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Greek Women's Knowledge and Perceptions Related to Breast Cancer Prevention

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ABSTRACT

Background: Breast cancer is the most common form of cancer and the leading cause of cancer death in women worldwide. The aim of this survey was to investigate Greece women's knowledge and perceptions related to breast cancer prevention.

Methods: A reliable questionnaire from the literature was used which then was translated using the forward and backward translation method. It contained 37 questions and the sample consisted of 650 women. The statistical analysis was completed using SPSS 25. The study found that the majority of the sample had knowledge regarding breast cancer prevention, they knew the importance of breast self-examination and annual clinical breast examination needed to be conducted as well as the age to undergo their first mammogram. Age, occupation, annual family income, education level, and marital status significantly influenced women's knowledge and perceptions related to breast cancer prevention.

Conclusions: The state, the media and schools contribute to raising awareness and the involvement of health professionals is essential to better inform and educate adolescent girls and women on this issue.

Keywords: Breast cancer, Health professionals, Prevention.

INTRODUCTION

Cancer is the 2nd leading cause of death worldwide, accounting for nearly 10 million deaths in 2019[1]. In Greece, a total of 64,530 new cancer diagnoses were recorded in 2020 and 36,166 lost the battle with cancer in the past year[2].

Breast cancer

Breast cancer is the most common cancer making it the second common cause of cancer death worldwide. Approximately 685,000 women, worldwide, died from the disease in 2020 while a total of 7,772 new diagnoses were recorded in Greece in 2020, moving

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breast cancer to first place in terms of deaths[3]. Interestingly, the majority of breast cancer cases and deaths occur in low and middle income countries[4]. Evidence shows that 5-year breast cancer survival exceeds 90% in high-income countries but falls to 66% in India and 40% in South Africa.[5]

Risk Factors

Age is the strongest risk factor for non-hereditary breast cancer. Women over 65 years of age have a higher risk of the disease than women aged 40 years[6] and the disease is extremely rare in women under 30 years of age[7]. In addition, hereditary breast cancer is responsible for 5% to 10% of all breast cancers and is caused by mutations in the BRCA1 or BRCA2 genes[8]. Furthermore, obesity, high-fat diet, alcohol and lack of physical activity are associated with breast cancer.[9]

Treatment

The majority of the patients present early-stage non-metastatic breast cancer symptoms and cancer relapse may occur at any time as metastatic disease. However, the risk is greatest within the first 5 to 10 years after diagnosis[10]. The most common sites of metastasis are identified in the bones, lymph nodes, lung and liver[11]. Surgical options include breast conservation, are the usual treatment modality offering a 5-year survival rate to modified radical mastectomy[12]. Finally, systemic treatments include chemotherapy, hormone therapy, bisphosphonate therapy or biological therapy for metastatic disease throughout the body.[13]

Prevention

Treatment of breast cancer when detected early has a much higher chance of cure and a better outcome. However, prevention is extremely important since detecting breast cancer in the early stages; the 5-year relative survival rate is 99%.[14] It therefore becomes clear that early diagnosis is the key to disease management and cure. Early detection includes breast self-examination, clinical examination and a mammogram.

It is found that 40% of breast cancer diagnoses occur when women palpate a mass during self-examination.[15] As a result, breast self-examination is essential and valuable for breast cancer screening in addition to assisting women to become familiar with breast physiology so that they can identify any changes. A research indicates that women need to receive a clinical examination by a gynaecologist every 3 years from the age of 20 to 39 years and annually over the age of 40 years.[16] Finally, mammograms represent the basic breast cancer screening tool. Mammogram screaming offers 77-95% sensitivity, 94-97% specificity and are associated with a decrease in breast cancer mortality.[17]

The role of the nurse in the prevention of breast cancer

Nurses are members of the primary health care team among health professionals that can actively contribute to educating women in breast cancer prevention. Nurses have the ability to educate women in the detection of breast abnormalities, palpation and the necessity of performing tests[18]. In addition, nurses are seen as the most accessible members of the health care workforce and therefore can play a key role in raising awareness in the patients' relatives as well as the community.

In addition, the nurse intervenes in the family's eating habits by emphasizing healthy habits and taking preventive measures against cancer. Also, suggests self-protection measures in situations where there is a possibility the individual may be exposed to carcinogens, aims to form new patterns of behavior in the removal of cancer causative agents while emphasizing the importance of early diagnosis and early physician consultation[19]

School nurses also play an important role in this direction. The school nurse's multidimensional role is more relevant than ever. The key to school health enables early identification of health and development related problems in the school population.[20]

It is generally accepted that in the prevention and awareness context concerning breast physiology and the disease, the school nurse is the most appropriate person to teach and properly inform the adolescent girls within the school community.[21]

Research on the above topic explores the quality of life of women with breast cancer and the psychological impact of the disease. There is a lack of research studies on women's knowledge and perceptions of breast cancer prevention.

Purpose

The purpose of this survey was to investigate Greek women's knowledge and perceptions related to breast cancer prevention.

MATERIALS AND METHODS

A reliable questionnaire[16] which included 32 questions was chosen. The questions were divided into four themes (Knowledge about Breast Cancer and Prevention, Self-examination, Clinical Examination and Mammogram Screaming questions). Questions regarding participants demographic characteristics were included at the end of the questionnaire. The questionnaire was translated into Greek using the forward and backward translation method. The research team received approval from the original author to use the questionnaire.

Procedure

Due to the Covid-19 pandemic and restrictive measures in place the questionnaire was distributed via electronic form (Google Forms platform). The questionnaire was forwarded to the Panhellenic Association of Women with Breast Cancer "Alma Zois" and to various women's groups - forums. In this way information was collected from a wide range of participants. Specifically, from women suffering from cancer, women who are in remission as well as health women. Letters providing information of the study were sent to the webmasters of the websites. Once permission was granted, the questionnaire was uploaded to the Forums. The first page of the questionnaire explained the purpose of the study as well as questionnaire completion guidelines. Information regarding participants' anonymity, confidentiality and voluntary participation were included. Women who had access to the forum website and agreed to participate in the study were able to complete the questionnaire. The time needed to complete the questionnaire was 7-10 minutes.

Ethics

All procedures were performed in compliance with relevant laws and institutional guidelines. This study received ethical approval by the institutional review board of the University of Patras (Greek registration number: 4796).

Sample

The survey was conducted in the last quarter of 2020. The questionnaire was completed by a total of 650 women.

Statistical analysis

Descriptive statistical analysis was used regarding the sample's demographic characteristics (Table 1). Normality test was performed based on the Kolmogorov Smirnov statistical test and revealed that the distribution was normal ($p>0.05$). Furthermore, to determine whether there is a statistically significant difference between demographic characteristics and the questions, non-parametric (chi-square tests) analysis was used. Statistical analysis was performed using SPSS v.25.

RESULTS

The mean age of the sample was 37.66 years, 48.9% was married, while the majority worked in the public and private sector (47.3%). The majority of the sample had completed higher education (75.1%), while the majority of the sample claimed they had not competed postgraduate studies (78.3%) with no

Table 1: Demographic characteristics of the sample

Age	*Range: 16-75 έτη*			*Mean: 37,66 έτη*	
Marital status	Unmarried	Married	Divorced	Widow	
	41,1%	48,9%	8,8%	1,2%	
Occupation	Private Sector	Public sector	Self-employed	Student	Retired
	28,5%	18,8%	18,3%	25,4%	9%
Educational level	Secondary education		Higher education		
	24,9%		75,1%		
Postgraduate studies	MSc	PhD	Neither	Both	
	19,1%	2,2%	78,3%	0,5%	
Annual family income	<10.000 €	10.000-20.000 €	20.000-30.000€	30.000-40.000€	>40.000 €
	25,4%	37,4%	22,5%	8,5%	6,3%

postgraduate studies (78.3%) and 37.4% had an annual family income of 10,001-20,000 €.

Knowledge and opinion questions

The majority of the sample responded that the main sources of information concerning breast cancer were the media (24.4%), books/ magazines (18.8%) and friends/relatives (12.5%), whereas no family member had breast cancer (57.4%).

Regarding the sample's responses about breast self-examination, 97.7% were familiar with the term, considered it useful (99.7%) and 80.2% had been taught how to perform it by their gynaecologist. In addition, the majority of the sample (66%) knew that self-examination should begin at 20 years of age, and that it should be is performed by the individual (78.6%), every month (61.9%) one week after menstruation (66.8%). Furthermore, most respondents (72.4%) mention they have conducted a breast self-examination, thus indicating the main advantages of self-examination being early detection of breast cancer (34.7%) and detection of a breast abnormality (21.2%).

Regarding mammogram screaming, almost all the participants (98.2%) knew its value as a tool for early cancer diagnosis, 74.5% knew the appropriate age to have a mammogram (40 years) and 83.5% answered that it is necessary to be performed annually. It is worth mentioning that half the sample (55.4%) has undergone mammogram screaming and the main reasons for the others not having one were not having the appropriate age (80.6%) or due to financial difficulties (5%).

Similarly, when asked about clinical breast examination, the participants responded they knew it was used to detect cancer (91.7%) and performed by a qualified physician (97.2%). In addition, many women (84.4%) responded that the clinical examination should be done yearly and includes a mammogram (31.4%), palpation (21.1%) and ultrasound (11.2%).

Chi-square tests between demographic characteristics and questions

The results indicate that age, occupation and annual income are significantly related to breast self-examination. The older participants (x^2=125.989, df=53, p<0.05), people who were working in the public service sector (x^2=43.903, df=8, p<0.05) with higher annual income (x^2=9.640, df=4, p<0.05), knew the term "breast self-examination". In addition, participants who were married had been taught how to perform self-examination (x^2=20.588, df=3, p<0.05), knew the appropriate age to perform self-examination (x^2=30.069, df=12, p<0.05) and how often it should be performed (x^2=29.652, df=15, p<0.05).

Regarding breast screening, participants with a higher income knew that it was used to detect cancer (x^2=14.182, df=4, p<0.05). Also, women who had a university degree (x^2=12.605, df=6, p<0.05), completed postgraduate studies (x^2=34.282, df=18, p<0.05) and have a high annual family income (x^2=52.062, df=24, p<0.05) knew that clinical breast examination needed to be performed by a qualified physician. Also, women who were married knew that clinical breast examination is necessary to be conducted every year (x^2=25.022, df=15, p<0.05).

Lastly, questions regarding mammogram screaming, women who were married (x^2=52.495, df=15, p<0.05) and working in the public sector (x^2=90.119, df=40, p<0.05) knew at what age it is necessary to undergo a mammogram for the first time. Older participants (x^2=337.999, df=265, p<0.05), who were married (x^2=52.562, df=15, p<0.05) and working in the public sector (x^2=71.535, df=40, p<0.05) knew that a mammogram needed to be performed every year. Lastly, women who were married (x^2=281.716, df=3, p<0.05), who were older (x^2=437.498, df=53, p<0.05**),** who worked in the public sector (x^2=264.2002, df=8, p<0. 05), had a university degree (x^2=28.520, df=1, p<0.05) and a higher annual family income (x^2=25.513, df=4, p<0.05), had already undergone a mammogram.

DISCUSSION

The results of the present study show that the majority of women have positive attitudes and sufficient knowledge regarding breast cancer screening, in particular self-examination, clinical examination and mammogram screaming. The results of this study are similar to the other research findings.[21-23] More specifically, the majority of the sample had conducted monthly self-examinations (72.4%), clinical examinations (84.4%) and annual mammograms (55.4%).

It is worth mentioning that the main sources of information were provided by the media, books, friends and relatives. It is generally accepted that the media makes an important contribution to the dissemination of medical information. According to a recent survey by the Hellenic Statistical Authority, 65.2% of internet searches are seeking health-related information thus, being a primary source of information. However, only 10% of medical information posted from freely available Internet sources is considered reliable[24]. It is imperative for the media to provide accurate information and encourage individuals to be tested regularly as treatment of breast cancer when detected early has a higher chance of cure and better outcome.

Regarding self-examination although women are aware of the method, a quarter of the sample (27.5%) has never performed a self-examination. It seems that carelessness is the main reason for not doing it. This fact comes as a reminder that once again adolescent women and older need to be informed and educated about the importance of breast self-examination. They must be able to openly discuss such topics with their family, friends, and health professionals. The school nurse has an important role, properly and accurately informing the school population, reassuring fears and motivating regular screening and proper testing for signs and symptoms.

It is worth mentioning that age, occupation and annual family income are statistically correlated (p<0.05) with the preventative method of self-examination. More specifically, older women working in the public sector with a high annual family income were aware of the method of breast self-examination. Also, women who were married had been taught how to perform self-examination and are more knowledgeable about the appropriate age to perform a self-examination and how often it should be performed. It seems that with increasing age, marital status and higher family income influence the way women think in terms of the concept of preventive self-examination.

Regarding questions concerning breast examination and mammograms, factors that play a significant role (p<0.05) in knowledge are annual family income, education and marital

status, specifically being married. It is generally accepted that women, especially after having children, are more motivated to maintain good health thus, setting an example to their children. By reading new information regarding nutrition and exercise as well as having information acquisition skills from university such as performing a literature review, they can adapt an attitude and perception about the importance and necessity of prevention regarding breast cancer. The higher the level of education, the more informed women appear[25].

It is true that since Covid-19 began, visits to health care facilities have been limited to situations that are absolutely urgent. Unfortunately, women who want to have an annual mammogram have avoided visiting health care facilities. Research has shown that the number of patients who have had a mammogram has dropped by more than two-thirds[26]. For example, recent research showed a significant 61.7% reduction in mammograms compared to the average weekly imaging volume of previous months and 20.5% in surgical procedures.[27] Similar results, showed reduced mammogram screening during the pandemic as was recorded by a study in Taiwan.[28]

LIMITATIONS OF THE STUDY

Although this study revealed important information, the sample could be considered small. Therefore, future research is deemed necessary using a larger sample.

CONCLUSIONS

The results of this study showed complex factors influencing women's knowledge and opinions about breast self-examination, clinical examination and mammogram screening. Although the study showed women with positive attitudes and fairly good knowledge about preventative measures issues related to breast cancer, it is imperative that the state intervenes due to the importance of this issue. Prevention policies, early diagnosis, proper information and education of women by health professionals are the basis for the correct treatment of breast cancer.

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