



Evaluation of the Use of Breast Cancer Screening Methods among Female Patients through Champion Health Belief Model Scale

Kadın Hastalarda Meme Kanseri Tarama Yöntemlerini Kullanma Durumlarının Champion Sağlık İnanç Modeli Ölçeği ile Değerlendirilmesi

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Abstract

Aim: The aim of this study is to evaluate the use of breast cancer screening methods by women in our society and its affecting factors.

Material and Method: A total of 281 women aged 40 years and older were included in the study. A sociodemographic data form, Breast Cancer Risk Assessment Form and the Champion's Health Belief Model Scale were applied to the participants through face-to-face interviews.

Results: It was found that most participants knew breast cancer screening methods but that they used the methods at a low rate. The main reason affecting their use of screening methods was whether there was a complaint. The rate of mammography was found to be significantly higher among those who performed breast self-examination ($p=0.011$). When the Champion's Health Belief Model Scale form was examined, it was found that the participants had the highest points from the self-efficacy subscale of breast self-examination, and the lowest points from the perceived susceptibility subscale.

Conclusion: It was observed that the use of any screening method and breast cancer risk factors affected health beliefs regarding the use of screening methods.

Keywords: Cancer screening, breast cancer, health belief model

Öz

Amaç: Çalışmamızda toplumumuzda yaşayan kadınların meme kanseri tarama yöntemlerini kullanma durumlarını ve etkileyen faktörleri değerlendirmek amaçlanmıştır.

Gereç ve Yöntem: Çalışmaya, 40 yaş ve üzeri 281 kadın dahil edildi. Katılımcılara sosyodemografik veri formu, Meme Kanseri Riski Değerlendirme Formu ve Champion Sağlık İnanç Modeli Ölçeği yüz yüze görüşme tekniği ile uygulandı.

Bulgular: Katılımcıların büyük çoğunluğunun meme kanseri tarama yöntemlerini bildiği, ancak tarama yöntemlerini düşük oranda kullandığı belirlendi. Tarama yöntemlerini kullanma durumlarını etkileyen esas sebep şikayetin olup olmaması idi. Kendi kendine meme muayenesi yapanlarda mamografi yaptıрма oranları anlamlı şekilde yüksek bulundu ($p=0,011$). Champion Sağlık İnanç Modeli Ölçeği puan ortalamaları incelendiğinde, katılımcıların en yüksek puan kendi kendine meme muayenesi öz yeterliliği alt ölçeğinden, en düşük puanı ise duyarlılık algısı alt ölçeğinden aldıkları görüldü.

Sonuç: Herhangi bir tarama yöntemini kullanma durumu ve meme kanseri risk faktörlerinin, tarama yöntemlerini kullanma durumlarına ilişkin sağlık inançlarını etkilediği görüldü.

Anahtar Kelimeler: Kanser tarama, meme kanseri, sağlık inanç modeli



INTRODUCTION

Breast cancer is the most common malign tumor in women worldwide and that is highly treatable with early diagnosis. [1] Breast Self-Examination (BSE), Mammography and Clinical Breast Examinations (CBE) are methods used in breast cancer screening. Individuals' beliefs, values and manners are of great importance in the use of screening methods. The Health Belief Model (HBM), which explains the reasons behind manners and behaviors, is an effective guide in explaining and measuring what motivates or prevents the patient's adherence to treatment in many health problems, alongside behaviors that protect and improve health. Studies have reported that knowing the beliefs screening methods for the diagnosis of breast cancer will be beneficial in teaching and accepting the practices.[2-4]

Based on the Victoria Champion Health Belief Model in nursing, the Health Belief Model for breast cancer screening was established in 1984. He developed the scale and revised it in 1993, 1997 and 1999. This scale, which evaluates women's beliefs about breast cancer, breast self-examination and mammography, reflects women's beliefs about breast cancer and screening behaviors in Turkey, as well as theoretically structured, valid, and reliable data collection tools on the subject within the framework of a model and makes international comparisons with the results obtained.[2-5]

The aim of this study is to determine the use of breast cancer screening methods amongst women; to identify their beliefs towards screening methods; and to research the reasons that are effective in the use of screening methods or the reasons of not having screening performed.

MATERIAL AND METHOD

A total of 281 female patients over the age of 40 who applied to the Ankara Training and Research Hospital Family Medicine district polyclinics between 01.10.2019-31.12.2019 for any reason and agreed to participate in the study were included in the study. Patients who were illiterate, had communication disabilities, were followed up for any psychiatric disorder, and those who refused to participate in the research were excluded from the study. Approval for the study was granted by the Clinical Research Ethics Committee of Health Sciences University Ankara Training and Research Hospital (Date: 12.09.2019, Decision No: E-19/55). In the study, a descriptive questionnaire prepared in accordance with the literature and the Champion Health Belief Model Scale (CHBMS) were used.[3] The questionnaire consisted of 27 questions was used to determine sociodemographic characteristics, breast cancer risk factors, and the application status of early diagnosis methods. The Breast Cancer Risk Assessment Form of the Ministry of Health was used to evaluate these questions.[4]

Our study adopted the Turkish version of CHBMS, which was adapted into Turkish by Gözümlü and Aydın[5] in 2004 (cronbach's

alpha: 0.69-0.83). The Champion Health Belief Model Scale includes a total of 8 subscales and 52 items evaluating an individual's judgement on their general health and breast cancer: Sensitivity, severity, health motivation, BSE barriers, BSE benefits, self-efficacy, and benefits to mammography and barriers to mammography. The statements included in the questionnaire are graded from 1 to 5 in the Likert-type scale. Higher points indicate that susceptibility and severity increase, and benefits are perceived higher for the perception of benefit and barriers are perceived high for the perception of barriers.

IBM SPSS 25.0 (Statistical Package for Social Sciences, version 25) software was used in the statistical analysis of data. Continuous variables mean±standard deviation; categorical variables were depicted as numbers and percentages. When the parametric test assumptions were met, the test of significance of the difference between two means was used to compare the differences in the independent group, while the Chi-square test was used to compare the differences in the same group when the parametric test assumptions were not met. In comparing categorical variables under the Chi-square analysis title; Pearson Chi-Square test or Fisher Exact Test, whichever is appropriate, was used according to the distribution of expected frequencies. A value of $p < 0.05$ was considered statistically significant.

RESULTS

A total of 281 women aging between 40-69 participated in the study. The mean age of the participants was 48.91 ± 7.82 years. Of the participants, 162 (57.6%) were high school or university graduates and 192 (68.3%) were actively working (Table 1).

Table 1. Sociodemographic Features

Sociodemographic Features	Mean	Standard deviation
Age (year)	48.91	7.82
Height (cm)	160.70	10.86
Weight (kg)	68.85	12.29
Body mass index (kg/m ²)	34.96	140.64
Monthly income (TL*)	2513.81	2134.72
Number of pregnancies	2.70	1.82
Number of births	2.11	1.32
Number of children	2.04	1.16
First childbearing age	22.99	4.97
Age of first menstruation	13.28	1.25
Breastfeeding duration (months)	16.28	8.52

*TL: Turkish Lira

The rate of having mammography was statistically significantly higher in the BSE group ($p=0.011$). The level of education was found to be significantly higher in the group that did not have mammography ($p=0.033$), but it was found that the rates of BSE and CBE increased with the increase in education level ($p < 0.001$; $p=0.013$, respectively).

The majority of women (43.0%) who knew how to do BSE stated that they learned it from a health worker and learning from radio-television-internet was the second most common (26.5%). When the participants were asked about their reasons for not having CBE, the most common answers were having no complaints (56.8%) and neglect (22.4%). According to the answers of the participants to the breast cancer CHBMS, it was seen that they got the highest point from "self-efficacy" and the lowest points from "sensitivity". Participants whose breast cancer risk level was calculated to be low had significantly higher sensitivity points ($p < 0.001$; $p = 0.003$, respectively). The number of participants who had a family history of breast cancer and who also developed breast cancer was found to be significantly higher ($p < 0.001$). Similarly, sensitivity ($p < 0.001$), seriousness ($p < 0.001$), health motivation ($p = 0.003$), BSE benefits ($p = 0.001$), mammography benefits ($p = 0.034$) subscales points of those with a family history of breast cancer were significantly higher. The comparison of the mean CHBMS points of the participants who know how to do BSE and those who do not are shown in **Table 2**.

Table 2. Knowing how to do BSE and CHBMS score averages

CHBMS Subscales	BSE Know Mean \pm SD	BSE Do Not Know Mean \pm SD	p*
Sensitivity	7.73 \pm 2.78	8.53 \pm 3.19	0.121
Seriousness	19.71 \pm 5.67	22.48 \pm 5.81	<0.001
Health Motivation	20.82 \pm 3.73	19.76 \pm 2.89	0.003
BSE Benefits	15.79 \pm 3.23	15.34 \pm 2.77	0.094
BSE Barriers	18.02 \pm 5.74	20.98 \pm 5.51	<0.001
Self-efficacy	35.78 \pm 7.94	24.21 \pm 8.41	<0.001
Mammography Benefits	18.84 \pm 3.87	18.79 \pm 4.47	0.859
Mammography Barriers	24.31 \pm 8.05	27.83 \pm 8.29	0.004

*Statistically significant data are written in bold. SD: Standard deviation

Health motivation, BSE benefits and self-efficacy points of the participants who performed BSE were found to be significantly higher than those who did not. The health motivation, BSE benefits, self-efficacy, and mammography benefits points of the participants who had mammography were significantly higher. Health motivation ($p = 0.001$), BSE benefits ($p = 0.024$) points of the participants who had CBE compared to those who did not; BSE and mammography barrier points of those who did not have CBE were found to be significantly higher ($p = 0.015$, $p < 0.001$, respectively)

DISCUSSION

We found that most women participating in our study knew and performed BSE, a breast cancer screening method, but the rates of those who regularly applied it every month and had CBE and mammography were low. While the general sensitivity, seriousness, health motivation and benefit perceptions of the participants using breast cancer screening methods were positively correlated; perceived barriers were lower.

In our study, we aimed to evaluate the relationship between women's use of BSE, CBE, mammography, which are breast cancer screening methods, and the subscales of CHBMS and the risk of breast cancer. In various studies around the world, it has been determined that those who know and apply BSE show significant differences.^[5-7] In our study, the rate of knowing BSE was 79.4%; 80.1% of women stated that they performed BSE, and 13.9% stated that they regularly perform BSE. In the previously conducted studies in Turkey, the rates of knowing BSE were found to be 25%, 49.8%, and 53.9%.^[6-8] The high number of people who knew BSE in our study can be explained by the fact that the frequency of cancer screening in primary healthcare continues to increase with the current programs carried out by the Ministry of Health on this subject. The fact that most of the participants learned about BSE from health professionals supports this. The rate of obtaining information from healthcare professionals was also found to be high in other studies.^[9,10] This situation reveals the importance of healthcare professionals reaching wider audiences for breast health.

In the study of Koç and Sağlam,^[11] the rate of those who regularly perform BSE every month was 22.9%. According to the Ministry of Health's 2016 annual health statistics, regular BSE performance among women was reported to be 20%. In a study by Dişçigil et al.^[12] BSE rates were 61.7%, but those who performed monthly regular BSE were 17.9%. Similar to that study, our study has also found regular BSE performance very low. The importance of education programs and family physicians in increasing the performance of BSE is an indisputable fact.

In our study, it was observed that as the level of education increased, the rates of performing BSE and having CBE increased significantly. In a similar study by Güner et al.^[7] the rate of BSE increased as the level of education increased. In the study of Dişçigil et al.^[12] similar to our study, the rate of BSE increased in direct proportion to the level of education. This emphasizes the importance of education in the use of screening methods.

In various studies, the rate of CBE among women has been reported to be between 30-80%. Başak^[13] found in her study that 8.1% of women had CBE. In our study, the rate of CBE was 47.3%; the rate of regular CBE was observed to be 14.2%. Although higher rates were observed in our study when compared to the study of Başak's, it is seen that CBE was not performed at the expected level. As a result of the high difference between the rates of performing CBE and the rates of regular practice, it is thought that patients use CBE method when they have complaints, not for screening purposes.

In a study conducted by Koç and Sağlam^[11] on 100 women aged 17-76 years, it was found that 97% of them did not know about mammography, and 86% of them never had a mammography. In another study, it was determined that 97.5% of nurses over the age of 40 did not have mammography.^[14] In our study, the rate of having mammography was 40.9%, which seems to be

higher than that of previous studies. This can be explained by the increase in screening programs and the inclusion of women aged 40 and over in our study. Similarly, in our study, it was observed that the rate of mammography decreased as the education level increased. In many studies, it has been observed that the recommendation or guidance made by a physician, or another health professional is effective in having regular mammography.^[15,16] It has been reported that the inadequacy of a physician's recommendations to encourage mammography is an important obstacle to mammography.^[17] This situation shows that family physicians have a great role in promoting the use of screening methods.

When participants were evaluated based on their breast cancer risk factor according to CHBMS subscales, sensitivity and seriousness were significantly higher in the group with a low risk factor. Accordingly, emphasis must be placed on the high-risk group which was found to have lower seriousness. In addition, while calculating the risk level, the fact that sensitivity, seriousness was found to be significantly higher in those with a family history of breast cancer may suggest that it is due to the lack of information about other risk factors. With the education and information to be given on this subject, awareness of risks can be increased and susceptibility, in other words, sensitivity to the disease can be increased. Among the participants, those with a family history of breast cancer on the CHBMS subscales of sensitivity, seriousness, health motivation, BSE benefits and mammography benefits were found to be significantly higher. In a study conducted by Kılıç et al.^[18] on university students, the perceived sensitivity of students with a family history of breast cancer were found to be significantly higher than students without a family history of breast cancer.

Amongst the participants who knew and perform BSE were found to have higher health motivations and self-efficacy on CHBMS subscales. In the same table, a statistically significant difference was found between not knowing, not performing BSE and barriers to BSE and mammography. In the study of Seçginli et al.^[19] the rate of BSE was found to be high in women with high sensitivity to breast cancer. In another study, it is stated that the rate of BSE is higher in women with high perceived benefits of BSE and low perceived barriers.^[20]

Amongst the participants who have had mammography, health motivation, perceived BSE benefits, self-efficacy and perceived mammography benefits, which are subscales of CHBMS, were found to be significantly higher. At the same time, perceived barriers to BSE and mammography were found to be significantly higher in those who did not have mammography. Likewise, various studies also have found women who do not have mammography had higher perceived barriers than women who have had mammography, in another sense, women who have had regular mammograms were found to have lower perceived barriers. It has been determined that the education and guidance provided reduces the perceived barriers.^[18,21-23] Thus, perceived barriers are one of the issues that should be emphasized.

Among the CHBMS subscales, health motivation and BSE benefits of the participants who had CBE were significantly higher. At the same time, those who did not have CBE had significantly higher perceived barriers to BSE and mammography. Erbil et al.^[24] have reported in their study that the group who had CBE had higher self-efficacy and perceived motivations, and low perceived barriers to BSE.

CONCLUSION

There is a need for structured, valid, and reliable data collection tools on the subject in order to examine women's beliefs about breast cancer and screening behaviors in Turkey within the framework of a theoretical model and to make international comparisons with the results obtained.

Accordingly, increasing the patients' health perceptions, seriousness and sensitivity and preventing perceived barriers will enhance the rate of using screening methods. For this purpose, each study, and education is of great importance.

ETHICAL DECLARATIONS

Ethics Committee Approval: Approval for the study was granted by the Clinical Research Ethics Committee of Health Sciences University Ankara Training and Research Hospital (Date: 12.09.2019, Decision No: E-19/55).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

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