RESEARCH ARTICLE

Breast Cancer Awareness among Turkish Nursing Students

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Abstract

Background: This study conducted to determine breast cancer awareness and influencing factors among nursing students in the West Black Sea Region in Turkey. **Materials and Methods**: This cross-sectional descriptive study was conducted between April-May, 2014. The sample was 270 female nursing students. Data were collected by Personal Information Form and Champion's Health Belief Model Scale (CHBMS). **Results**: The students' mean age was 21.6±2.09 and 81.1% had knowledge about breast cancer from their academic education. It is found that 63.7% of the students performed Breast Self-Examination (BSE) and 11.1% had a family member diagnosed with breast cancer. The CHBMS mean score of the students was 117.7±14.5. **Conclusions**: Breast cancer awareness of nursing students is on a good level and was affected by family history of breast cancer and health beliefs.

Keywords: Breast cancer - awareness - female - nursing student - Turkey

Introduction

Breast cancer the most common form of cancer among women in Turkey. It has been reported that the breast cancer accounts for 30-40 % of all the cancer incidences in women all over the world (Andsoy and Gul, 2014; Che et al., 2014; Karadag et al., 2014; Rizalar et al., 2014). In Turkey, breast cancer incidence rates are rapidly increasing (Andsoy and Gul, 2014). On the other hand, the incidence of breast cancer among women in Turkey ranks the first among all types of cancer with 34.73/ 100.000 (TC Saglik Bakanligi, 2004).

Breast cancer is a major health problem affecting women's health. Therefore in the world, primarily breast cancer prevention studies are adopted. Breast cancer screening programs aimed at early diagnosis and a better prognosis for long-term survival is greatly important (Khazee-Pool et al., 2014). Protection rate from breast cancer can be increased by 95% when detected early (Yarbrugh and Braden, 2001). The most common approaches known in the world is screening programs. Practical and clinical training also produces an important effect on individual knowledge and prevention against breast cancer. These programs increasing individuals' cancer awareness, understanding of the importance of early diagnosis and appropriate treatment, the survival of the individual is given the opportunity to be highly probable. As a result of this, it is indicated that the damage caused by disease can be minimize significantly and increase the quality of life in the community (Demirhan et al., 2002; Uzun et al., 2004; Andsoy and Gul, 2014; Bien et al., 2014).

For early detection of breast cancer; breast self examination every month after age 20, an annual mammogram after age 40, and 20-30's age 1-3 years in a clinical breast exam every year after the age of 40 is recommended by the American Cancer Society (Kara and Acikel, 2009; Erbil and Bolukbas, 2014; Khazee-Pool et al., 2014). However according to the various research studies the efforts directed at letting women develop a favorable attitude towards the early diagnosis of breast cancer have not been very adequate. The results of the studies carried out all over the world reports the frequency of BSE to vary between 41.2 % and 83.5 % while the results of the studies carried out in Turkey shows that the frequency of having BSE done at least once varies between 40.9 % and 66.2 % while the frequency of having BSE done regularly every month has varied between 10.2 % and 24.5 % (Findik and Turan, 2000; Cadir et al., 2004; Alam, 2006; Secginli and Nahcivan, 2006).

In recent years against to increased breast cancer to help young people's awareness, breast cancer information and applications to improve their behavior and health promotion gain is quite important. By increasing awareness of the individuals in the younger age group healthy years to their lives can participate. Beside this, nurses have influence on woman health and play an important role in educating women about breast health, BSE and breast cancer. In this role nursing education is the key factor and nursing students have to gain knowledge

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and awareness about breast cancer (Yucel et al., 2014). However, there are differences in nursing education programs in Turkey. There are many studies in this issue in different regions of Turkey, but there is no published data in the West Black Sea Region in Turkey.

This study aimed to determine breast cancer awareness and the affective factors in breast cancer awareness among nursing students in the West Black Sea Region in Turkey.

Materials and Methods

Study design

The study was descriptive cross-sectional descriptivee design.

Sample

The study population was consisted nursing students in a health school in 2013-2014 academic years in West Black Sea Region, Turkey. The sample of the study was 270 (79.4 % of 340 students) volunteer female nursing students.

Data collection

Instruments: Data were collected by two instrument; a) Personal Information Form. for determining the beliefs and practices of students' the Champion's Health Belief Model Scale (CHBMS).

a) Personal Information Form: Form was consisted total eight questions. Seven questions were multiple choice; students' socio-demographic characteristics (age, class, education), breast cancer, BSE knowledge and performing, reasons for not performing BSE and an open-ended question about the individual risk of breast cancer.

b) Champion's Health Belief Model Scale (CHBMS): The scale was developed by Champion in 1984. CHBSM was also adapted to Turkish by three different studies in Turkey (Gozum and Aydin, 2004; Secginli and Nahcivan, 2004; Karayurt and Dramali, 2007). In this study Turkish form of CHBSMS was used that adapted by Gozum and Aydin (2004). This self completed scale consisted of 36 items that were clustered into 6 subscales: susceptibility (3 items), seriousness (6 items), motivation (5 items), benefits of breast self-examination (BSE) (4 items), barriers to BSE (8 items), and confidence/self-efficacy of BSE (10 items). Respondents answer items on a five point Likert-type scale, ranging from 1 to 5 (1= strongly disagree, 2= disagree, 3=neutral, 4= agree and 5= strongly agree). Higher scores indicate stronger feelings related to that construct. The Cronbach's alpha values ranged between 80 and 93, test- retest correlations ranged between 45 and 70. In this recent study; Susceptibility 0,678, Seriousness 0,851, Motivation 0,823, BSE benefits 0,829, BSE barriers 0,842 and Confidence/self-efficacy 0,939.

Procedure

The students were invited to participate after an explanation by the investigator and the presentation of the study objectives and eligibility to participate. The students were informed that the study was no way associated with teaching and assigning marks for any of their lessons. The authors stayed with the students while

they were completing the questionnaires. Completion of the instruments took an average of 15 minutes.

Data analysis

Data were analyzed by using SPSS (Statistical Package for Social Sciences) for Windows 16.0. Data were evaluated by number, percentage, arithmetic average calculation with Student's t-test, one-way ANOVA, Pearson correlation analysis, the Kruskal-Wallis and Mann Whitney U test non-homogeneous and nonparametric group testing was used. A p value of <0.05 was considered statistically significant.

Ethical consideration

Prior to the research written permission was obtained from the institution of the research was conducted. Students who were participated the study explained the purpose of the research, the research is based on the principle of voluntary and data is specified to be used only for scientific purposes.

Results

The students' mean age was 21.57±2.09. All of nursing students have knowledge about breast cancer. About 81.1% of nursing students have academic information and 18.9% of nursing students have knowledge from except academic resources on breast cancer. Analyzing sources for knowledge outside academic education, the majority from the internet (64.7%) and nearly half (45.0%) was determined that getting information from nurses, in the same table 11.1% of students have breast cancer in an individual in the family and 63.7% of the students performs BSE (Table 1).

In Table 2; students health belief model for breast cancer susceptibility scale from sub-dimensions of 7.62±1.98, 20.12±4.95 without worrying, BSE benefits 15.11±3.17, 18.38±5.55 of obstacles BSE, BSE from self-efficacy score of 35.81±9.05 was determined that. Students' total score from the scale was found to be an average 117.66±14.51. This mean scores of students mid breast cancer susceptibility; caring, health motivation, perceptions of the benefits of BSE and BSE self-efficacy is good; barriers against BSE have shown that low levels of perception. Considering of students' total average score, it is found that students have a good level of awareness. Students who enrolled in the study nurses who read in 3rd class significantly from the scale they receive the highest overall score (p=0.03), in 4th class students BSE significantly lower barrier than the size of the lower (p=0.00) and the highest score BSE self-efficacy subscale (p=0.00) were positively correlated with (Table 3).

It is determined that nursing students who enrolled in the study; third class students received the highest score from total scale that was statistically (p=0.03), fourth class students received the lowest score from BSE barriers subscale that was statistically (p=0.00) and highest score from BSE self-efficacy subscale score (p=0.00) (Table 3). The students having class on breast cancer during their academic education received the highest scores in; total scale score (p=0.00), health motivation subscale score

(p=0.00), BSE benefits subscale score (p=0.00), BSE self-efficacy subscale score (p=0.00) and they received the lowest score from BSE barriers subscale score (p=0.00) and it is determined that this results were statistically significant (Table 3).

It is determined that nursing students who have family history of breast cancer received higher scores from: susceptibility subscale score (p>0.05), seriousness subscale score (p>0.05), BSE barriers subscale score (p>0.05), BSE self-efficacy subscale score (p>0.05) and lower scores from; total scale scores, BSE benefits subscale score (p=0.00) and motivation subscale score (p=0.00) (Table 3).

It is determined that nursing students who are performing regular BSE received the statistically significant lower scores from BSE barriers subscale score (p=0.00) and they received the statically significant higher scores from BSE benefits subscale (p=0.00), score BSE self-efficacy subscale score (p=0.00), also they received

Table 1. Students' Characteristics

		X±SD	Min-Max
Age (years)		21.57±2.09	18-35
		n	%
Class	First	69	25.6
	Second	81	30
	Third	52	19.3
	Fourth	68	25.2
Academic information on breast cancer			
	Yes	219	81.1
	No	51	18.9
Breast cancer information except academic resources			
	Yes	51	18.9
	No	219	81.1
Other information resources except academic information (n=51)			
	Family member	16*	31.3**
	Friend	18*	35.2**
	Nurse	23*	45.0**
	Doctor	11*	21.5**
	TV-Radio	10*	19.6**
	Internet	33*	64.7**
	Association	9*	17.6**
Family history of Breast cancer			
	Yes	30	11.1
	No	240	88.9
Performing regular BSE			
	Yes	172	63.7
	No	98	36.3

* More than one answer; ** Percentages according to n=51

Table 2. Champion's Health Belief Model Scale Mean Scores of Students

Champion's Health Belief Model Scale	X± SD	Min-Max Scores of students	Min-Max Scores of scale
Susceptibility	7.62±1.98	3-14	3-15
Seriousness	20.12±4.95	6-30	6-30
Health motivation	20.60±3.76	5-25	5-25
BSE benefits	15.11±3.17	4-20	4-20
BSE barriers	18.38±5.55	8-32	8-40
Confidence/self-efficacy	35.81±9.05	10-50	10-50
Total Scale Score	117.66±14.51	36-150	36-180

Table 3. Comparison of the Students' Characteristics with Champion Health Belief Model Scale Mean Scores

		CHBMS Total score X±SD	Susceptibility Score X±SD	Seriousness Score X±SD	Health motivation Score X±SD	BSE benefits Score X±SD	BSE barriers Score X±SD	Confidence/self-efficacy Score X±SD
Class	First	114.59±15.02	7.37±2.12	19.88±4.90	20.34±3.83	14.79±3.46	18.62±5.30	33.56±8.97
	Second	116.19±14.20	7.81±1.62	20.60±4.77	20.45±3.57	14.88±3.06	19.18±5.31	33.23±8.71
	Third	121.62±13.06	7.80±1.70	19.82±5.46	21.13±3.55	15.00±2.85	19.69±5.64	38.15±8.01
	Fourth	114.53±14.68	7.51±2.37	20.02±4.87	20.61±4.09	15.79±3.21	16.19±5.49	39.38±8.79
		F3.03 p0.03*	F0.82 p0.48	F0.37 p0.77	F0.48 p0.69	F1.43 p0.23	F5.35 p0.00*	F9.02 p0.00*
Academic information on Breast Cancer	Yes	119.83±13.37	7.68±1.98	20.21±5.00	20.95±3.73	15.52±3.03	17.77±5.51	37.67±8.23
	No	108.39±15.64	7.35±1.94	19.76±4.76	19.07±3.52	13.35±3.19	21.00±4.97	27.84±8.10
		t5.31 p0.00*	t1.09 p0.27	t0.57 p 0.56	t3.26 p0.00*	t4.55 p0.00*	t-3.82 0.00*	t7.69 0.00*
Breast Cancer information except academic resources	Yes	118.43±10.44	8.25±1.91	18.92±3.97	20.37±3.50	14.68±2.89	19.01±6.02	37.17±7.15
	No	117.49±15.31	7.47±1.97	20.40±5.12	20.65±3.82	15.21±3.23	18.23±5.44	35.49±9.42
		t0.417 p0.67	t2.54 p0.01*	t-2.26 p0.02*	t-0.47 p0.63	t-1.06 p0.28	0.90 0.36	1.19 0.23
Family history of Breast Cancer	Yes	116.70±13.23	7.90±2.53	20.40±4.05	18.60±4.60	12.83±2.49	19.36±5.27	37.60±9.32
	No	117.79±14.68	7.59±1.90	20.09±5.06	20.85±3.57	15.40±3.14	18.26±5.58	35.59±9.01
		t-0.38 p0.70	t0.80 p0.42	t0.32 p0.74	t-3.13 p0.00*	t-4.30 p0.00*	1.02 0.30	1.14 0.25
Performing regular BSE	Yes	118.41±14.14	7.70±1.95	20.16±5.04	20.90±3.70	15.62±3.45	15.81±5.35	37.18±9.43
	No	116.37±15.12	7.47±2.02	20.06±4.81	20.06±3.82	14.22±2.38	21.13±4.78	33.40±7.83
		t1.11 p0.26	t0.91 p0.36	t0.16 p0.87	t1.78 p0.07	t3.54 p0.00*	t-6.60 0.00*	3.35 0.00*

*p<0.05; CHBMS: Champion's Health Belief Model Scale

Table 4 Comparison of the Student Other Information Resources about Breast Cancer with Champion Health Belief Model Scale Mean Scores

		CHBMS Total score X±SD	Susceptibility Score X±SD	Seriousness Score X±SD	Health motivation Score X±SD	BSE benefits Score X±SD	BSE barriers Score X±SD	Confidence/self-efficacyScore X±SD
Family	Yes	124.19±11.04	7.43±1.99	19.18±5.83	21.87±1.96	15.37±1.54	20.31±4.74	40.00±2.63
	No	117.26±14.62	7.63±1.98	20.18±4.90	20.51±3.83	15.09±3.25	18.26±5.58	35.55±9.25
		Z-1.83 p0.06	Z-0.89 p0.37	Z-0.36 p0.71	Z-0.96 p0.33	Z-0.53 p0.59	Z-1.44 p0.14	Z-2.31 0.02*
Friend	Yes	115.89±8.25	8.27±1.52	18.77±3.93	19.72±3.12	13.72±2.88	20.77±7.20	34.61±5.53
	No	117.79±14.86	7.57±2.00	20.22±5.01	20.66±3.80	15.21±3.18	18.21±5.39	35.90±9.25
		Z-0.81 p0.41	Z-1.54 p0.12	Z-1.49 p0.13	Z-1.56 p0.11	Z-2.07 p0.03*	Z-1.58 p0.11	Z-1.05 p0.29
Nurse	Yes	122.30±9.71	7.30±2.00	19.69±5.05	22.52±1.90	15.91±2.64	19.04±4.87	37.82±5.98
	No	117.23±14.82	7.65±1.97	20.16±4.95	20.42±3.84	15.04±3.21	18.32±5.61	35.62±9.27
		Z-1.86 p0.06	Z-0.78 p0.43	Z-0.19 p0.84	Z-2.46 p0.01*	Z-1.37 p0.19	Z-0.83 p0.40	Z-1.35 p0.17
Doctor	Yes	119.18±8.95	8.00±1.73	18.72±5.51	21.27±1.95	14.81±2.99	19.45±6.15	36.90±4.72
	No	117.60±14.70	7.61±1.99	20.18±4.93	20.57±3.82	15.12±3.19	18.33±5.53	35.76±9.19
		Z-0.11 p0.90	Z-0.42 p0.67	Z-0.82 p0.41	Z-0.29 p0.76	Z-0.32 p0.74	Z-0.72 p0.46	Z-0.49 p0.61
TV-Radio	Yes	115.10±15.61	8.60±1.83	18.60±2.87	18.00±4.89	14.20±3.04	13.50±2.71	42.20±9.25
	No	117.77±14.49	7.58±1.97	20.18±5.01	20.70±3.69	15.15±3.18	18.57±5.55	35.56±8.97
		Z-0.43 0.66	Z-1.21 p0.22	Z-1.50 p0.13	Z-1.68 p0.09	Z-1.06 p0.28	Z-2.95 p0.00*	Z-1.91 p0.05
Internet	Yes	116.85±10.56	7.84±1.92	18.42±4.40	20.51±3.58	14.96±2.61	16.48±4.64	38.60±7.11
	No	117.78±14.99	7.59±1.99	20.36±4.98	20.61±3.79	15.13±3.25	18.64±5.62	35.42±9.23
		Z-0.34 0.73	Z0.68 p0.49	Z-2.11 p0.03*	Z-0.13 p0.89	Z-0.27 p0.78	Z-2.11 p0.03*	Z1.89 p0.05
Association	Yes	111.33±13.40	6.11±1.76	17.22±3.15	20.55±4.55	15.66±2.87	17.22±2.43	34.55±8.11
	No	117.89±14.52	7.67±1.96	20.22±4.97	20.60±3.74	15.09±3.19	18.42±5.62	35.85±9.09
		Z-1.41 p0.15	Z-2.13 p0.03*	Z-2.09 p0.03*	Z-0.35 p0.72	Z-0.36 p0.71	Z-0.75 p0.44	Z-0.72 p0.46

*p<0.05; CHBMS: Champion's Health Belief Model Scale

higher scores from total scale score and other subscales of the scale (Table 3).

It is found that the nursing students having information from any other resource except academic education received statistically significant higher score from susceptibility subscale score (p=0.01), seriousness subscale score (p=0.02). When we examine the same table; students who had information from family members received the highest score from total scale score, students who had information from friends received the highest score from susceptibility subscale score, students who had information from nurse received the higher score from health motivation subscale score according to other information recourses, students who had information from associations received the highest score from BSE benefits subscale score, students who had information from television/radio received the lowest score from BSE barriers subscale and BSE self-efficacy subscale score was the highest who had information from family members (Table 4).

Discussion

Breast cancer in women is the most common type of cancer in the world. Therefore, women constitute a major risk to themselves and methods for early diagnosis of this disease are extremely important to be knowledgeable about. In this study, all female students showed have knowledge about breast cancer and their awareness of breast cancer has a good level. The earlier studies on women in Turkey breast cancer of women in early diagnosis information and has been found to be insufficient (Cadir et al., 2004; Findik and Turan, 2004; Andsoy and Gul, 2014; Karadag et al., 2014). In the studies conducted by Sambanje and Mafuvadze (2012) and Al-Sharbatti et al. (2013) unlike the medical and non-medical university students studying in sections in all of the knowledge and awareness of breast cancer has been reported to be low. It has reported that the nursing and midwifery students had sufficient information about BSE from varied sources (Memis et al., 2009; Bien et al., 2014). This recent study of the findings of studies conducted in Turkey and in the world of health care workers in the future will be unlike breast cancer awareness among female students show that it is pleasing to a good level. Because of the society in Turkey about breast cancer and breast cancer incidence would be more conscious perhaps to fall in the coming years are promising in terms of reflecting.

In the study, the majority of female students during the academic education and of others from various sources other than breast cancer were found to be knowledgeable about. It has been observed that the students who had knowledge about breast cancer during their academic education had a higher sensitivity against and a higher comprehension of the importance of breast cancer. In these students, perceive the benefit of BSE is better and BSE barrier is lower. In study by Ozkan et al. (2010) students perceived susceptibility and confidence (self-reliability) were found to be at moderate level, health motivation and perceived benefits were found to be high, while perceived barriers was observed to be at low level. In the previous studies, it has been stated that BSE barriers, health-related behavior, the perception of the benefits of BSE have been effect on the internal and external barriers which are perceived against understanding the benefits of BSE during the breast cancer surveys. (Dundar et al., 2006; Alpteker et al., 2011). We think that the positive finding obtained in the research study result from the level of knowledge of the students about health and diseases, their comprehension of the impact of the protective forms of behavior on the length and quality of life as well as from their ability to develop a sense of responsibility for their

own health.

Likewise, the level of self-effectiveness of the students who had knowledge about breast cancer after the academic education has been found to be significantly high. As far as an individual's ability and inclination to have BSE or early diagnosis purpose is concerned, his/her beliefs about breast cancer, his/her knowledge about breast cancer and the health behavior that he/she had previously adopted has been found to be effective on his/her perception of success, ie. perception of self-effectiveness and influences the start and maintenance of the behavior in question (Powe et al., 2005). Other study findings on the subject had shown that the students have not sufficient knowledge about the BSE (Durvasula et al., 2006; Beydag, 2007; Golbasi et al., 2007).

This present study has shown that the internet was the means to which the female students have recoursed most frequently for getting information about breast cancer, apart from their academic education. It has been found that the nurses were the other resource of information to which the students had recourse frequently. We think that these results may have arisen from the widespread use of computer and internet among the young generation and the fact that they obtain information from the nurses during the clinical applications. The study conducted by Golbasi et al. (2007) shows that the sources from which the students obtain information about BSE were radio, television, friends, books/ magazines, health personnel, school, family and internet respectively. On the other hand in previous studies it has been that the sources from which the university students have obtained knowledge about breast cancer most frequently were TV and/ or radio (Al Naggar et al., 2011; Boules and Ghali, 2013).

In this study, it was determined that students with a family history of breast cancer were quite small amounts. It has been found that the sensitivity, attachment of importance to breast cancer, BSE barriers and BSE self-effectiveness were high in these students (p>0.05) while BSE benefits and health motivation were low (p<0.05). These results may have arisen from the fact that the individuals in whose families there are individuals suffering from breast cancer may consider themselves under risk of being caught to breast cancer, perceive the consequences of the disease seriously as vital threats and consequently believe in the importance of the methods of early diagnosis of breast cancer. At the same time, this result has let us reach the conclusion that the students in whose families there are individuals suffering from breast cancer might be more sensitive against breast cancer and attach a relatively greater importance to this disease and the scanning methods used for its early diagnosis since they had closely and concretely witnessed the process of the disease. Besides, Golbasi et al. (2007) have reported that the individuals in whose family there are individuals suffering from breast cancer considered themselves in a risky position in terms of being caught to cancer and believed in the importance of early scanning of breast cancer.

It is determined that the majority of students perform BSE. In previous studies show that education has a positive effect over processes of knowing and acting associated with BSE (Thomas et al., 2002; Mc Cready et al., 2005; Beydag and Yurugen, 2010; Donmez et al., 2012; Karadag et al., 2014). In this study we think that the fact that the majority of the nursing students have performed BSE result from various factors such as they know how to do it, fear of having a cancerous mass, there are relatives who suffer breast cancer, they are conscious of the BSE benefits and aware of the effectiveness of BSE. The results of the studies that have been conducted in Turkey in the previous years show that the rate of women who have performed BSE is quite low (Findik and Turan, 2004; Gocgeldi et al., 2008; Ozgun et al., 2009; Erbil and Bolukbas, 2014; Karadag et al., 2014). Similar to the finding of this study, Alsaif (2004) has reported that the majority of nursing students had performed BSE. In the previous studies it has reported that the incidence rate of female students performed BSE is low (Akhtari-Zavare et al., 2013; Al-Sharbatti et al., 2013; Che et al., 2014). Taking into consideration the fact that various factors play a role in urging individuals to have performed BSE like cultural beliefs, perception of health-disease, support of the family and social environment, belief in the importance of the applications which are required for early diagnosis of the disease (Nahcivan and Secginli, 2003; Cam and Gumus, 2006) we are pleased to see that the nursing students who are the subjects of this study had a high rate of having BSE done since this reflect that they have a high level of awareness.

In conclusion, as a result, students have adequate breast cancer knowledge and practices and low BSE barrier, also they perceive breast cancer as a serious illness because of the consequences. Students' awareness of breast cancer affected by knowledge of breast cancer, family history of breast cancer and their health beliefs.

In line of these results, for increasing and maintaining health protection of the students can be achieved by increasing their individual awareness via trainings, seminars and workshops studies. Beside this, students can share this information with family and close friends, it may help their health. In schools, risk groups can be determining among students and special educations can be planned for them. Also information can be shared over the internet.

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