

RESEARCH ARTICLE

Level of Knowledge and Behavior of Family Health Personnel Workers in Izmir about Early Diagnosis for Breast and Cervix Cancer

Gokben Yasli¹, Ebru Turhan^{2*}, Sultan Eser³, Mustafa Tozun⁴, Murat Oguz³, Fatma Alpay³

Abstract

Purpose: The present study was carried out to measure knowledge level and behavior of family health personnel (FHP) in Izmir on early diagnosis of breast and cervical cancers. **Materials and Methods:** The study population of this cross-sectional study was not selected. A questionnaire was applied to all FHP to measure knowledge level and behavior about cancer. The participation rate was 88%. Breast examination, mammography analysis, Papanicolaou smear applications were determined as dependent variables, and knowledge level about breast and cervical cancer, age, professional time as FHP as independent variables. Data were evaluated using definitive statistics, chi-square and logistic regression tests in SPSS software package for Windows 15.0. **Results:** A total of 970 family health personnel participated in the research. The age range was 20-45 years (82.4%). Mean age was 37.9±7.4. Response rate was 87.3%. Of the participants, 88.4% performed breast self-examination. Rate of performing mammography at least once was 24.1%. Rate of performing Pap-smear examination at least once was 61.0%. In logistic regression analyses, it was determined that people with knowledge on breast and cervical cancer were those performing breast self-examination, mammography and Pap-smear examinations ($p < 0.05$). **Conclusions:** It is essential that the knowledge, behavior and manners of health providers on early diagnosis for cancer increases awareness in the general population and provides information on execution of the most effective methods for generating a healthy society.

Keywords: Breast cancer - cervical cancer - cancer screening - family health personnel - Izmir, Turkey

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Introduction

Cancer is one of the most significant problems related to public health today. It is in the second place among the death causes in our country. Cancer has become the second most common cause of death in especially developing countries as well as in the developed countries and moved ahead of infectious diseases (respiratory tract, HIV/AIDS, diarrhea, tuberculosis etc.) (Anderson et al., 2007). By the early diagnosis of breast and cervix cancers that could be prevented after scanning a decrease rate of 85% in mortality is provided (ACS, 2008).

Breast cancer is the most common cancer type among women not only in developing but also in developed countries. Furthermore, breast cancer is one of the most important cause of death for women (Erefe et al., 2006). According to the data of Globokan 2002, breast cancer is among the most common and most death-causing cancers for women in our country (Parkin et al., 2005). It is recommended for any woman to perform breast

self-examination and clinical examinations after age of 20 regularly and the first mammography at the age of 40 and control mammography between the age of 50 and 69 regularly (Anderson et al., 2003; Smith et al., 2006; Modjtabei et al) With mammography, the breast cancer is determined in the rate of 80-90% without any symptoms and treated efficiently and the live chance of individuals increases (ACS, 2008). BSE is a cheap and non-risky method. American Cancer Society offers to give information to women about benefits and limits of BSE. Women find out their breast structure with regular breast examinations and become aware about the differences easily (Gray et al., 1990; Epstein et al., 2001; Anderson et al., 2003).

Cervix cancer is in the second rank after breast cancer among the women cancers in the world (Guner et al., 2007). In developing countries, cervical cancer is a significant cause of death in reproduction period of women (Ayhan et al., 2007). Despite of the fact that epidemiological data, related to our country, is limited,

¹Bornava Community Health Center, ²Karsiyaka Community Health Center, ³Provincial Directorate of Public Health, ⁴Public Health, Katip Celebi University Faculty of Medicine, Izmir, Turkey *For correspondence: turhanebru1@gmail.com

according to 2003 data of Ministry of Health, cervix cancer is in rank 9 in Turkey and incidence is 2,20 in 100,000. In a new study in 8 cities, deemed as representing Turkey, the incidence of cervix cancer is 4,76 in 100,000. Cervix cancer is in higher rate in developing countries for reasons such as insufficient routine scanning programs, low social-economic status, bad hygiene, early coitus, multi-sexual partners. So, the disease is diagnosed in advanced stage and the treatability of the disease decrease in developing countries (Dede et al., 1996). For the early diagnosis of the cervix cancer, HPV or Pap smear scanning is recommended once in 5 years between the ages of 30 and 65. World Health Organization says that Pap smear test can reduce the invasive cancer risk in the rate of 65% (WHO, 1986).

Knowledge level and behaviors of the health providers, related to the breast and cervix cancer diagnosed early, are important from the point of being a model for the society. This study was performed to measure knowledge level and manners of family health personnel

Materials and Methods

The cross-sectional type study was carried out between the dates of February and March 2012. The population of the research constitutes totally 1106 personnel of family health (FHP) in Izmir. We tried to reach all the population that the sample was not selected. Questionnaire was applied to family health personnel to measure the knowledge level and behaviors about cancer. 970 personnel of family health participated in this questionnaire (FHP:1106, participation rate: 88%). Breast Self-Examination, mammography analysis, pap smear applications are determined as dependent variable and knowledge level about breast and cervix cancer, age, professional time of FHP are determined as independent variable. Data is evaluated in SPSS for Windows 15.0 Statistical Packet Program and defining statistics, chi-square test and logistic regression tests are applied in analysis.

Results

970 personnel of family health participated in the research. The age range is 20 - 45 (82.4%, n=790). Age average is 37.9±7.4. They are midwife and nurse in institutions in the rate of 87.3% (n=848). The professional time of 39,1% (n=380) is 10-20 years.

The 88.4% (n=791) of the participants perform breast self-examination. The rate of those going to doctor for breast examination is 16.8% (n=152). The rate of those performing mammography application at least once is 24.1% (n=219). The women in age of 45 and over performed more mammography tests than the other age groups (36.8%, n=39, p=0.000). The rate of those performing Pap smear application at least once is 61.0% (n=564). The women in age of 45 and over performed more pap smear tests than the other age groups (75.9%, n=82, p=0.000).

The most correct replies given by FHPs for the questions related to early diagnosis methods are those

relating to the application time of BSE before and after menopause (46.4% and 67.4%) and the least correct replies are those relating to the application time of Pap smear and beginning time of BSE (27.3% and 10.9%).

The risk factor of "non-birthing situation" is the most known of breast cancer risk factors (85.5%) and the second rank is risk factor of "breast cancer on the close relatives" (75.5%). The risk factor of "Every woman,

Table 1. The Percentage Distribution of the Replies for the Questions Related to the Early Diagnosis Methods of Family Health Personnel

	n (%)
What is the most suitable age for participating in Breast Self-Examination (BSE)?	
15	143 (15.7)
20	248 (27.3)
30	96 (10.6)
After the first menstruation	422 (46.4)
Which periods should be BSE applied?	
Any day within menstruation	143 (15.7)
1-4th days of menstruation	248 (27.3)
5-7 days later from the beginning of menstruation	96 (10.6)
7-10th days from the beginning of menstruation	422 (46.4)
2-4 days later from the end of menstruation	
When should BSE applied after menopause?	
Only when the estrogen is taken	8 (0.9)
Any day, once in a month	195 (21.7)
Specific day in every month	606 (67.4)
Same day every 6 months	90 (10.0)
Which frequency should the pap smear test applied for the age 30-65?	
Once in 6 months	172 (18.5)
Once in a year	639 (68.8)
Once in 5 years	101 (10.9)
In case of complaint	4 (0.4)
In case of doctor demand	5 (0.5)

Table 2. The Percentage Distribution of the Replies of Family Health Personnel for the Questions Related to the Risk Factors

Risk factors for breast cancer	n(%)
Aging is risk factor for breast cancer	329 (40.6)
The non-birthing situation is risk factor for breast cancer	759 (85.5)
The first birthing situation over the age of 30 is risk factor for breast cancer	567 (66.9)
Late menopause (over age 50) is not risk factor for breast cancer	494 (58.9)
The first menstruation in early age is risk factor for breast cancer	346 (41.6)
Breast cancer appearing on close relatives (mother, daughter, sister, aunt) is not risk factor for breast cancer	648 (75.5)
Risk factors for cervix cancer	
Every woman, being active sexually, should apply pap smear test	802 (90.7)
The bleeding in intervals of cycle may be the early symptoms for cervix cancer.	621 (72.5)
Smoking is risk factor for cervix cancer	684 (78.5)
Cervix cancer is not associated with HPV	596 (72.0)
Cervix cancer starts to appear in the age of 30s.	382 (45.7)
Cancer story in the family is not risk factor for cervix cancer	690 (81.2)
HPV is a sexually transmitted virus.	727 (84.9)

being active sexually, should applied pap smear test” is the most known of cervix cancer risk factors (97.0%) and the second rank is risk factor of “HPV is a sexually transmitted virus” (81.2%)

As shown in table 3, the BSE frequency of the women under the age of 25 from the participants is more and meaningful than the other age groups (95.1% and p=0.041).

The BSE frequency of the women whose professional period is 10 year or under is more and meaningful than the other age groups (91.6% and p=0.023).

The BSE frequency of the women whose knowledge is sufficient is more and meaningful than the other women whose knowledge is insufficient or in medium level (p=0.044).

When the mammography application of women in table 3 is reviewed, the frequency of mammography application is increasing by the age (p=0.000). The frequency of mammography application is increasing and meaningful by the professional period is increasing (p=0.000). The 31.5% of the women, whose knowledge about breast cancer is sufficient, have applied more

mammography tests than the women, whose knowledge is insufficient or in medium level (Respectively, 31.5%, 20.9% and p=0.001).

When the smear test situation in table 3 is reviewed, the frequency of smear test application is increasing by the age (p=0.000). Furthermore, the frequency of mammography application is increasing by the professional period is increasing (p=0.000). The women, whose knowledge about cervix cancer is sufficient, have applied more smear test application than the women, whose knowledge is insufficient or in medium level (Respectively, 69.7% and 59.1%, p=0.001).

The variants deemed as meaningful in the univariate analysis are taken to the logistic regression analysis. These are considered as reference: Being over 45, less professional period than 10 years, insufficient knowledge about breast cancer and insufficient knowledge about cervix cancer.

According to the logistic regression analysis, the professional period of 10-20 years and sufficient knowledge of prevention for breast cancer affects BSE application. Being professional for 10-20 years increases

Table 3. Application of Early Diagnosis Methods by Family Health Personnel According to Some Features

	BSE application			Mammography application			Smear test application		
	E	H	p	E	H	p	E	H	p
Age									
Under 25	95.1	4.9		4.9	95.1		24.4	75.6	
Age 25-45	87.1	12.9	0.041	17.7	82.3	<0.001	60.7	39.3	<0.001
Over 45	94.2	5.8		73.8	90.2		75.9	24.1	
Professional Period									
Under 10	91.6	8.4		6.5	93.5		43.6	56.4	
10-20 years	84.8	15.2	0.023	9.4	90.6	<0.001	60.7	39.3	<0.001
20 years and over	90.1	9.9		52	48		72.4	27.6	
Having knowledge of prevention for breast cancer									
Sufficient	91.7	8.3	0.044	31.5	68.5	0.001			
Insufficient or in medium level	87	13		20.9	79.1				
Having knowledge of prevention for cervix cancer									
Sufficient							69.7	30.3	0.009
Insufficient or in medium level							59.1	40.9	

*Percentage line

Table 4. BSE, Mammography and Smear Test Applications According to Logistic Regression Analysis*

		β	p	OR	%95 CI
BSE application	Under 25 years	0.104	0.906	1.110	0.196-6.295
	Age 25-45 years	0.816	0.076	2.262	0.917-5.579
Professional Period	10-20 years	0.671	0.019	1.957	1.115-3.436
	20 years and over	0.182	0.556	1.199	0.655-2.197
Having knowledge of prevention for breast cancer	Sufficient	0.662	0.028	1.939	1.076-3.495
Mammography Application	Under 25 years	2.384	0.003	10.850	2.22053.032
	Age 25-45 years	1.634	0.000	5.124	3.079-8.528
Professional Period	10-20 years	-0.303	0.373	0.739	0.379-1.438
	20 years and over	-2.185	0.000	0.112	0.061-0.208
Having knowledge of prevention for breast cancer	Sufficient	0.524	0.022	1.688	1.080-2.639
Smear test application	Under 25 years	1.449	0.002	4.260	1.71510.582
	Age 25-45 years	0.307	0.239	1.359	0.815-2.265
Professional Period	10-20 years	-0.496	0.007	0.609	0.425-0.871
	20 years and over	-0.953	0.000	0.386	0.259-0.574
Having knowledge of prevention for cervix cancer	Sufficient	0.530	0.013	1.699	1.116-2.587

*These are considered as reference: Being over 45, less professional period than 10 years, insufficient knowledge about breast cancer and insufficient knowledge about cervix cancer

BSE application in 1.9 times than the other age groups. The possibility of BSE application of the women, whose knowledge about breast cancer is sufficient, is more than possibility of the women, whose knowledge is insufficient, in 1.9 times. The reliability interval is meaningful because it does not consist of 1.

Age, professional period of 20 years and over, sufficient knowledge of breast cancer affects mammography application in a significant level according to logistic regression analysis. The possibility of mammography application of the women, whose knowledge about breast cancer is sufficient, is more than possibility of the women, whose knowledge is insufficient, in 1.7 times. The reliability interval is meaningful because it does not consist of 1.

Being under 25, professional period and sufficient knowledge of cervix cancer affects Pap smear test application in a significant level according to logistic regression analysis. The possibility of Pap smear test application of the women, whose knowledge about cervix cancer is sufficient, is more than possibility of the women, whose knowledge is insufficient, in 1.7 times. The reliability interval is meaningful because it does not consist of 1.

Discussion

A total of 970 personnel of family health participated in the research. The age range is 20 - 45 (82.4%, n=790). Age average is 37.9 ± 7.4 . They are midwife and nurse in institutions in the rate of 87.3% (n=848). The professional time of 39,1% (n=380) is 10-20 years.

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According to the logistic regression analysis, the professional period of 10-20 years and sufficient knowledge of prevention for breast cancer affects BSE application. Being professional for 10-20 years increases BSE application in 1.9 times than the other age groups. The possibility of BSE application of the women, whose knowledge about breast cancer is sufficient, is more than possibility of the women, whose knowledge is insufficient, in 1.9 times. The reliability interval is meaningful because it does not consist of 1.

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In conclusion, in the formation of a healthy society, it's

important that especially the family health personnel to adopt the knowledge, attitudes and behaviours concerning methods for early diagnosis of cancer. In this way, the awareness for early diagnosis of cancer in a normal population may be increased and the implementation of early diagnosis methods can be achieved. The successful implementation of a struggle with cancer can only be achieved by a serious, planned and organized study.

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