encouraged to carry out health training activities in Public Training Centers.
- All kinds of mass media activities should be planned and controlled in terms correct and effective message disseminations on breast cancer and its early detection.

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