RESEARCH ARTICLE

Breast and Cervical Cancer Screening in Women Referred to Urban Healthcare Centers in Kerman, Iran, 2015

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Abstract

Breast and cervical cancers are among leading causes of morbidity and mortality in women worldwide. Regular screening is very important for early detection of these cancers, but studies indicate low rates of screening participation. In this survey we studied the rate of screening participation among women 18-64 years old referred to urban health centers in Kerman, Iran in 2015. A cross-sectional study was carried out on 240 women who were selected using a multistage sampling method. Data collected using a questionnaire covered demographics and questions about common cancer screening status in women. Analysis was by SPSS 19. The mean age of participants was 31.7 ± 7. Most (97.1%) were married, housewives (83.3%), had high school diploma (43.8%) and a monthly income more than ten million Rls. The frequency of the Pap test performance was higher in women who were employed and with a university degree ($p<0.05$). The frequency of mammography performance in women over 40 years was also higher in women with university degree ($p<0.05$). There was no statistically significant difference in the frequency of pelvic examination, and self and clinical breast examinations based on education, household income and employment ($p>0.05$). Our study found that the rate of screening participation among women is low. Investigation of the barriers, increasing the awareness of women about the importance and advantages of screening and also more incentives for health personnel especially family physicians to pay more attention to preventive programs could be effective.

Keywords: Cancers - screening - women - Kerman - Iran

Introduction

Breast and cervical cancers are the most and the fifth most common cancers among women worldwide, respectively. Breast cancer annually kills more than 500,000 women around the world. More than 270,000 deaths are also caused by cervical cancer every year, most of which occur in developing countries. Early diagnosis and screening are two strategies that can help these two common cancers to be detected during their early stages. For early diagnosis, it is necessary to improve public and health personnel awareness about signs and symptoms associated with these cancers. For screening, we evaluate asymptomatic population by systematic use of testing to detect cancers in early stages (WHO, 2014). Self and clinical breast examination and mammography are methods for screening breast cancers. Among them mammography is the most common screening test (PDQ Screening and Prevention Editorial Board, 2015). Previous literature revealed this method can decrease breast cancer mortality rate (Al Rifai et al., 2015). The U.S. Preventive Services Task Force (USPSTF) recommended biennial screening using film mammography for women aged

40-74 years. Earlier, more frequent or intensive cancer screening is needed for high risk women (2014). It has not been clear that self and clinical breast examination decrease the mortality rate caused by breast cancer (PDQ Screening and Prevention Editorial Board, 2015). For cervical cancer screening, it is recommended that Pap test be done every 3 years for women ages 21 to 29 years and Pap test and HPV testing for women ages 30 to 65 years every 5 years (USPSTF, 2014). It has been shown that up to 80% of invasive cervical cancer can decrease by cytology methods. However, there are some other screening methods that are under experiment. Although there are effective methods for these two common cancers, studies indicate low rates of regular screening for them among women. In developing countries, only 2.2% of women aged 40-69 years were screened for breast cancer during the previous five years, while only 4.1% of women aged 18-69 years were screened for cervical cancer during the previous three years (Al Rifai et al., 2015).

A study in Iran revealed that only 10.1% of subjects have regularly performed breast self examination (BSE) per month and 28.5% of women aged > 40 years had at least one mammography (Hajian et al., 2015). Another

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study in Iran found 50.6% of women referred to healthcare centers had never done Pap smear test (Farshbaf-Khalili et al., 2015). Several factors such as lack of awareness, poor trusted health care system, misconceptions, "Fatalism" can affect women not to participate in screening programs (Driscoll, 2015). This study aimed to determine the status of breast and cervical cancer screening in women referred to urban healthcare centers, Kerman, Iran, during 2015.

Table 1. the Frequency of Cancer Screening Among Women Referred to Urban Healthcare Centers

Screening type	Screening performance	Number (%)
Pap smear test (the married/236)	Never	135.0(57.2)
	Every 1 to 3 yrs	86.0(36.5)
	More than 5yrs	15.0(6.3)
self breast examination (age>18yrs/240)	Never	123.0(52.6)
	Irregular	51.0(21.8)
	Monthly	60.0(25.6)
clinical breast examination (age>20yrs/234)	Never	156.0(66.7)
	Every 2 to 3 yrs	58.0(24.8)
	Every year	29.0(8.5)
Mammography (age40yrs/37)	Never	27.0(73.0)
	Every 2 to 3 yrs	8.0(21.6)
	Every year	2.0(5.4)
pelvic examination (age>20yrs/234)	Never	176.0(74.7)
	Every 2 to 3 yrs	55.0(23.6)
	Every year	4.0(1.7)

Materials and Methods

This research was a cross sectional study carried out between April to September of 2015. The statistical population was women 18-64 years old women referred to urban health centers in the city of Kerman (Kerman province, south eastern area of Iran). The study was carried out on 240 women who were selected using multistage sampling method. In the first stage, the city divided into four regions according to the municipal divisions. Three centers were selected randomly in each area. In the next stage, based on sample size, the participants were selected through non-probability convenience sampling. Inclusion criteria were the age of 18 to 64 years old, informed consent to participate and the absence of a family history of cancer. Data collected using a two-section self-administered multiple choice questionnaire. The first section contained demographic data such as age, marital status, level of education, income and employment status. The second part contained questions about common cancer screening status in women, based on literature review. These questions included: Pap test for the married, self and clinical breast examination and pelvic examination for women aged ≥ 20 yrs, and mammography for women aged ≥ 40 yrs. Participants were asked if they had ever done the related screening. In case of positive response, the intervals of screening were determined by multiple choice questions. The questionnaire was evaluated by five faculty members and corrected according to the feedbacks. A pilot study was carried out on 30 subjects to determine the reliability using Cronbach's α that was 0.68. The time required to complete the questionnaire was ten minutes. The questionnaires were completed anonymously. Participants were assured that the data will be used only for research purposes .The study including questionnaire were approved by the research review board at Kerman University of Medical Sciences Data were analyzed by SPSS 19 through chi square and logistic regression.

Results

The mean age of participants was 31.7± 7, with the minimum and maximum 18 and 53 years, respectively. The majority of participants (97.1%) were married, housewives (83.3%), had high school diploma (43.8%) and monthly household income more than ten million Rls (250 US$). Table 1 shows the frequency of cancer screening among participants.

The frequency of the Pap test performance was higher in women who were employed, with high school and higher education and household income more than one million Rls (p<0.05)The frequency of mammography performance was higher in women with higher education (p=0.01). There was no statistically significant difference in the frequency of pelvic examination and self and clinical breast examination in women based on education, household income and employment (Table2). In logistic regression analysis only age was correlated with screening participation (PV=0.03). In this test, with each year of increase in the age, the chance of any screening

Table 2. Comparison of the Frequency of Cancer Screening Among Women Referred According Education, Job and Income Status

Screening type	Screening participation	Education		Employment		Income	
		Under high school diploma	High school diploma and higher	Housekeeper	Employed	< one million RLs	≥ one million RLs
		Num (%)	Num (%)	Num (%)	Num (%)	Num (%)	Num (%)
Pap smear test (the married/236)	No	51.0(70.8)	84.0(50.9)	121.0(60.8)	14.0(36.8)	118.0(61.5)	17.0(37.8)
	Yes	21.0(29.2)	81.0(49.1)	78.0(39.2)	24.0(63.2)	74.0(38.5)	28.0(62.2)
Pv		0.004		0.006		0.004	
self breast examination (aged>20yrs/234)	No	35.0(48.6)	92.0(55.1)	108.0(54.0)	19.0(48.7)	105.0(54.1)	22.0(48.9)
	Yes	37.0(51.40)	75.0(44.9)	92.0(46.0)	20.0(51.3)	89.0(45.9)	23.0(51.1)
		0.35		0.54		0.52	
clinical breast examination (aged>20yrs/234)	No	53.0(72.6)	108.0(65.1)	136.0(68.0)	25.0(64.1)	136.0(70.1)	25.0(55.6)
	Yes	20.0(27.4)	58.0(34.9)	64.0(32.0)	14.0(35.9)	58.0(29.9)	20.0(44.4)
		0.25		0.63		0.06	
Mammography (aged40yrs/37)	No	12.0(92.3)	8.0(50)	23.0(82.1)	6.0(66.0)	21.0(77.7)	6.0(60.0)
	Yes	1(7.7)(17.7)	8.0(50)	5.0(17.9)	3.0(34.0)	6.0(22.3)	4.0(40.0)
		0.01		0.42		0.42	
pelvic examination (aged>20yrs/234)	No	49.0(71)	123.0(75,9)	143.0(74.5)	29.0(74.4)	141.0(75.8)	31.0(68.9)
	Yes	20.0(29)	39.0(24.1)	49.0(25.2)	10.0(25.60)	45.0(24.2)	14.0(31.3)
		0.43		0.98		0.34	

participation increases by 1.05 times.

Discussion

Our study found the rate of screening participation among women referred to urban healthcare centers in Kerman is low. It was found that more than half of eligible women never did Pap test, self and clinical breast examination and about three quarters of them never participated for mammography and pelvic examination. These findings are similar to those of previous studies in different parts of our country. A study in Northern Iran revealed that only about ten percent of women 20 - 65 years have performed breast self- examination (BSE) monthly and less than ten percent of them have done breast clinical examination (BCE) annually (Hajian Tilaki et al., 2015). Farshbaf-Khalili, et al (2015) found about half of women referred to healthcare centers in Tabriz (Iran) reported they never did Pap test and only 19.1% had BCE and 3.3% had mammogram (2012). In a study in Kerman Jafari, et al (2015) investigated the

rate of mammography participation among women aged 35-69.The rate was 3.8 and 16.3 in urban region and the villages, respectively. Fouladi, et al (2013) also found that less than thirty and ten percent of women in Northwest Iran performed BSE and were screened by mammography, respectively.

We have also the same situation in our region. A study among Jordanian women aged 15-49 years found about one third of them have done BSE and twenty percent have been screened by and BCE in the previous year. The rate of Pap test at least once in life was reported by nearly one fourth of them (Al Rifai et al., 2015).

All these studies indicate that the participation of women in screening programs is low.

Our results showed higher education, employment and higher household income is related to higher rate of Pap test performance. It may be due to easier access to healthcare services, more knowledge about the importance and benefit of Pap testing and perhaps being under influence of colleagues' in the workplace. Navarro et al (2015) also concluded that higher household income increases the rate of Pap test screening. However, we found the same results in approximately all other screening programs, but they were not statistically significant. Farshbaf-Khalili et al (2012) also showed similar results for BSE, mammography and Pap testing (2015). However, Hajian Tilaki et al (2015) found higher educational level was significantly associated with BSE. Al Rifai and Nakamura (2015) showed the same results for BSE, BCE and Pap smear examination. we also found this correlation between mammography participation and education. The difference between the studies indicates that factors other than education, employment and household income may be effective.

We found that higher age increases the chance of any screening participation that are compatible with Hajian Tilaki et al (2015) and Al Rifai and Nakamura (2015).

Certainly, the next step that needs to be taken for increasing the participation of women in screening programs is investigating the causes of low rate of participation. Driscoll (2015) found poor trusted health care system, lack of awareness, misconceptions, and "fatalism" are associated with low participation in screening programs. Similar factors also reported by Farshbaf-Khalili et al (2015).In a study done by Sarah Khan and Gillian Woolhead (2015), muslim women reported feeling shame, fear, pain and cultural factors are the major barriers of their participation.

Another similar study carried out in New zealand reported the cost of screening, awareness and individual sense towards self and screening affect cervical screening attendance (Foliaki and Matheson, 2015). It is clear that screening participation is low in our society. Therefore, it is essential looking for factors that are effective on this situation and it should be done faster due to the rising incidence of cancer in our society. After recognizing the causes, necessary interventions given the importance and priority should be considered.

Our study was a cross sectional study. Another limitation was that data collection was according to the participants'

self report. It seems not to provide precise picture of the situation. But it was probably the first study that evaluated screening situation among women.

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