

RESEARCH COMMUNICATION

Knowledge, Attitude about Breast Cancer and Practice of Breast Cancer Screening among Female Health Care Professionals: A Study From Turkey

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Abstract

The awareness of health professionals about breast cancer prevention is of vital importance, since their beliefs and behaviors may have a major impact on other women. The aim of this study was to investigate the knowledge, and attitudes regarding risk factors for breast cancer as well as screening such as breast self-examination, clinical breast examination and mammography among different groups of female health professionals. In this cross-sectional study, 444 female health professionals in various health centers located in Çorum Province, Turkey, were interviewed using a self-administered questionnaire. The mean age was 33.1±6.1 and most were married (81.3%). The rate of feeling under risk regarding breast cancer among female health personnel was 31.3%. The majority (98.4 %) perceived breast self-examination as a beneficial method for the early detection of breast cancer. Although 81.3 % of the participants stated that they did breast self examination, only 27.3 % reported doing so on a regular basis (performed monthly or once per menstrual cycle). The most common reason for not doing breast self-examination was the belief that it was not necessary (45.8 %). Of the entire group, the rate of having a mammography was 10.1% and the rate of clinical breast examination was 24.8%. Health professionals are a direct source of medical information to the public. The use of breast self-examination and mammography was found lower than expected when considering the fact that participants were health care professionals.

Keywords: Female health personnel - breast self examination - breast cancer - knowledge - practice - Turkey

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Introduction

Breast cancer is the most common malignancy among women as well as the second leading cause of cancer deaths in the world and in Turkey (Hayat et al., 2007; Sengelen et al., 2007). Women have one in eight risk of having breast cancer during their lifetime and early detection through screening is the only way to reduce morbidity and mortality (Hayat et al., 2007; Akhigbe and Omuemu, 2009; Beydağ and Yürügen, 2010). Health care professionals should emphasize the importance of awareness and recognition of breast changes (Smith et al., 2010). American Cancer Society (ACS) guidelines for the early detection of breast cancer in average-risk women consist of a combination of regular clinical breast examination (CBE), counseling to raise awareness of breast symptoms beginning at age 20 years, and annual mammography beginning at age 40 years. Women should undergo CBE every 3 years between the ages of 20 and 39 years, and annually after age 40 years. This exam should take place during periodic health examinations (Smith et al., 2010). Although breast self examination (BSE) as a

screening method is controversial, it has been reported that this makes women more “breast aware”, which in turn may lead to earlier diagnosis of breast cancer (Akhigbe and Omuemu, 2009) and when a woman wants to perform BSE, she should receive instructions in the technique and periodically have her technique reviewed (Smith et al., 2010). BSE is suitable and applicable than other methods for developing countries. It is safe, non invasive and economic (Karayurt and Dramali, 2007). The national standards for breast cancer screening in Turkey, include monthly BSE for women aged 20 and over. CBE every three years for the 20–39 years age group and every year for the 40 years and over. Mammography (MMG) is recommended every two years for the 50–69 years age group (Ministry of Health, 2007). There is also a programme for national breast cancer control. Nurses, midwives or doctors provide BSE education using various materials such as models, posters and brochures.

Studies from some countries show that attitude and knowledge of healthcare providers are important determinants of using screening program and female health workers play an important role in creating an

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Table 1. Knowledge of Breast Cancer Risk Factors and Screening Behaviours among Female Health Personnel

Risk factors	Physicians (N=67)		Nurses and Midwives (N=377)		Total (N=444)	
	n	%	n	%	n	%
Positive family history	66	98.5	327	86.7	393	88.5
Exposure to radiation	49	73.1	286	75.9	335	75.5
No breastfeeding	51	76.1	270	71.6	321	72.3
Recent long term use estrogen and progestin	45	67.2	166	44.0	211	47.5
Obesity	45	67.2	133	35.3	178	40.1
Alcohol consumption	28	41.8	145	38.5	173	39.0
Having benign breast diseases	20	29.9	146	38.7	166	37.4
Recent oral contraceptive use	38	56.7	122	32.4	160	36.0
Not given a birth	58	86.6	68	18.0	126	28.4
Late menopause (Age >55)	35	52.2	74	19.6	109	24.5
Early menarche (Age < 12)	36	53.7	70	18.6	106	23.9
Physical inactivity	23	34.3	67	17.8	90	20.3
Old age	25	37.3	56	14.9	81	18.2
Performing BSE	59	88.1	302	80.1	361	81.3
Performing BSE regularly	21	31.3	82	21.8	103	27.3
Having a CBE	19	28.4	91	24.1	110	24.8
Having a MMG	7	10.4	38	10.1	45	10.1

environment supportive of screening behaviors by offering positive role models (Bekker et al., 1999; Lurie et al., 1997; Coleman et al., 2003).

In this study we want to evaluate the knowledge and attitude about breast cancer and practice of breast cancer screening among different female health workers in Çorum Province, Turkey.

Materials and Methods

This study is a cross sectional survey carried out between March-December 2007 among female health care professionals in various health care centers (ten primary health care centers and four hospitals) in Çorum Province, Turkey. All the female health care professionals consisting 72 doctors, 255 nurses and 158 midwives (totally 485) were taken to the study and a total of 444 accepted to participate in the study (80.6% response). A self administered questionnaire prepared by the researchers was applied. Oral informed consent was obtained from the participants. The institutional ethics committee of Erciyes University has approved this study. Questions were prepared by using information on breast cancer from literature. Questionnaire had two parts. One included questions about women's demographic and socio-economic characteristics, knowledge about breast cancer and BSE (prevalence, risk factors (family history, exposure to radiation, breast cancer history, breast feeding experience, giving birth after 30 years old, recent long term use estrogen and progestin, obesity, benign breast disease, using alcohol, oral contraceptive usage, early menarche, late menopause, not given a birth, physical inactivity, old age), detection) and their use of screening methods. The other part had questions on beliefs, behaviors regarding breast cancer and BSE.

The answers of personnel who stated that BSE should be performed once a month, and on days 5-7 of the menstrual cycle were accepted as right. The answer of those who stated all of the mentioned choices for the right positioning during breast examination (standing with arms on the side, standing with hands on waist, standing with hands

on the head sidewise, standing with arms on the side and body bent forwards, and sitting with hands on waist) were accepted as right.

SPSS Version 15.0 Statistical package was used in data analysis. Frequency distributions were produced for the variables. Statistical comparison was carried out by using chi-square test. Level of statistical significance was set at $p < 0.05$.

Results

The mean age of the female health professionals were 33.1 ± 6.1 (min-max: 24-56), and most were currently married (81.3%). 27.3% had no child. 62 of them had used oral contraceptives and 28 had hormonal therapy.

Table 1 shows the knowledge of breast cancer risk factors among female health personnel. Although 81.3% of the group reported performing BSE, only 27.3% reported doing so on a regular basis (performed monthly or once per menstrual cycle). The rate of doing BSE regularly was higher in physicians compared with nurses/midwives.

The rate of having a MMG at least once was 10.1% and rate of having a CBE among the health personnel was 24.8%. The rate of having a CBE above 30 years of age (27.4%), was the same as those under the age 30 (19.6%) ($\chi^2=3.2$, $p=0.073$). MMG rate among health personnel under the age of 40 (4.6%) was less than those above 40 years of age (39.4%) ($\chi^2=79.67$, $p<0.0001$).

Table 2 shows the knowledge and perceptions of the female health personnel regarding breast cancer. Approximately 31.1% of the respondents feeling under risk regarding breast cancer. The perceived risk in nurses and midwives was higher than physicians (19.4% in physicians, 33.2% in nurses /midwives). Majority of the group (98.4%) was believed that BSE was a beneficial method for identifying early detection of breast cancer. 14.9% of the doctors, and 5.3% of the midwives/nurses knew the exact prevalence of breast cancer.

Out of 444 female health personnel 138 were feeling under risk regarding breast cancer. There was no relationship between feeling under risk and performing

Table 2. Knowledge and Perceptions of the Female Health Personnel Regarding Breast Cancer (%)

	Physician (n=67)	Nurses and Midwives (n=377)	Total (n=444)	Chi-square	p
Feeling under risk regarding breast cancer	19.4	33.2	31.1	5.02	0.025
Perceiving BSE as useful	94.0	99.2	98.4	6.76	0.011
Believing that BSE should be done regularly	76.1	71.9	72.5	0.51	0.474
Knowing BSE starting age as 20	26.9	23.6	23.0	0.18	0.674
Knowing that BSE should be performed every month	83.6	80.9	81.3	0.12	0.727
Knowing that BSE should be done in days 5-7 of the menstrual cycle	56.7	55.4	55.6	0.04	0.846
Knowing the right technique for BSE	6.0	5.3	5.4	0.01	0.503
Believing that they are performing the technique for BSE	67.2	59.2	60.4	1.21	0.271
Found their knowledge regarding prevention of breast cancer as sufficient	32.8	18.8	20.9	5.92	0.014
Had received training about BSE	40.3	30.0	31.5	2.82	0.093
Educate their patients regarding breast cancer	46.3	26.3	29.3	11.0	0.0009
Educate their relatives regarding breast cancer	44.8	33.4	35.1	3.22	0.072

BSE (83.3% in the group feeling under risk versus 80.4%) (Chi-square=0.37, p=0.545). On the other hand, the rates of CBE and MMG were statistically higher in those that felt under risk (34.8% versus 20.3; p=0.001, 15.2% versus 7.8%, p=0.026)

The most common reasons for not doing BSE was the belief that it was not necessary and neglect (45.8 %), an idea of not having cancer in themselves (15.7%) and fear (13.3%). The most common reasons for not going for clinical examination were lack of knowledge and the belief that it was not necessary (34.0 and 36%, respectively).

Discussion

The knowledge level and attitude of health professionals are important factors in the control of breast cancer. It is obvious that health will improve in a society in which health personnel play an active role in health education and are a good role model in the society.

It is important that health personnel are aware of the risk factors for breast cancer, in order to guide the patients for the necessary screenings (Lee et al., 2003; Koçak et al., 2011; Stojadinovic et al., 2011). When we questioned our study group about the risk factors for breast cancer; it was found that the ones most known were: family history(88.5%), radiation exposure(75.5%), and not having breast fed (72.3%), the ones least known were: late menopause (24.5%), early menarch (23.9%), physical inactivity (20.3%), and old age (18.2%) (Table 2). Similar results were obtained in studies from different countries, performed upon health personnel (Cockburn et al., 1989; Bekker et al., 1999; Haji-Mahmoodi, et al., 2002; Ahmed et al., 2006; Yaren et al., 2008; Akhigbe and Omuemu, 2009). According to these results, it can be concluded that the risk factors for breast cancer, specially those least known, should be emphasized during the education of health personnel.

An individual's perception, feelings and thoughts regarding health and illness, determine a person's psychological attitude and openness towards preventive health behaviour (Champion, 1985). If people are aware of any danger and believe they might be under risk, the possibility is high that they do develop a positive healthy behaviour.

In our study the rate of feeling under risk regarding breast cancer was 31.1% for the whole group, and 19.4% in doctors, much lower. Positive behaviour regarding breast cancer would be the application of early diagnostic procedures such as: breast self examination (BSE), clinical breast examination (CBE), and mammography (MMG). Although studies do show a significant relationship between BSE and risk perception (Champion, 1985; Gray, 1990), in our study there was no relationship between feeling under risk and performing BSE. On the other hand, the rate of having a CBE and MMG was higher in those that felt under risk compared to those that did not feel under risk. Although no relationship was found between feeling under risk and performing a BSE, the rates of CBE and MMG were statistically higher in those that felt under risk compared to those that did not.

A factor that has an influence upon accepting the screening tests for cancer is the perception of the individual regarding their usefulness and efficacy (Champion, 1985; Canbulat and Uzun, 2008). In our study the rate of perceiving BSE as useful among health personnel was 98.4%, with a lower rate in doctors (94.0%), compared to midwives/nurses (99.2%). The rate of those that believed that this examination should be done regularly was 72.5%. Regular BSE, enables a woman to realise any differences in a very early stage. Although the rate of those believing in BSE was high in our study, the fact that it has not been included into the behaviour of the study group, is an important drawback. 81.3% of the participants stated that they did BSE, and 27.3% that they did so regularly. Performing a regular BSE was 31.3% among doctors, and 21.8% among midwives/nurses. In many studies performed in our country (Kılıç et al., 2006; Demirkiran et al., 2007; Canbulat and Uzun, 2008; Güleser et al., 2009), it was found that health personnel do perform BSE, but the rate of those that do so on a regular basis is low. In Türkiye these rates are even lower in women who are not health personnel. (Seckinli and Nahcivan, 2006; Avci, 2008; Gürsoy et al., 2011; Yilmaz et al., 2011).

In studies performed in developed and developing countries, upon health personnel or the society, rates for BSE ranged from 6% to 95%. In developed countries with a higher awareness for breast cancer, rates were higher (Haji-Mahmoodi, et al., 2002; Okobia et al., 2006;

Dündar et al., 2006; Jacob et al., 1989; Rosenman et al., 1995, Gray, 1990). BSE is an easily applied, cheap, and effective method, so it is thought provoking that even though they are educated during their vocational training about this topic, BSE rates are still so low. 45.8% of the health personnel stated that they did not perform SBE out of neglect/not caring, 15.7% because they thought they would not get cancer, and 13.3% because they were afraid. In many studies performed upon health personnel (Budden, 1998; Haji-Mahmoodi, et al., 2002; Chong et al., 2002), most of them stated that they believed that BSE was an easy method, but could not do it, due to neglect, forgetting, or not having enough time. Our study results are similar to many others (Burgess et al., 2001; Thomas, 2004; Cavdar et al., 2008; Özgün et al., 2009; Kissal and Beser, 2011). Evaluation of literature shows that, the belief that cancer is inevitable is another factor that hinders cancer screening behaviour. Women in this opinion believe that they can not change anything at all and therefore neglect the screening tests (Thomas, 2004; Kissal and Beser, 2011). According to a study performed in Türkiye upon women with breast cancer, 88.9% of the patients had noticed the problem themselves but only 35.8% had referred to a doctor within a month (Özgün et al., 2009). According to a study performed by Burgess et al. (2001) it was established that the primary factors in this delay in referring to a doctor were negligence and fear of having cancer.

There are studies that established a positive relationship between knowledge about breast cancer and BSE and applications. (Savage and Clarke, 1996; Dündar et al., 2006; Okobia et al., 2006; Rosmawati, 2010). In our study 81.3% of the health personnel knew that BSE should be performed every month, 55.6% that it should be done in days 5-7 of the menstrual cycle, but only 5.4% knew the right technique for BSE.

31.5% of the health personnel that participated in our study had received in-service training. But only 20.9% found their knowledge regarding prevention of breast cancer as sufficient. The level of finding their knowledge sufficient was low in both groups. This rate was 32.8% among doctors and 18.8% among midwives/nurses and the difference was statistically significant. Studies from Türkiye upon this topic support our results. (Avci, 2008; Ceber et al., 2010). The need for education is obvious, and it would be useful if the in-service trainings are performed with small groups of participants and structured to aim behavioural changes.

American Cancer Society states that education after the age of 20 about breast cancer symptoms, increases the awareness about breast cancer (Smith et al., 2010). 29.3% of the health personnel educate their patients, and 35.2% their own relatives regarding breast cancer. While there was no difference between groups regarding the education of patients, doctors have stated that they educated their relatives more, compared to midwives/nurses. In a study performed in Australia (Budden, 1998), it was found that nurses felt themselves insufficient regarding teaching women to perform BSE, due to their own insufficient knowledge regarding BSE. In our study too, the rate of those that found themselves sufficient regarding the

prevention of breast cancer was low.

ACS, recommends a CBE every three years for the age group 20-39, and once a year for those above 40 years of age (Smith et al., 2010). In our study the mean age was 33.1, and taking into account that those above 40 years of age were 16.0%, the rate of those that had at least once a CBE was quite low, 24.8%.

MMG is a very effective diagnostic method in breast cancer, suggested by all the relevant health organizations (Smith et al., 2010). But in many studies it has been established that women do not have MMG done on a regular basis (Rosenman et al., 1995; Kottke et al., 1995; Coburn et al., 2004; Akhigbe and Omuemu, 2009; Amin et al., 2009; Parsa and Kandiah, 2010).

The rate of having a CBE among health personnel under the age of 30, was the same as those above 30 years of age. MMG rates among health personnel under the age of 40 was less than those above 40 years of age.

The rate of having a mammography at least once above the age of 40 was 39.4% in our study group. Similar results were found in studies performed among the general population above 40 years of age, in Türkiye (Seckinli and Nahcivan, 2006; Cam and Gümüş, 2009). This can be due to the fact that, even if health personnel, as a society, we still are not aware that we are responsible of our own health. On the other hand, studies from developed countries show that the attitudes and behaviour of health personnel affect the participation of women into the breast cancer screening programs (Lurie et al., 1997; Bekker et al., 1999)

In conclusion, it was been found in this study performed in the province of Çorum, that the knowledge level among female health personnel was low, the rates of performing regular BSE, going to a doctor for clinical breast examination and having a mammography were also low, showing that female health personnel need in-service training programs. Increasing the related knowledge and application success among health personnel, will certainly affect the women in their service area.

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Yeliz Yelen Akpınar et al

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