The Determination of Knowledge, Applications and Health Beliefs of Third- and Fourth-Grade Nursing Students Regarding Breast Self-Exam

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ABSTRACT

Objective: Breast Self-Exam (BSE) is a screening method for the early diagnosis of breast cancer in young women. However, the knowledge and applications of the students related to Breast Self-Exam (BSE) are insufficient. This study aims to investigate the knowledge, application and health beliefs of the students related to BSE.

Materials and Methods: This descriptive study's sample consisted of 127 third and fourth grade students in the Nursing Department. Socio-demographic Form, Breast Cancer Knowledge Form, Health Belief Model Scale and BSE Checklist were used in order to collect the data. The data were analyzed by using descriptive statistics, chi-squared test, t-test and Mann-Whitney U test.

Results: Although most of the students have knowledge about BSE, the frequency of BSE and CBE were found to be low. The fourth grade students were more confident that they applied BSE correctly and their perceived self-efficacy was higher, but their perceived susceptibility and perceived obstacles were lower (p<.05). The students' knowledge level about BSE was moderate and their BSE proficiency was low. It was found out that there was a statistical difference between BSE knowledge level and perceived susceptibility, health motivation, perceived obstacles and perceived self-efficacy. Also, a statistical difference was found between students' being sure that they applied BSE correctly and perceived obstacles and perceived self-efficacy (p<.05).

Conclusion: These findings lead to the idea that special training programs should be held instead of standard trainings, in order to improve the knowledge, skills, applications and health beliefs of the students regarding BSE. The curriculums should be revised in terms of breast cancer education.

Keywords: Breast cancer, early diagnosis, nursing students, breast self-exam

Introduction

Breast cancer is a kind of cancer which is frequent among women, which causes death and whose rate of incidence has increased when compared to previous years. Incidence of breast cancer is reported as 38-40 per hundred thousand in the World and 40 per hundred thousand in Turkey and its age of incidence becomes increasingly lower (1). Early diagnosis methods such as Mammography, Clinical Breast Examination (CBE) and Breast Self-Exam (BSE) are used for the early diagnosis and successful treatment of breast cancer and making the lifetime longer (2, 3). BSE is a simple practice without cost and which can be made at a short time. Today, the prevailing view is that BSE has limited effect in reducing the mortality of breast cancer. However, the authorities of breast health include BSE in screening guides because women know their own breast tissue, they often find the bulk themselves first, they are responsible of their own health and they adopt preventive healthcare behaviour (3, 4-6). Moreover, when it is considered that mammography, which is accepted as the gold standard in the diagnosis of breast cancer, is not used in young women, BSE becomes more important. When the socio-economical facts are also considered especially in developing countries with middle income such as Turkey, BSE is regarded as an indisputable practice (5, 7).

Although BSE is recommended in the early diagnosis of breast cancer, it was shown that BSE was made irregularly or never made in the studies conducted on women of all age groups and students (2, 8-14). Researches indicate the importance of education in increasing the rate of BSE (10, 11, 15-18). However, it is reported that even the educated student nurses do not make BSE at a sufficient level and the number of them who make BSE irregularly or who never make it is high (19, 20). Women avoid having CBE, do not want to see a doctor and they delay it because of being ashamed in Islamic countries like Turkey (20).

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Primarily comprehending their own breast cancer screening processes correctly and then offering the necessary training for the patients is an important public health service the nurses working in policlinics and inpatient treatment institutions should provide. Nursing students should have the necessary knowledge, skills and behaviour about BSE since they are role models for the society to learn, adopt and practice the preventive and improving actions about health. In addition, the students' awareness about their own bodies should be formed and their responsibilities about personal health activities should be developed at a young age. What is ideal about this topic is the students' graduation with adequate knowledge and skills about breast cancer.

In many studies, it has been indicated that the individual's beliefs about health (like the perception of susceptibility, perception of seriousness, perception of self-efficacy, health motivation and perception of threat) are important in protection from breast cancer beside the level of knowledge, socio-demographic characteristics and experiences (3, 17, 20, 21). Few studies in the literature have compared the students' knowledge, practices and beliefs according to their years (22, 23). There are course subjects about BSE and breast cancer in various subjects of the first, second and third-year students in the syllabus of our department. The fourth-year students are expected to practice this education they have in the field. The students' educating the individuals about breast cancer and BSE depends on their knowledge and practices and their beliefs about health at the same time. Evaluation of the sufficiency of the education the students have before they graduate is important in terms of recognizing and overcoming their deficiencies. Because of this reason, this study was connected in order to determine the knowledge, practice and beliefs of the third and fourth-year students about BSE.

Materials and Methods

Study Design: The study has a descriptive design.

Universe and Sample: In total, 297 female students in the department of nursing at School of Health made the universe of the research. In this study, 82 third year and 68 fourth-year students (since practice over 20 age is recommended in BSE) studying at the School of Health in 2014-2015 academic year = totally 150 students made the sample of the research. Sixty one third-year students and 66 fourth-year students, totally 127 nursing students joined this research except students who did not volunteer or who were not present at school because of personal reasons. The rate of participation in the study was calculated as 85%.

Data Collection
Data Collection Tools: The data for the research were collected using the Form of Socio-Demographic Characteristics, the Breast Cancer Information Form prepared by the researchers and the Health Belief Model Scale and the Breast Self-Exam Proficiency Rating Instrument. The Socio-Demographic Characteristics Form and the Breast Cancer Information Form were analysed by two academic members who have worked in their fields. The forms were given their last shape pretesting them on five students who did not participate in the sample group before.

Form of Socio-Demographic Characteristics: This form consists of 17 questions about topics such as the student's age, marital status, working status, health insurance, financial status, family type, history of breast cancer in the family, education about breast cancer, doing BSE and having CBE done.

Breast Cancer Information Form: The breast cancer information form consists of 35 questions which measure the level of knowledge about breast cancer and BSE. The questions of this form consist of three options: Yes, No and I don't know. The students were given one point for each correct answer of theirs and they were given zero point for each of their ''I don't know" answers. The lowest score which can be obtained from the form is zero and the highest score is 35. The level of knowledge increases in parallel with the increase in score.

Breast Self-Exam Proficiency Rating Instrument - BSEPRI: The BSE Control List is applied in order to evaluate the women's skills of making their breast self-exam in accordance with the suitable stages and finding the bulks in the breasts. The Breast Self-Exam Proficiency Rating Instrument-BSEPRI was developed by Robin Wood in 1994. There are 10 expressions which contain the stages of making BSE in the form. 10 points are given to each correct stage about the examination. Zero point is given for each wrong stage or stage which is not applied. According to this, the lowest score which can be obtained in this form is zero and the highest score which can be obtained therein is 100. Ninety and over points for making BSE indicate that BSE is made correctly. Eighty and lower points indicate that BSE is not made correctly. The permission for using the form in Turkey was obtained by Seçginli (2007) (24).

Health Belief Model Scale (HBMS): HBMS about breast cancer and its screenings was developed by Champion (1984). In this research, the validity and reliability test of the HBMS was made by Gözüm and Aydın (2004) using the form they prepared. The Cronbach-Alpha coefficient of the scale ranges between 69 and 83. In the scale, the five point likert scale ranging from Strongly Disagree to Strongly Agree was used (1, 5). A score near five means susceptibility, paying attention and health motivation and it means that the benefits of BSE, obstacles for BSE and the self-efficacy of BSE are perceived highly. Each dimension of the scale is evaluated separately and only one total score is obtained. In accordance with this, scores are obtained equal to the number of dimensions used for each individual. The scale can be used with the dimension of BSE beliefs in two separate ways or both dimensions can be used together. The scale is reported that it can be used trustfully for women with all levels of education (25). In this study, the scale's subdimensions about breast cancer and BSE were used.

Dependent and Independent Variables
The independent variables of this study are the socio-demographic characteristics of the students and its dependent variables are the students' knowledge about breast cancer, BSE, CBE practice and their health beliefs.

Ethical Considerations
In this research which is not invasive approval from the ethical committee was not requested since permission was obtained from the institution and verbal consent was obtained from the students. The questionnaires were completed by the students themselves in a lesson time. The BSE checklist was evaluated by the researchers in face to face meetings.

Data Evaluation
Statistical Package for the Social Sciences (SPSS Inc.; Chicago, Illinois, USA) was used for statistical analysis. The statistical significance of the data was evaluated at the level of $p < .05$. Parametric analyses were made in the data which confirm to normal distribution and non-parametric analyses were made in the data which do not conform to normal distribution. The data were evaluated using the percent, average, mean, standard deviation, chi-squared test and Mann-Whitney U tests.

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Table 1. Comparison of the Students' characteristics relating breast cancer and BSE in terms of the grades

		Third grade		Fourth grade		
Characteristics		**n**	**%**	**n**	**%**	**Statistics**
Knowledge about BSE	Yes	61	100.0	65	98.5	**
	No	0	0.00	1	1.5	p= 1000
BSE application	Regularly	9	14.8	8	12.1	*X^2=.030
	Irregularly or never	52	85.2	58	87.9	p=.861
CBE application	Never	54	88.5	60	90.9	*X^2=.022
	Sometimes	7	11.5	6	9.1	p=.881
Being sure about BSE	Yes	31	50.8	48	60.8	X^2=5.573
	No	30	49.2	18	37.5	p=.018
Importance of BSE	Very important	56	91.8	63	95.5	**
	Moderate important	5	8.2	3	4.5	p=.479
Family history of Breast Cancer	1st and 2nd degree+	9	14.8	7	10.6	*$X2$=.190
	No	52	85.2	59	89.4	p=.663
Breast complaints	Yes	5	8.2	5	7.6	**
	No	56	91.8	61	92.4	p=1.000

*Continuity Correction; ** Fisher's Exact Test; X^2= chi-squared test

Results

The average ages of the third/fourth-year students who participated in the research are respectively 21.20±0.89 / 22.47±1.07'dir. Most of the students from both grades are single, do not work and have health insurance. In this study, 45.9% of the third-year students and 59.1% of the fourth-year students are senior high school graduates. The income and the expenses of the 73.8 % of the third-year students and 71.2% of the fourth-year students are equal. It was found that 85.2 % of the third-year students and the 93.9 % of the fourth-year students have nuclear families.

As it is seen in Table 1, while the knowledge about BSE is very high in both grades, regular BSE and CBE is quite low and the difference between the grades is statistically insignificant (p >.05). The fourth-year student's state of being certain that they do BSE correctly is higher than the third-year students and the difference between them is statistically significant (p <.05). There is no statistically significant difference in terms of the importance of BSE, family history and complaints about breast cancer between the grades (p>.05).

Only 0.8% of the students who participated in the research expressed that they knew nothing about BSE and 73.2% of them expressed that they learned about BSE at school. As shown in Table 2, 85.45% of the students did not indicate any reason as a reason why they did not do BSE. The students who indicated reasons for not doing BSE reported forgetting (6.36%) and not finding necessary (4.54%) (Table 2).

As it is seen in Table 3, the students' scores of susceptibility and the obstacles for BSE are higher in the third-year students and their self-efficacy score is higher in fourth-year students and the difference between them is statistically significant (p<0.05). The difference between the students' HBMS seriousness, health motivation and BSE benefit perception scores and their breast cancer knowledge and BSE skill scores in accordance with their years is not statistically significant (p>0.05) (Table 3).

Table 2. Distribution of the Students' Information Resources about Breast Cancer and reasons of the students for not applying BSE

Information Resources about Breast Cancer*	n	%
Lessons	94	73.2
Printed publications	50	39.4
Medical Staff	39	30.7
TV/The Internet	44	34.6
Friend/Relatives	5	3.9
No information	1	0.8
Reasons of the students for not applying BSE=110		
Indicated no reasons	94	85.45
Forgetting	7	6.36
Regarding as unnecessary	5	4.54
Having no breast trouble	1	0.9
Fear	1	0.9
Having no time	1	0.9
Having no special reason	1	0.9

*more than one answers.

No statistically significant difference was found between the family histories of the students participated in the research and all of the BSE sub-dimension scores of HBMS (p>0.05). The HBMS seriousness perception score is low in the students who did their BSE regularly when compared to the ones who did BSE irregularly or who never did BSE. Their HBMS benefit perception score is higher (p>0.05). There is no sta-

Table 3. Comparison of the Students' Health Belief Model Scale Scores, BSE Knowledge Scores and BSE Skills Scores in terms of the Grades

Scores	Min- Max scores	Cronbach Alpha Values	Third grade (n=61) X±SS	Fourth grade (n=66) X±SS	Statistics
Susceptibility	3-15	.82	8.18±2.51	6.88±2.55	t=2.900 p=.004
Seriousness	6-30	.86	21.33±5.71	19.79±5.47	t=1.552 p=.123
Health motivation	5-25	.92	20.48±5.61	21.42±4.76	t=-1.030 p=.305
BSE benefits	4-20	.92	16.26±4.26	16.68±3.86	t=-.582 p=.562
BSE obstacles	8-40	.90	17.77±8.36	15.03±5.46	t=2.168 p=.032
Self-efficacy	10-50	.95	36.66±10.69	39.96±7.09	t=-2.032 p=.045
Information about BSE	0-35	-	27.13±4.84	26.62±2.90	t=.727 p=.469
Skill about BSE	0-100	-	53.10±16.25	57.49±18.32	t=-1.423 p=.157

t=student t test

Table 4. Comparison of the Students' Characteristics associated with Breast cancer and Champion Health Belief Model Scale Mean Scores

Characteristics	Susceptibility Score Median±SD (Min-Max)	Seriousness Score Median±SD (Min-Max)	Health motivation Score Median±SD (Min-Max)	BSE benefits Score Median±SD (Min-Max)	BSE obstacles Score Median±SD (Min-Max)	Self-efficacy Score Median±SD (Min-Max)
Family history of Breast Cancer						
1st and 2nd degree+	8.00±2.82 (3-14)	21.00±7.15 (7-30)	20.50±6.25 (5-25)	6.00±4.60 (4-20)	18.00±7.05 (8-32)	40.00±9.72 (12-50)
No	7.00±2.56 (3-15)	22.00±5.39 (6-30)	23.00±5.00 (5-25)	17.00±3.97 (4-20)	16.00±7.13 (8-40)	39.00±9.07 (10-50)
	U= 738.0 p=.270	U= 825.0 p=.646	U= 708.0 p=.184	U= 785.0 p=.443	U= 755.0 p=.332	U= 857.0 p=.921
BSE application						
Regularly	6.00±2.65 (3-14)	20.00±5.00 (12-27)	25.00±5.54 (7-25)	20.00±4.76 (4-20)	12.00±9.23 (8-38)	48.00±11.48 (10-50)
Irregularly or never	8.00±2.57 (3-15)	22.00±5.71 (6-30)	22.00±5.14 (5-25)	16.50±3.95 (4-20)	16.00±6.74 (8-40)	39.00±8.52 (10-50)
	U= 641.5 p=.036	U= 784.5 p=.285	U= 617.0 p=.022	U= 719.5 p=.118	U= 653.0 p=.045	U= 477.0 p=.001
Being sure about BSE						
Yes	7.00±2.71(3-15)	21.00±5.30 (6-30)	23.00±5.41 (5-25)	17.00±4.29 (4-20)	15.00±6.99 (8-40)	40.00±9.35 (10-50)
No	8.00±2.41 (3-14)	23.00±6.14 (6-30)	22.50±4.86 (5-25)	17.50±3.64 (4-20)	17.00±7.12 (8-40)	37.50±8.53 (12-50)
	U=1655.5 p=.226	U=1631.5 p=.187	U=1868.5 p=.889	U=1775.0 p=.538	U=1429.5 p=.020	U=1412.0 p=.016
Importance of BSE						
Very important	7.00±2.64 (3-15)	22.00±5.67 (6-30)	23.00±5.27 (5-25)	17.00±4.09 (4-20)	16.00±7.22 (8.40)	39.00±9.06 (10-50)
Moderate important	8.00±1.96 (5-11)	22.00±4.99 (15-30)	21.00±4.05(12-25)	18.00±3.54 (10-20)	17.00±5.59 (8-24)	44.00±10.26 (23-50)
	U=430.0 p=.644	U=451.0 p=.804	U=431.5 p=654	U=410.5 p=.505	U=429.0 p=.640	U=391.5 p=.400

SD: standard deviation; U: Mann-Whitney-U test

tistically significant difference between the frequency of BSE and susceptibility, health motivation, obstacles, self-efficacy perception scores for HBMS (p<0.05) (Table 4). No statistically significant difference could be found between susceptibility, seriousness, health motivation and BSE benefit perception scores for HBMS according to the state of being sure about BSE (p>0.05). A statistically significant difference was found between the obstacles for BSE and self-efficacy perception scores according to the state of being sure about BSE (p<0.05). No statistically significant difference was determined between all of the BSE sub-dimension scores of HBMS between the students who found BSE very important and the students who found BSE important at a moderate level, among the students who participated in the research (p>0.05) (Table 4).

Discussion and Conclusion

Nursing students who will have an important role in the education of health sciences should be role models for their environment and society in their practices about breast cancer beside their knowledge about

breast cancer and early diagnosis of breast cancer. BSE and CBE behaviours are important especially for young women who cannot have mammography to know their breast tissue and recognize the occurring differences early (5). Many studies indicate that students know BSE at a sufficient level but they cannot practice it at a qualitative level (3, 8, 14, 18, 26-28). In our study, almost all of the students remarked that they knew BSE; about half of them remarked that they are sure about BSE and 94% of them remarked that they regarded BSE as very important. In spite of this, the rate of monthly regular BSE was only 13.5% and the rate of occasional CBE was found 10.3%. Except being sure about doing BSE correctly, no statistically significant difference was found in terms of knowing BSE, frequency of CBE and BSE, family history and complaints about breast cancer, according to the grades. These results make us think that our standard breast cancer education we provide our students do not contribute to the BSE and CBE practices. Balkaya et al. (10) indicated that the students' frequency of BSE and CBE increased only after a special training. Erkoç et al. (23) determined that the rate of knowing BSE increased 57.2% and the rate of practicing BSE increased 19.5% after training when compared to before training, in their research.

In the literature, it was reported that the students did not do BSE because of reasons such as not caring about it, lack of knowledge, forgetting, not finding necessary and fear (8, 18, 26, 27). In our study, 85.45% of the students did not indicate their reasons for not doing BSE and 6.36% of them expressed that they forgot it and 4.54% of them expressed that they did not do BSE because they did not find it necessary. These findings of the study are important because they indicate that the students did not find BSE important. The students' perception of obstacles for participation in breast cancer screenings should be determined better with qualitative or face to face data. Reviewing, developing and evaluating the training targets, especially the affective targets for BSE can be useful.

Health beliefs were found important in the breast cancer screenings and women were analysed with this aspect of theirs in many studies. Results of some studies about the health belief level for breast cancer in Turkey are similar to the findings of this study (22, 29). Our students' obstacles perception scores are low and their self-efficacy perception scores are high when compared to the study by Gerçek et al. (30). According to other studies, our students' scores of perception about the benefits of BSE and health motivation were found low (30, 31).

The findings of our study are more positive than the study conducted by Çelik et al. (29) in terms of health beliefs. Lavdaniti (32) has reported that the students' perception of obstacles is low and that their perception of seriousness is high. We expected the students' BSE knowledge, skills and practice frequencies to be better and their health beliefs to be more positive according to their grade because of their curriculum. In our study, it was determined that there was a positive change only in the BSE obstacles and self-efficacy average scores. It was also determined that the average scores of the third-year students were higher in the HBMS susceptibility sub-dimension. In the school where the study was conducted, a standard education program in which health beliefs about breast cancer do not exist and "only the symptoms and findings of breast cancer and breast examination are taught" is applied. The students' beliefs about their not having the breast cancer risks during this standard education may have caused the decrease in their perception of susceptibility.

Family history of breast cancer means that the individual has the risk of this illness which is very serious and which threatens life, though it changes in accordance with the level of relativity. Because of this reason, individuals who have this risk should be more sensible about this topic, they should regard it and take measures. Studies analysing the influence of family history on HBMS BSE sub-dimensions propound different findings. Similar to our findings, it was found that having breast cancer did not affect the health beliefs in a research (3). In another study, it was reported that there was not a significant difference between the people who have breast cancer and who do not have breast cancer in terms of susceptibility, seriousness, obstacles perception and self-efficacy perception scores. It was reported that there was a significant difference between their scores of health motivation and perception of benefit (29). In the study by Erbil and Bolukbas (22), it was determined that there was a significant difference in the susceptibility sub-dimension of the students who had breast cancer in their family histories. It is reported that the susceptibility perception scores of the people who have breast cancer in their family history increase. These findings are important because they indicate the necessity of reviewing and restructuring the education and lecture contents about breast cancer and BSE.

It is thought that the women's health beliefs are important in doing regular BSE (3, 13, 20-22, 30). Çelik et al. (29) reported that there was not a statistical difference between the people who do BSE and who do not do BSE in the scores of susceptibility, seriousness, health motivation sub-dimensions and there was a significant difference between the benefit, obstacles and self-efficacy scores. In the study by Lavdaniti (32), it was determined that there was a positive correlation between the self-efficacy sub-dimension average score and the frequency of BSE. Our students who do BSE regularly have a lower perception of susceptibility when compared to the ones who do BSE irregularly or who do not do BSE. Their health motivation is higher, their BSE obstacles perception is lower, their BSE self-efficacy is higher and a statistical difference has been found. These findings may indicate the necessity of thinking about the students' health motivation, obstacles and self-efficacy perceptions.

In our study, the obstacles perception score of the students who do BSE confidently was determined as lower than the students who are not sure about BSE and their self-efficacy perception score was determined as higher. Self-efficacy is defined as an individual's belief about attempting to conduct certain behaviours and being successful when s/he does it and it is inversely proportional to the perception of obstacles. Thus, the increase in the self-efficacy scores of the students who do BSE confidently and the decrease in their scores of obstacles are results we have expected.

In conclusion, this study propounds that the students' BSE and CBE frequency are insufficient, their BSE skill scores are low and their knowledge and belief scores are moderate. The reason why the student did not do BSE could not be determined exactly. These results indicate that the standard education in the curriculum has a limited influence on the students' knowledge, practices and health beliefs about breast cancer and special education programmes should be added to the curriculum. Comparison of the knowledge, practices and beliefs of the students who are educated with different curricula can contribute to the restructuring of the curricula.

Ethics Committee Approval: The permission was obtained from the institution.

Informed Consent: Verbal informed consent was obtained from patients who participated in this study.

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References

1. Türkiye Halk Sağlığı Kurumu Kanser Daire Başkanlığı. Available from: URL: http://kanser.gov.tr/erişim tarihi: 12.03.2016

2. Gürsoy AA, Yiğitbaş C, Yilmaz F, Erdöl H, Bulut HK, Mumcu HK, Calik KY, Kahriman I, Hintistan S, Nural N.The effects of peer education on university students' knowledge of breast self-examination and health beliefs. J Cancer Educ 2009; 24:331-333. (PMID: 19838894) [CrossRef]

3. Avcı İA, Altay B, Kocatürk B. Ebe öğrencilerin kendi kendine meme muayenesine yönelik sağlık inançları. J Breast Health 2008; 4:25-28.

4. Beydağ KD, Yürügen B. The effect of breast self-examination (BSE) education given to midwifery students on their knowledge and attitudes. Asian Pac J Cancer Prev 2010; 11:1761-1764. (PMID: 21338229)

5. Akyolcu N, Uğraş GA. Kendi kendine meme muayenesi: erken tanıda ne kadar önemli? J Breast Health 2011; 7:10-14.

6. Koca B. Kendi kendine meme muayenesini bilmenin kadın sağlığı açısından önemi. Yeni Tıp Dergisi 2010; 27:10-14.

7. Seçginli, S. Meme kanseri taraması: son yenilikler neler? TAF Prev Med Bull 2011; 10:193-200.

8. Aslan A, Temiz M, Yiğit Y, Can R, Canbolant E. Hemşirelik yüksekokulu öğrencilerinin meme kanseri hakkındaki bilgi, tutum ve davranışları. TSK Koruyucu Hekimlik Bülteni 2007; 6:193-198.

9. Arslan M, Şahin DA. Kadınların meme kanseri ve kendi kendine meme muayenesi ile ilgili bilgi durumlarına eğitimin etkisi. Yıldırım Beyazıt Üniversitesi Hemşirelik E-Dergisi 2013; 1:8-16.

10. Balkaya N, Memiş S, Demirkiran F. The effects of breast self-examination on the performance of nursing and midwifery students: A 6-month follow-up study. Journal of Cancer Education 2007; 22:77-79. (PMID: 17605619) [CrossRef]

11. Beydağ KD, Karaoğlan H. Kendi kendine meme muayenesi eğitiminin öğrencilerin bilgi ve tutumlarına etkisi. TSK Koruyucu Hekimlik Bülteni 2007; 6:106-111.

12. Liu MX, Li J, Geng YL, Wang YC, Li J, Chen YJ, Ali G, Tarver SL, Wen YF, Sun WJ. Correlation study of knowledge and behavior regarding breast care among female under graduate students in China. Asian Pac J Cancer Prev 2014; 15:10943-10947. (PMID: 25605206) [CrossRef]

13. Kılıç D, Sağlam R, Kara Ö. Üniversite öğrencilerinde meme kanseri farkındalığını etkileyen faktörlerin incelenmesi. J Breast Health 2009; 5:195-199.

14. Akhtari MZ, Juni MH, Said SM, Ismail IZ. Beliefs and behavior of Malaysia undergraduate female students in a public university to ward breast self-examination practice. Asian Pac J Cancer Prev 2013; 14:57-61. [CrossRef]

15. Aydın I. Üniversite öğrencilerinin kendi kendine meme muayenesi hakkındaki bilgileri ve uygulamaları. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi 2004; 7:26-34.

16. Aydın İA, Atasoy A, Sabah E. Video ile eğitimin kadınların kendi kendine meme muayenesine yönelik inanç, bilgi ve uygulamalarına etkisi. İÜFN. Hemşirelik Dergisi 2007; 15:119-128.

17. Moodi M, Mood MB, Sharifzadeh G, Shahnazi H, Sharifirad GR. Evaluation of breast self-examination program using Health Belief Model in female students. J Res Med Sci 2011; 16:316-322.

18. Uzun Ö, Karabulut N, Karaman Z. Hemşirelik öğrencilerinin kendi kendine meme muayenesi ile ilgili bilgi ve uygulamaları. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi 2004; 7:10-8.

19. Aydın İA, Keskin T. Nursing students' health beliefs intended for breast self examination. OMU Tıp Dergisi 2005; 22:146-50.

20. Özkan A, Malak AT, Gürkan A, Turgay AS. Do Turkish nursing and midwifery students teach breast self-examination to their relatives? Asian Pac J Cancer Prev 2010; 11:1569-1573. (PMID:21517241)

21. Moussa, MM, Shalaby NS. Effect of breast self-examination education program on knowledge, attitude, and practice of nursing students. Int J Res Stud Biosci (IJRSB) 2014; 2:40-49.

22. Erbil N, Bolukbas N. Health beliefs and breast self examination among female university nursing students in Turkey. Asian Pac J Cancer Prev 2014; 15:6525-6529. (PMID: 25169481) [CrossRef]

23. Erkoç A, Oran F, Yorulmaz H. Hemşirelik öğrencilerinin kendi kendine meme muayenesi (KKMM) ile ilgili bilgi durumlarına eğitimin etkisi. J Breast Health 2011; 7:101-105.

24. Seçginli S. Meme kanserinde erken tanıya yönelik sağlığı geliştirme programının tarama davranışlarına etkisi (doktora tezi). İstanbul: İstanbul Üniversitesi Sağlık Bilimleri Enstitüsü. 2007.

25. Gözüm S, Aydin I. Validation evidence for Turkish adaptation of Champion's Health Belief Model Scales. Cancer Nursing 2004; 27:491-498. (PMID: 15632789)

26. Gök FÖ, Beydağ KD, Özbay C. Hemşirelik öğrencilerinin meme kanseri hakkındaki bilgileri ve meme muayenesini uygulama durumları. Pamukkale Tıp Dergisi 2009; 2:15-19.

27. İlhan N, Çöl AG, Tanboğa E, Şengül A, Batmaz M. Sağlıkla ilgili bölümlerde okuyan üniversite öğrencilerinin meme kanserinin erken tanısına yönelik davranışları. J Breast Health 2014; 10:147-153. [CrossRef]

28. Alsaif AA. Breast self examination among Saudi female nursing students in Saudi Arabia. Saudi Med J 2004; 25;1574-1578.

29. Celik S, Tasdemir N, Sancak H, Demirel M, Akman O, Kara M. Breast cancer awareness among Turkish Nursing Students. Asian Pacific J Cancer Prev 2014; 15:8941-8946. (PMID: 25374233) [CrossRef]

30. Gerçek S, Duran Ö, Yıldırım G, Karayel H, Demirliçakmak H. Et all. Kredi yurtlar kurumunda kalan kız öğrencilerin meme kanseri ve kendi kendine meme muayenesi sağlık inançları ve bunu etkileyen faktörlerin belirlenmesi. J Breast Health 2008; 4:157-161.

31. Karayurt Ö. Champion Sağlık İnanç Modeli Ölçeği'nin Türkiye için uyarlanması ve kendi kendine meme muayenesi uygulama sıklığını etkileyen faktörler (doktora tezi) İzmir: Ege Üniversitesi Sağlık Bilimleri Enstitüsü, 2003.

32. Lavdaniti M. Perceptions and health beliefs of grek nursing students about breast self-examination: a descriptive study. Int J Nurs Pract 2015; 21:882-888. (PMID: 24724812)[CrossRef]