The Effect of Peer Education upon Breast Self-Examination Behaviors and Self-Esteem among University Students

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ABSTRACT

Objective: The current study was semi-experimentally designed in order to identify the effect of peer education upon breast self-examination (BSE) behaviors and self-esteem among university students.

Materials and methods: The study was undertaken with 100 female students who studied at Erzincan University. Peer educators were recruited from the 4th year students. The data were collected with a questionnaire form, BSE skill form and Rosenberg Self-esteem Scale in two phases one month before and after the BSE peer education. For the data assessment; percentage distributions, frequency, mean, standard deviation and Simple T test were employed.

Results: The mean age of the participant students was 20.45±1.67 year and all of them were single. It was found that during the first data collection phase, only 16 % of the students performed BSE while during the final data collection phase, the rate of the students performing BSE rose to 77 %. During the first data collection phase, students received a mean score of 2.36±4.13 from BSE skill form while during the last data collection phase they had a mean score of 10.70±3.40 from BSE skill form.

When the scores obtained from Rosenberg Self-esteem Scale by the students were examined, it was seen that they received a mean score of 1.20±1.34 during the first data collection phase while they had a mean score of 0.84±1.07 during the final data collection phase.

Conclusion: Although short-term feedback was obtained, it was noted that students' BSE knowledge and skills increased considerably.

Keywords: Breast self-examination, self-esteem, peer education, student

Introduction

One of the most significant health problems of today is cancer. Globally, breast cancer is the one detected most among women and ranks as the second cause of death from cancer among women. More than 1.15 million of breast cancer diagnoses are made worldwide each year and 502.000 women die from breast cancer annually (1-3). In Turkey, breast cancer is among the most commonly seen cancer types and its incidence is 48.6 per 100.000 (4). Although breast cancer is a widespread and important health problem, it is one of those cancers for which early diagnosis is possible (5). Key methods recommended for early diagnosis are BSE, clinical breast examination (CBE) and mammography (6).

Breast self-examination is an examination method which is used by women to detect breast cancer as much early as possible and in which they examine breast and the surrounding site for unusual mass and shape changes at regular intervals and in a systematic way using the same method (7). BSE practiced at regular intervals and in a systematic way is a simple and affordable method in which women's confidentiality is protected and which can be performed alone at home for the diagnosis of breast cancer. Therefore, it is recommended that those women aged ≥20 years should regularly practice BSE (8, 9). However, although the benefits of regularly performed BSE are well explained, few women are interested in this practice (10).

Self-esteem is another important term that affects BSE behaviors. Rosenberg defines self-esteem as positive or negative orientation/attitude towards oneself. Positive peer report increases self-esteem. Therefore, high self-esteem encourages positive health behaviors among the

adolescents. Peers -in other words- friends are one of the most effective support and help sources of people in life. Exchange of personal, social and moral experiences of peers enables personal and social development among friends. Peer education -a training activity that focuses on the fact that youngsters interact and identify with their friends and peers better- is based on social learning theory and aims at training voluntary and pioneer youngsters about certain issues and making them share the knowledge and information they have already learnt with their peers. Thus, positive peer reports regarding BSE improve BSE knowledge and practices of the adolescents (11-14).

The current study aimed at identifying the effect of peer education upon BSE behaviors and self-esteem among university students.

Materials and Methods

Aim, design, population and sampling of the study
The study was semi-experimentally designed in order to identify the effect of peer education upon BSE behaviors and self-esteem among university students. The population of the study was composed of all the female students who studied at different departments of Erzincan University (Faculty of Education, Faculty of Engineering, Faculty of Justice, Faculty of Theology, Faculty of Science and Letters). The sample of the study was consisted of 100 female students who studied at other departments of Erzincan University - Health School students not included- and who were contacted through 10 female students recruited among the 4th year students of Health School.

Sampling method:
In order to provide BSE peer education, peer educators were recruited among the 4th year female students of Health School thanks to their nursing education and health knowledge. Names of the 4th year female students were written down on a piece of paper and put in a bag to draw lots. The 10 students who accepted to participate in the study were trained about BSE and breast cancer. Each of the 10 nursing students who were trained gave peer education to 10 female peer students coming from other departments about BSE and breast cancer. Criteria for the participants to whom peer education was given were as follows: they should be female, should share the same social settings as peer educators, should not have mastectomy before and should study at a department of Erzincan University except Health School.

Data collection method
The study was carried out between April and July, 2015. Firstly, 10 peer educators recruited among the 4th year female students of Health School were trained about prevalence, risks, early diagnosis methods, symptoms and importance of breast cancer and BSE in Turkey through a power point presentation so that they could provide the peer education. The Presentation was designed by the researchers and examined by experts (one expert from the department of public health, two experts from the department of obstetrics and women's health and disease). Study topics were demonstrated in a total of 4 sessions in order to minimize any bias in the researcher and students' performance. Each session lasted 30-minutes. Each female nursing student who participated in 4 sessions of the training was called as peer educators. Brochures to be used in the peer education and questionnaire forms to be administered were distributed to the female peer educators. Then, each peer educator provided 10 female students -one by one- with an applied peer education on BSE that lasted nearly 30 minutes in one session. Before the educations, oral informed consents of the participants were obtained and then questionnaire forms and scales were administered. The participants who filled in the questionnaire and scale were given one to one peer education by peer educators about breast cancer and BSE and were asked to practice BSE on their own bodies once. At the end of the education, brochures that were designed and illustrated BSE steps were given to the participants. One month after the peer education, the participants again filled in questionnaire forms and scales again through peer educator.

Data Collection Tools

Questionnaire form: The questionnaire form included a total of 14 questions; 4 questions about students' socio-demographic characteristics (age, income status, etc.), 5 questions about BSE and breast cancer (whether or not they have knowledge about breast cancer; if yes, who the person from whom they get the information is, whether or not the family has breast cancer history) and 5 questions about BSE practice status (whether or not they practice BSE; if yes, how often they practice BSE).

BSE skill form: The form included a total of 13 questions about whether or not they performed steps of BSE in order. The form was designed in line with the literature and expert opinion was obtained (one expert from the department of public health, two experts from the department of obstetrics and women's health and disease).

Rosenberg self-esteem scale: The scale was designed by M. Rosenberg and adapted for Turkish language by Füsun Çuhadaroğlu (15). The scale is composed of 63 items and 12 subscales. In the current study, only self-esteem subscale was used. In the test based on Guttman scale, positive and negative items are successively organized. According to scale scoring system, scores that subjects receive range from 0 to 6. In the comparisons made on the basis of numeric measurements, a score between 0 and 1 indicates high self-esteem, a score between 2 and 4, moderate self-esteem and a score between 5 and 6, low self-esteem. High scores indicate low self-esteem while low scores indicate high self-esteem. Validity coefficient of the scale was found to be .71 whereas reliability coefficient of the scale was .75.

Ethical principals
Written official permissions and approvals to undertake this study were gained from government agencies. The study was started with the decision dated 13.02.2015 and numbered 01. All patients were informed of the purpose of the study and were explained that participation was voluntary and could withdraw from the study anytime. Also, the participants were assured of confidentiality and individual responses would remain confidential, not be disclosed and be used nowhere.

Data analyses and data assessment
Statistical Package for the Social Sciences (SPSS) for Windows software Version 22.0 (IBM Corp., Armonk, New York, USA) was used for statistical analysis. In assessing the data, it was found that the data were homogenous and parametric tests were employed. Statistical methods used were percentage, frequency, mean, standard deviation and simple t-test. Results were considered significant at $p<0.05$.

Results

All of the participant students were single and their descriptive characteristics were presented in Table 1. It was found that mean age of the participant students was 20.45 ± 1.67 years and 35% of the female students were 1st year graders, 52% of them had an income equal to expenses and 78% of them lived in nuclear families.

Table 1. Descriptions of the students in terms of descriptive characteristics (n=100)

Socio-demographic characteristics	Number	%
Age	20.45±0.16	
Grade		
1st graders	35	35
2nd graders	21	21
3rd graders	20	20
4th graders	24	24
Income level		
Income<expenses	24	24
Income=expenses	52	52
Income>expenses	24	24
Family type		
Extended family	22	22
Nuclear family	78	78

Table 2. Knowledge level of breast cancer and BSE of the participant students (n=100)

	Number	%
Status of whether or not information on breast cancer was received before		
Yes	35	35.0
No	65	65.0
Information-source where participants got the information about breast cancer		
Health care personnel	14	40.0
Books, magazines, brochures	9	25.7
Mass media	12	34.3
Whether or not 1st degree relatives have breast cancer history		
Yes	13	13.0
No	87	87.0
Whether or not you had information/ education on BSE		
Yes	32	32.0
No	68	68.0
Information-source where participants got the information/education about BSE		
Health care personnel	17	53.2
Books, magazines, brochures	10	31.2
Mass media	5	15.6

BSE: breast self-examination

Table 3. Comparison of status of students' BSE knowledge and practices before and after BSE peer education (n=100)

	Before BSE peer education		After BSE peer education	
	Number	%	Number	%
At what age should a woman start BSE?				
Following the first menstruation	25	25.0	19	19.0
After the age of 30	9	9.0	2	2.0
After the age of 15	14	14.0	4	4.0
After the age of 20	24	24.0	75	75.0
I do not know	28	28.0	0	0.0
Do you perform BSE?				
Yes	16	16.0	77	77.0
No	84	84.0	23	23.0
The reason why you do not do BSE				
I do not know how to do BSE	58	69.0	2	8.7
Possibility that something bad may take place	10	11.9	4	17.4
I do not think that I should	12	14.3	2	8.7
I forgot	4	4.8	15	65.2
What is the frequency that you perform BSE?				
From time to time	7	41.2	23	29.9
Once a month	5	29.4	48	62.3
Other (when I remember)	5	29.4	6	7.8
When do you practice BSE?				
Whenever I remember	22	62.9	17	19.5
Before menstruation	3	8.6	1	1.1
During menstruation	3	8.6	4	4.6
5-7 days later following menstruation	7	20.0	65	74.7

BSE: breast self-examination

Table 2 demonstrates the level knowledge that participants had about breast cancer and BSE. It was identified that 65% of the students did not get any information on breast cancer before but 40% of those who got information on breast cancer received that information from health care personnel mainly and 87% of them did not have breast cancer history among their first degree relatives. On the other hand, when the status of getting BSE information/education and from whom the students got this BSE information/education were examined, it was found that 68% of them received information/education on BSE before and 53.2% of them received this information/education from health care personnel mainly.

Table 4. Students' ability to do BSE and mean scores of Rosenberg Self-esteem Scale (n=100)

Scales	Before BSE peer education X±SD	After BSE peer education X±SD	t	P
Ability to do BSE	2.36±4.13	10.70±3.40	-16.895	0.000
Rosenberg Self-esteem Scale	1.20±1.34	0.84±1.07	2.78	0.006

BSE: breast self-examination; SD: standard deviation

Table 3 includes comparisons about BSE knowledge level of the students before and after the BSE peer education in terms of whether or not students received BSE information. Before the BSE peer education, 28% of the students answered "I do not know." for the question "At what age should BSE be initiated?" whereas after the BSE peer education 75% of the students answered that BSE should be initiated after the age of 20. It is significant that before the BSE peer education, 16% of the students practiced BSE regularly whereas after the BSE peer education, the rate of those performing BSE regularly rose to 77%. Before the BSE peer education, 69% of the students did not practice BSE because they did not know how to do BSE whereas after the BSE peer education, 65% of the students told that they did not perform BSE because they forgot. When the frequency at which students practiced BSE was examined, the following was found: before the BSE peer

Table 5. Distribution of students' ability to do BSE before and after BSE peer education

Breast self-examination information form	Before BSE peer education				After BSE peer education				
	Knowledge		No knowledge		Knowledge		No knowledge		
	n	%	n	%	n	%	n	%	
You stand before a mirror that reflects upper part of body.	26	26	74	74	87	87	13	13	t=11.513 p=0.000
Breasts are checked in front of a mirror in terms of shapes, size, appearance with arms at sides, arms on hips and overhead.	24	24	76	76	90	90	10	10	t=12.771 p=0.000
Hands are pressed against hips, shoulders and elbows are placed in front by bending . towards mirror slowly and breasts are observed	14	14	86	86	81	81	19	19	t=13.577 p=0.000
Control nipples for discharge by gently squeezing.	17	17	83	83	74	74	26	26	t=11.456 p=0.000
Use 2nd, 3rd and 4th fingers of your hand to touch every part of your breast. Fingers should be kept close.	21	21	79	79	88	88	12	12	t=11.764 p=0.000
Site to be examined are upper part of bra, collar bone, middle of thorax and under armpits.	20	20	80	80	80	80	20	20	t=11.282 p=0.000
Examination should be done over breasts by circle and horizontal movements slowly and carefully.	21	21	79	79	90	90	10	10	t=13.625 p=0.000
During the examination, all layers of breast should gradually be felt –first- by slow, moderate and strong pressures.	20	20	80	80	73	73	27	27	t=9.485 p=0.000
Hand examination should be done by both lie-flat position and standing position. Each breast is checked at least for 5 minutes.	16	16	84	84	80	80	20	20	t=12.726 p=0.000
While in the shower, use your right hand to examine your left breast and vice versa.	21	21	79	79	89	89	11	11	t=13.331 p=0.000
Clasp your hand behind your head in the shower and look carefully for any changes in the shape or contour of your breasts.	18	18	82	82	85	85	15	15	t=13.046 p=0.000
Put a pillow or towel under your shoulder for the breast to be examined while lying down.	9	9	91	91	69	69	31	31	t=11.282 p=0.000
While standing or lying down, underpins are examined by hand after breasts by palpation.	19	19	81	81	85	85	15	15	t=13.863 p=0.000

BSE: breast self-examination

education, 41.2% of the students performed BSE from time to time whereas after the BSE peer education, the rate of those practicing BSE once a month increased to 62.3%. Before the BSE peer education, 62.9% of the students practiced BSE when they remembered whereas after the BSE peer education, 74.7% of the students performed BSE after 5-7 days following menstruation.

Table 4 showed students' knowledge level and mean scores of Rosenberg Self-esteem Scale before and after BSE peer education. It was identified that students' ability to do BSE before and after BSE peer education and mean scores of Rosenberg Self-esteem Scale increased considerably (p<0.001).

Table 5 demonstrated distributions regarding students' ability to do BSE before and after the BSE peer education. When students' abilities to perform each step of BSE were examined, it was noted that there were statistically significant differences between students' abilities to perform each step of BSE before and after BSE peer education (p<0.01). Accordingly, students' abilities to perform each step of BSE increased and enhanced following BSE peer education.

Discussion and Conclusion

Breast cancer is the most commonly seen cancer type among women both in the developing countries and the developed countries. A treatment that prevents breast cancer has not been found yet but when early diagnosis is made, expected life span can be extended and a complete recovery can be achieved. Mammography, clinical breast examination and BSE are the methods used for screening in the early detection of breast cancer (16, 17). According to the literature, BSE is a cheap, simple, safe and effective method and acquiring BSE behaviors and practices will increase the possibility to continue BSE in the future (18). The study was done in order to determine the effects of peer education upon BSE practices and self-esteem among the university students.

The mean age of the participant students was 20.45±1.67 years, 35% of the female students were 1st year graders, 52% of them had an income equal to expenses and 78% of them lived in nuclear families (Table 1). 35% of the participant students told that they got information on breast cancer before (Table 2). The rate of those receiving information on breast cancer before was 64.2% in the study by Tahmasebi and Noroozi, 52.4% in study by Segni et al. (19) , 50% in the study by Özkahraman et al. (20) and 50.2% in the study by Özen et al. (21). Therefore, it is very crucial to promote and to enhance awareness level of young women about breast cancer, which has increased in the recent years, to inform women about breast cancer screenings and to help them gain health promoting behaviors (21).

When information-source where participants got the information about breast cancer was examined, it was identified that 40% of the students received the information on breast cancer from health care personnel (Table 2). It was found that participants received the information on breast cancer from health care personnel (27.6%) in the study by Suleiman, again from health care personnel (12.2%) in the study by Tahmasebi and Noroozi, from mass media in the study by Özen et al. (21) (29%) while 11.2% of them received the information from nurses (10, 22). Although healthcare workers play a key role in preventing and early diagnosis of cancer, the studies indicate that their effect is quite poor.

When family history of breast cancer, another important risk factor, was examined, 13% of the participant students stated that they had breast cancer history among their first degree relatives (Table 2). The rate of those who told that they had breast cancer history among their first degree relatives was 9.2% in the study by Al Sharbatti et al. (23), 13% in the study by Koç and Sağlam (24), 17.6% in the study by Al Zalabani et al. (25), 5% in the study by Ertem and Koçer (26) and 11% in the study by Ogunbod et al. (27). The results of the current study concurred with the results of the literature.

Breast cancer, prevalence of which has been increasing all over the world, is the one that is most seen among women. Many studies emphasize that BSE, which plays a key role in early diagnosis of breast cancer, is not known by Turkish women much and those who know BSE do not practice it enough (24, 28, 29). In this sense, 32% of the participant students told that they had education on BSE before (Table 2). Similarly, 37.4% of the university students in the study by Nde et al. (3) and 30.1% of the students in the study by Karayurt et al. (30) told that they had education on BSE before. On the contrary, 77.3% of the teachers had education on BSE before in the study by Marzo and Salam. (31) The reason why the rate of those receiving education on BSE before in the study by Marzo and Salam (31) is high may have resulted from the age of the participants. The idea that people catch illnesses more whey they grow old and the fact that importance of early diagnosis of breast cancer is not known at younger ages confirm the finding above.

When the source of information from which the participants got information about BSE was examined, it was identified that 53.2% of them received information about BSE from health care personnel, 31.2% from books, magazines, brochures and 15.6% from mass media (Table 2). Similarly to our study findings, in the Turkish study by Koç and Sağlam (24), it was reported that women received information about BSE from health care personnel, newspapers, magazines, TVs and radio, respectively (24). In another study, Gençtürk et al. (32) reported that students of midwifery stated that undergraduate education, publications such as TVs and newspapers, nurses and doctors -respectively- were influential upon BSE practice.

When the students' BSE knowledge and practices before and after the BSE peer education were compared, it was identified that their BSE knowledge and practices before the BSE peer education was poor but after the BSE peer education a big change took place in BSE knowledge and practices (Table 3). Similar to our study results, the study by Öztürk et al. (33) indicated that there were significant differences in terms of BSE knowledge and practices before and after the education. Similarly, the study by Seif and Aziz (34) pointed out that rate of participants' knowledge and BSE practices was 15% and 5.2% before the education whereas it rose to 95.1% and 86% after the education; respectively.

When the students' abilities to do BSE before and after the BSE peer education and their mean self-esteem scores were compared, it was found that there were significant increases in BSE ability/skills and self-esteem scores (Table 4). Similarly, in the study by Tuna et al. (35), too, it was identified that there were significant increases in BSE ability/skills and self-esteem scores before and after the BSE education. Self-esteem is people's evaluation and approval of their own worth and is a positive mood that enables them to be satisfied and pleased with themselves and find themselves positive without considering themselves inferior or superior (36). In line with the definition, it is thought that one who loves and accepts his/her own body seeks for healthy lifestyle behaviors and cares about his/her health while those who do not care about their own bodies neglect both their health and body.

In the current study, it was seen that there were significant differences in BSE skill levels before and after BSE peer education given to enhance the ability to do BSE (Table 5). Besides, when the finding that 84% of the students did not do BSE at all and 41.2% of those doing BSE performed BSE from time to time was considered, it may be argued that applied peer education regarding BSE became effective upon BSE practice. The outcome that the BSE peer education produced significant knowledge and information changes supports the conclusion that a strong scientific ground has been built in terms of developing awareness about breast cancer and early diagnosis among the students. The study results were in line with literature (24, 16, 37).

In conclusion, with the current study, students had the opportunity to fill knowledge gap about epidemiology, risk factors, protection of BSE and other BSE topics through peer education. Although short-term feedback was obtained, it was noted that students' BSE knowledge increased and they enhanced their BSE skills considerably. Besides, the study results demonstrated effects of peer education upon self-esteem, which were not studied before. In light of these results, it may be recommended that peer education models should be used in larger samples in order to increase students' knowledge and awareness levels, to provide more extensive information in curriculum, to extend educations and to increase their efficacy. Trainings to be given at an early age will draw attention of youngsters and raise their awareness. Meanwhile, a long-term follow up will be useful in determining sustainability of behavior change and knowledge preservation.

Limitation of the study
The study was conducted with the female students at the Erzincan University. Therefore, the results are generable only for these students. The study is limited with the points included in the questionnaire form that addressed socio-demographic characteristics, breast cancer and BSE. Although the participants were not forced to report increased performance of BSE, participants may have been inclined to give biased answers towards the expected outcomes/actions after the training.

References

1. Al-Naggar RA, Al-Naggar DH, Bobryshev Y, Chen R, Assabri A. Practice and Barriers Toward Breast Self-Examination Among Young Malaysian Women. Asian Pac J Cancer Prev 2011; 12:1173-1178. (PMID: 21875261)

2. Karayurt Ö, Coşkun A, Cerit K. Nurses' beliefs about breast cancer and breast self examination and their breast self examination performance. Eur J Breast Health 2008; 4:15-20.

3. Nde FP, Assob JC, Kwenti TE, Njunda AL, Tainenbe TR. Knowledge, attitude and practice of breast self-examination among female undergraduate students in the University of Buea. BMC Res Notes 2015; 8:43. (PMID: 25889644) [CrossRef]

4. Şencan I, Keskinkılıç B. The Turkish Ministry of Health, Public Health Agency of Turkey, Cancer Statistics Turkey. (Accessed November 20 2016) http://www.kanser.gov.tr.

5. Şen S, Başar F. Breast cancer and breast self examination knowledge of women who live in kütahya region Eur J Breast Health 2012; 8:185-190.

6. Duran O. Effect of Planned Education Provided on Breast Self-Exam on the Health Beliefs and Perceived Health Statuses of Women. C.U. Health Sciences Institute, PhD Thesis. 2008. https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp

7. Akyolcu N, Uğraş G. Kendi Kendine Meme Muayenesi: Erken Tanıda Ne Kadar Önemli? Meme Sağlığı Dergisi 2011; 7:10-14.

8. Karayurt Ö, Dramalı A. Adaptation of Champion's Health Belief Model Scale for Turkish women and evaluation of the selected variables associated with breast self-examination. Cancer Nurs 2007; 30: 69-77. (PMID: 17235224). [CrossRef]

9. Güner İ, Tetik A, Görener A. Identification of the Knowledge, Attitudes and Behaviours of Women Regarding Breast Self-Exam (BSE). Gaziantep Journal of Medicine 2007; 55-60.

10. Tahmasebi R, Noroozi A. Is Health Locus of Control a Modifying Factor in the Health Belief Model for Prediction of Breast Self-Examination? Asian Pac J Cancer Prev 2016; 17:2229-2233. (PMID: 27221923). [CrossRef]

11. The relation between self-esteem and social anxiety levels of adolescents and the effects of personal variables. International Periodical for the Languages, Literature and History of Turkish or Turkic 2013; 8:179-193. http://www.turkishstudies.net/Makaleler/121209375_13ErisYaseminsos-179-193.pdf

12. Aladağ M, Tezer E. What is the Peer Helping and What is Not? Turkish Psychological Counseling and Guidance Journal 2007; 3:139-155. dergipark.ulakbim.gov.tr/tpdrd/article/view/1058000028

13. Aladağ M, Tezer E. Need Assessment Study For A Peer Helping Program For University Students. Ege Journal of Education 2007; 2:19-36.

14. Richmond C, Ross N. Social support, material circumstance and health behaviour: influences on health in First Nation and Inuit communities of Canada. Soc Sci Med 2008; 67:1423-1433. (PMID: 18676079). [CrossRef]

15. Çuhadaroğlu F. Adolesanlarda Benlik Saygısı. H.Ü. Tıp Fakültesi, Uzmanlık Tezi. 1986.

16. Gür K, Kadıoğlu H, Sezer A. Breast Cancer Risks and Effectiveness of BSE Training among Women Living in a District of İstanbul. Eur J Breast Health 2014; 10:154-160. [CrossRef]

17. Erkin Ö, Ardahan M. Meme Kanseri ve Kendi Kendine Meme Muayenesinin Pullardaki Tarihi. Lokman Hekim Journal, 2014; 4:22-28.

18. Gürsoy A, Yiğitbaş Ç, Yılmaz F, Erdöl H, Bulut H, Mumcu H, Yeşilçiçek K, Kahriman İ, Hindistan S, Nural N. The Effect of Peer Education on University Students' Knowledge of Breast Self-Examination and Health Beliefs. Eur J Breast Health 2009; 5: 135-140. [CrossRef]

19. Segni MT, Tadesse DM, Amdemichael R, Demissie HF. Breast Self-examination: Knowledge, Attitude, and Practice among Female Health Science Students at Adama Science and Technology University, Ethiopia. Gynecol Obstet (Sunnyvale) 2016; 6:4.

20. Özkahraman Ş, Vural BK, Bayık A. Development of the Skills for Breast Self-Exam in Public Education Center Course Participants. Atatürk University Journal of Nursing College 2006; 9:1-9.

21. Özen B, Zincir H, Erten Z, Özkan F, Elmalı F. Knowledge and Attitudes of Women about Breast Cancer, Self Breast Examination and Healthy Life Style Behaviours. Eur J Breast Health 2013; 9:200-204. [CrossRef]

22. Suleiman AK. Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. Journal of Basic and Clinical Pharmacy 2014; 5:74-78. (PMID: 25278670). [CrossRef]

23. Al-Sharbatti SS, Shaikh RB, Mathew E, Al-Biate MA. Breast Self Examination Practice and Breast Cancer Risk Perception among Female University Students in Ajman. Asian Pac J Cancer Prev 2013; 14:4919-4923. (PMID: 24083768). [CrossRef]

24. Koç Z, Sağlam Z. Determination of the knowledge and the practice of female patients about breast cancer, preventive measures and breast self-examination and effectiveness of education. Eur J Breast Health 2009; 5:25-33.

25. Al-Zalabani AH, Alharbi KD, Fallatah NI, Alqabshawi RI, Al-Zalabani AA, Alghamdi SM. Breast Cancer Knowledge and Screening Practice and Barriers Among Women in Madinah, Saudi Arabia. J Cancer Educ 2016 Jun 7 doi:10.1007/s13187-016-1057-7. [Epub ahead of print]. (PMID: 27271153). [CrossRef]

26. Ertem G, Koçer A. Breast self-examination among nurses and midwives in Odemis health district in Turkey. Indian J Cancer 2009; 46:208-213. (PMID: 19574672). [CrossRef]

27. Ogunbode AM, Fatiregun AA, Ogunbode OO. Breast self-examination practices in Nigerian women attending a tertiary outpatient clinic. Indian J Cancer 2015 Oct-Dec; 52:520-524. doi: 10.4103/0019-509X.178376. (PMID: 26960463). [CrossRef]

28. Vicdan A, Koçyiğit C, Kabak N. Identification of the Levels of Knowledge of University Students about Breast Cancer and Breast Self-Exam. Maltepe University, Journal of Nursing Science and Art, Symposium Special Issue 2010.

29. Beydağ KD, Karaoğlan H. Influence of Breast Self-Exam Education on the Knowledge and Attitudes of Students. Turkish Armed Forces Preventive Medicine Newsletter 2007; 6:106-111.

30. Karayurt Ö, Özmen D, Çetinkaya AC. Awareness of breast cancer risk factors and practice of breast self examination among high school students in Turkey. BMC Public Health 2008; 8:359. (PMID: 18928520). [CrossRef]

31. Marzo RR, Salam A. Teachers' Knowledge, Beliefs and Practices of Breast Self-Examination in a City of Philippine: A Most Cost-Effective Tool for Early Detection of Breast Cancer. Journal of Applied Pharmaceutical Science 2016; 6:016-021. http://imsear.li.mahidol.ac.th/handle/123456789/176906

32. Gençtürk N, Demirezen E, Ay F. Health Beliefs of Midwifery Students at Istanbul University about Breast Cancer and Breast Self-Examination Acknowledgements. J Canc Educ 2016 DOI: 10.1007/s13187-016-1014-5. [CrossRef]

33. Öztürk M, Engin VS, Kişioğlu AN, Yılmazer G. Effects of Education on Knowledge and Attitude of Breast Self Examination Among 25+ Years Old Women. Eastern Journal of Medicine 2000; 5(1):13-17. http://www.eastjmed.org/jvi.aspx?pdir=ejm&plng=eng&un=EJM-29650

34. Seif N, Aziz M. Effect of Breast Self Examination Training Program on Knowledge, Attitude and Practice of a Group of Working Women. Journal of the Egyptian Nat. Cancer Inst 2000; 12:105-115.http://www.nci.cu.edu.eg/Journal/00_06_05.pdf

35. Tuna A, Bektash M, Turgay A, Tuna A, Genç R. Effects of Peer Education, Social Support and Self Esteem on Breast Self Examination Performance and Knowledge Level. Asian Pac J Cancer Prev 2009; 10:605-608. (PMID: 19827878).

36. Özcan H, Subaşı B, Budak B, Çelik M, Gürel Ş, Yıldız M. Relationship between self-esteem, social appearence anxiety, depression and anxiety in adolescent and young adult women. Journal of Mood Disorders 2013; 3:107-113. [CrossRef]

37. Gölbaşı Z, Kutlar Z, Akdeniz H. The effect of education given by nursing students on womens' knowledge and practice of breast cancer / breast self examination in a public training center. Eur J Breast Health 2007; 3:53-57.