



Determination of the Health Belief and Attitude of Women Regarding Breast Cancer and Breast Self-Exam

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ABSTRACT

Objective: This study has been carried out with the purpose of determining the belief and attitude of women regarding breast cancer and breast self-exam and the factors which affect the performance frequency of breast self-exam and it is a descriptive kind of study.

Materials and Methods: Data has been collected through questionnaire forms created by the researchers based on literature information and Champion Health Belief Model Scale. Data collection was collected via face-to-face interviews with the patients. Questionnaire forms were applied to 350 women who accepted to participate in the study. Data was analyzed frequency, percentage, t-test and χ^2 test with SPSS for Windows 12.0.

Results: Average age of women who were included in the study was found to be 33.25 ± 10.27 . Average point for the sensitivity sub-dimension of the women within the scope of study was 7.79 ± 2.38 , average score for the seriousness sub-dimension 23.30 ± 5.82 , average score for the benefit sub-dimension 15.48 ± 4.03 , average score for the obstacle sub-dimension was 26.34 ± 7.64 , average score of health motivation sub-dimension was 32.77 ± 9.11 and average score for the self-confidence sub-dimension was 25.20 ± 5.02 .

Conclusion: The beliefs of women regarding the subject should be developed by providing in-service training regarding breast cancer and breast self-exam. It can be suggested that studies be carried out analyzing the effect of the attempts for increasing the performance frequency of breast self-exam of women on the beliefs and attitudes.

Keywords: Breast self-exam, breast cancer, health beliefs

Introduction

Breast cancer is the most frequent type of cancer among women in Turkey and in the world. According to data collected in 2015, breast cancer ranks number one with the percentage of 44.2% among the 10 most common cancer types seen in women (1).

It is detected that mortality rates and burden of disease of breast cancer can be reduced via screening programs. It has been found that the mortality rate of breast cancer can be reduced by 7-30% with community-based breast cancer screening applied to the proper age group at proper intervals (2).

The number of women with early diagnosis and treatment of breast cancer in Turkey is noticeably low when compared to women living in western countries (3-6). The ratio of women applying breast self examination (BSE) is relatively low in Turkey, the ratio of women that apply BSE every month is 10.1% (7). Although American Cancer Society does not currently recommend monthly BSE, it recommends BSE so that every woman would recognize the natural appearance, and texture of her own breast tissue so that she can alert the authorities in case of a change in these parameters (8). BSE is simple, cheap, painless and harmless; no tools need to be used and it is a method recommended for women over 20 years of age as part of the early detection applications recommended for the breast cancer (9). It is especially important when we think of the fact that in rural parts where access to mammography and clinic examination is limited, women detect the breast lumps in first hand and then present to a physician with that symptom. The investigations show that women have lack of knowledge about breast cancer and that their BSE beliefs and applications are not at the desired levels. It is shown in the studies about BSE is that the most important factor that affects breast cancer screening is the health beliefs (10-12).

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The health belief model (HBM) was first developed by Hochaboum et al. in 1950. It explains the correlation between persons' beliefs and behaviors. The model also defines what is motivating a person to do or not to do the acts he/she does about his/her health and the situations that influence the formation of health behavior. According to HBM; women who accept breast cancer as a serious health hazard, are highly sensitive about it, have a low level of perceived obstacle and a high level of perceived benefit apply BSE more often (13). Despite the fact that there are studies that examine women's application of BSE and influencing factors in Turkey, the studies that examine the beliefs about BSE are very limited. Taking this idea as basis, a study was conducted on women living the Ödemiş district of city of İzmir in order to determine their beliefs and behaviors about BSE.

Materials and Methods

The study was conducted as a descriptive study to determine the beliefs and behavior of women about BSE and define the factors that affect the frequency of them applying BSE. The universe of the study was constituted by women who presented to one of the family health centers affiliated to the Society Health Centers in Ödemiş/İzmir from 16.10.2007 to 31.05.2009. 350 women over 20 years of age who presented to the family health centers between those dates were included in the sample of the study.

The data of the study was collected by using a questionnaire form (22 questions) which was created per the literature by the researchers to investigate the definitive data of women participating and Champion Health Belief Model Scale (CHBMS) (42 items) via face-to-face interview method.

The CHBMS that is used to determine the beliefs and behavior of women about breast cancer and BSE were created by Champion V. in 1984 and amended in his latter studies (1993, 1997, 1999). The scale included 42 items and it was revised for validity and reliability for the Turkish society with data collected from 430 women by Karayurt in 2003. In that the study, Karayurt used the revised CHBMS in terms of validity and reliability for the Turkish society. In Karayurt's revised version, the cronbach alpha reliability modulus of CHBMS was between .58 and .89 and test-retest reliability was found to be .89 and .99 (14).

Six concepts of the Health Belief Model in Scale create the six sub-dimensions. There are three items (items 1-3) in the perceived susceptibility sub-dimension related to breast cancer, seven items (items 4-10) in the sub-dimension of perceived seriousness related to breast cancer, four items (items 11-14) in the perceived benefit sub-dimension for the implementation of BSE, 11 items (items 15-25) in the perceived obstacle sub-dimension for the implementation of BSE, 10 items (items 26-35) in the self-confidence sub-dimension for the BSE, seven items (items 36-42) in the sub-dimension of health motivation (15).

Likert type with 5 options ranging between 1 and 5 as a scaling method was used to evaluate the scale. The options were definitely disagree (1), disagree (2), indecisive (3), agree (4), and definitely agree (5). In the scale, each sub-dimension is evaluated separately and is not collected under one score. For each person, 6 different scores are calculated. The higher the score, the higher the sensitivity and seriousness, the higher the benefits for the perceived benefits, the higher the obstacles for the perceived obstacles, the higher the motivation for health motivation and the higher the self-efficacy for perceived self-efficacy are (15, 16).

Statistical analysis

The data was evaluated by SPSS 12.0 statistics program via computer. The descriptive data of the women was given in numbers and percentages and the comparison of CHBMS sub-dimension scores among women who apply BSE and those who do not was done by statistical significance (t-test) test. χ^2 test was used in assessing the difference between the groups.

Written consent of Ödemiş Health Group Chairmanship was obtained in order to carry out the investigation. The purpose of the study was stated clearly and it was explained to the women who took part in the study that they were free to join or leave the study.

Results

It was found that the average age of women who participated in the study was 33.25 ± 10.27 (min:20, max:85). It was found that 47.7% of the women participating were in age group of 20-29, 72.3% of them were married, 43.7% of them were primary school graduates and that 64.3% had a monthly income that was just equal to their monthly expenditure (Table 1).

It was detected that 87.4% of the women taking part in the study were not in menopause yet, 38.6% of them had 2 children, 65.4% of them were breastfeeding at the time, 90.0% did not have any other diseases related to their breasts other than cancer, 98.0% were not diagnosed with breast cancer, 92.0% did not have any relatives in their families with a cancer diagnose in their medical history and that 64.9% of them perceived their body weight as normal (Table 2).

It was detected that 52.3% of the women were informed about BSE and 54.6% of them received that information from a healthcare professional.

Table 1. Demographic information of the women

Variables	n	Frequency
Age group		
20-29	167	47.7
30-39	88	25.1
40-49	69	19.7
50 ≥	26	7.5
Marital status		
Married	253	72.3
Single	97	27.7
Education status		
Illiterate	5	1.4
Primary education	153	43.7
Secondary education	95	27.2
High School/ university	97	27.7
Level of economic status		
Low	108	30.8
Moderate	225	64.3
High	17	4.9
Total	350	100

Table 2. Distribution of women's breast cancer risk factors

Breast cancer risk factors	n	Frequency
Status of menopause		
Postmenopausal	44	12.6
Premenopausal	306	87.4
Number of children		
1	63	18.0
2	135	38.6
3	32	9.1
4 ≥	8	2.3
Non-child	112	32.0
Breastfeeding status		
Breastfeeding	229	65.4
Doesn't breastfeeding	121	34.6
Out of cancer disease status		
Yes	33	9.4
No	317	90.6
Breast cancer diagnosed status		
Yes	7	2.0
No	343	98.0
Breast cancer diagnosis status in family		
Yes	28	8.0
No	322	92.0
Perception of weight status		
Weak	31	8.9
Normal	227	64.9
Fat	92	26.2
Total	350	100

It was found that 82.0% of the women participating in the study did not receive breast examination done by a healthcare professional in the last year, 89.7% of them had not undergone mammography in the last year, 60.3% of them had been performing BSE in the last year and 39.7% of them did not perform BSE in the last year (Table 3).

When the CHBMS sub-dimension scores of the women participating was investigated, it was found that the average score of the susceptibility sub-dimension was 7.79±2.38, the average score of the seriousness sub-dimension was 23.30±5.82, the average score of the benefit sub-dimension was 15.48±4.03, the average score of the obstacle sub-dimension was 26.34 ± 7.64, the average score of the health motivation sub-dimension was 32.77±9.11 and the average score of the self-confidence sub-dimension was 25.20±5.02 (Table 4). When the difference between the average CHBMS scores of women according to whether they apply BSE or not, the difference between the average sub-dimension scores of benefit (t=3.608, p=0.000), obstacle (t=-4.915, p=0.000), health motivation (t=9.142, p=0.000), and self-confidence (t=4.157, p=0.000) was found statistically significant

Table 3. Application status of women's early diagnosis methods

Early diagnosis methods	n	Frequency
Breast examination by healthcare worker		
Yes	63	18.0
No	287	82.0
Scan mammography in the last year		
Yes	36	10.3
No	314	89.7
Perform BSE in the last year		
Yes	211	60.3
No	139	39.7
Frequency of BSE		
Every month more than one	39	11.1
Once a month	65	18.6
Once every two months	29	8.3
Once every 3-4 months	35	10.0
Once every 5-6 months	18	5.1
Once a year	25	7.2
I never examined it	139	39.7
Total	350	100.0
BSE: breast self examination		

Table 4. Distribution of scores taken by women from the sub-dimensions of the health beliefs scale for the breast examination

Sub-dimensions	Sub-dimension min-max scores	Number of items	Total score (±) SD
Susceptibility perception	3-15	3	7.79 ± 2.38
Seriousness perception	7-35	7	23.30 ± 5.82
Benefit perception	4-20	4	15.48 ± 4.03
Prevention perception	11-55	11	26.34 ± 7.64
Health motivation	10-51	7	32.77 ± 9.11
Confidence	7-37	10	25.20 ± 5.02
SD: standard deviation			

(p<0.05). Between the group that applied BSE and the group that did not apply it, the differences between the scores of susceptibility (t=0.229, p=0.819) and seriousness (t=-0.024, p=0.981) sub-dimensions were not statistically significant (p>0.05). When the CHBMS scores of women participating were evaluated according to the parameter of mammography scanning, it was seen that the difference between the scores of sub-dimension of susceptibility (t=13.930, p=0.000) and benefit (t=3.170, p=0.046) were statistically significant (p<0.05). In the group of women who did not have a mammography scan and

who had a mammography scan, no statistically significant difference was detected between the average scores of the sub-dimensions of seriousness ($t=2.189$, $p=0.140$), obstacle ($t=1.619$, $p=0.204$), health motivation ($t=0.011$, $p=0.917$), and susceptibility ($t=0.001$, $p=0.979$), ($p>0.05$).

No statistically significant difference was detected between the two socio-demographic parameters of age ($\chi^2=0.207$, $SD=3$, $p=0.977$) and monthly income ($\chi^2=1.684$, $SD=2$, $p=0.431$), and BSE application ($p>0.05$). The difference between the level of education of women and BSE application was statistically significant ($\chi^2=20.200$, $SD=2$, $p=0.000$) ($p<0.05$). When the marriage status of the women participating in the study and BSE application were compared together, a statistically significant difference was found ($\chi^2=3.875$, $SD=1$, $p=0.049$) ($p<0.05$). The difference in terms of BSE application between women who participated in an education program about BSE and who did not were found statistically significant at an advanced degree ($\chi^2=81.106$, $SD=1$, $p=0.000$) ($p<0.05$). When the BSE application was evaluated according to whether the women had undergone a mammography scan in a year or not, a statistically significant difference was found ($\chi^2=5.975$, $SD=1$, $p=0.015$) ($p<0.05$). No statistically significant difference was detected between the presence of breast cancer in the women's family history and the status of BSE application ($\chi^2=3.461$, $SD=1$, $p=0.063$) ($p>0.05$).

Discussion

The average age of women taking part in the study was found to be 33.25 ± 10.27 . Also, 92% of the women participating had no family members with breast cancer history, and 72.9% of the women participating also neither had any friends with breast cancer. In a study done by Gerçek et al., in 2008 it was detected that 76.8% of the students did not have any family members diagnosed with cancer, and in those with a family member having a cancer diagnosis, 46.3% of the relatives with the cancer diagnosis was in second degree (15). In a study done by Avcı and Keskin in 2005, it was detected that 94.8% of the students did not have a family member with a breast cancer diagnosis (17). According to a study done by Avcı in 2008, 93.7% of the students did not have a family member with a cancer diagnosis (18). In a study performed in 2007, it was detected that 91.7% of the women did not have any relatives with a breast cancer diagnosis, and in a study done by Altuncan et al. in 2008, it was found that 5.5% of the women had breast cancer history (19, 20).

In other studies as well as in our own study, it has been found that clinical examination as one of the early diagnosis methods of breast cancer was not applied by most of the women (15, 21).

In our study, it was found that the CHBMS sub-dimension grade averages were as follows: for the susceptibility sub-dimension, it was 7.79 ± 2.38 , for the seriousness sub-dimension, it was 23.30 ± 5.82 , for the benefit sub-dimension, it was 15.48 ± 4.03 , for the obstacle sub-dimension, it was 26.34 ± 7.64 , for the health motivation sub-dimension, it was 32.77 ± 9.11 and for the self-confidence sub-dimension, it was 25.20 ± 5.02 . In the study by Gerçek et al. (15), the average scores of students for each sub-dimension were as follows: for sensitivity, it was 7.78 ± 1.91 , for seriousness, it was 19.16 ± 5.48 , for benefit, it was 15.92 ± 6.52 , for obstacle, it was 26.13 ± 4.78 , for self-confidence, it was 29.13 ± 8.76 , for health motivation, it was 19.25 ± 7.13 . In Karayurt's study (22), the average scores for sub-dimensions were as follows: for susceptibility, it was 8.0 ± 2.1 , for seriousness, it was 21.5 ± 5.1 , for benefit, it was 19.1 ± 3.8 , for obstacle, it was 27.0 ± 5.9 , for self-confidence,

it was 31.2 ± 6.9 , for health motivation, it was 25.1 ± 5.3 . It can be seen that the seriousness and health motivation scores of the women were higher in our study. In a study done by Yılmaz and Durmuş in 2016, the seriousness and perceived susceptibility scores of doctors were lower than nurses and midwives, but the perceived benefit and self-confidence as well as health motivation scores were higher (21).

When the average CHBMS scores of women taking part in the study were investigated according to BSE application, a statistically significant difference was determined between the average scores of benefit, obstacle, health motivation and self-confidence sub-dimensions ($p<0.05$). There was no statistically significant difference between the mean scores of susceptibility and seriousness sub-dimension scores in the groups that did apply and did not apply BSE ($p>0.05$). In Karayurt's study (2003), a positive correlation was detected between BSE application frequency and scores of CHBMS sub-dimensions of self-confidence, perceived benefit, health motivation, susceptibility and seriousness (22). In another study, the benefit, obstacle and health motivation were found to be related to BSE application frequency (19). A positive correlation was detected between BSE and self-confidence, obstacle and perceived benefits in the study by Sortet and Banks (23).

In the study by Gerçek et al. (15), the average scores of CHBMS were investigated in correlation to BSE application frequency and a statistically significant correlation was found in the average scores of susceptibility, seriousness, benefit, obstacle and health motivation sub-dimensions.

In a study completed by Dündar et al. (3), the CHBMS average scores were investigated according to BSE application frequencies and a statistically significant difference was determined in the average scores for the sub-dimensions of self-confidence and obstacle.

As can be seen, some of the studies done by using CHBMS found a correlation between BSE application frequency and all the concepts while others found a correlation with only 2 or 3 of the parameters. In our study, we found a statistically significant correlation between 4 of the sub-dimensions and no statistically significant correlations were detected with 2 of the sub-dimensions.

When the average CHBMS scores of the women taking part in the study were investigated according to whether they underwent mammography scans, the differences of the average scores of the susceptibility and benefit sub-dimensions were found to be statistically significant ($p<0.05$). No statistically significant difference was detected among the average scores of seriousness, obstacle, health motivation and self-confidence sub-dimensions in the group of women who had undergone a mammography scan and who had not ($p>0.05$). In the study done by Dündar et al. (3), the difference of average scores of benefit, self-confidence, health motivation sub-dimensions were found to be statistically significant ($p<0.01$).

A statistically significant difference was determined between the BSE application frequency and the level of education of women ($p<0.05$). Karayurt (22) and Bahar and Özsoy (24) found that there was a significant correlation between the level of education and the frequency of BSE application in their studies. It is stated that it is important to raise awareness of individuals in health issues for changes in behaviors, attitudes and beliefs (22).

A statistically significant difference was found when the women participating in the study were examined in terms of the menopause status

with respect to BSE ($p < 0.05$). In a study done by Altunkan et al. (20), the parameters of age, social security, having children, use of contraceptive pills, age of first menstruation, menopause, receiving hormone replacement therapy after menopause were found not to have any effects on the BSE application frequency, only the parameters of education and having a family member diagnosed with breast cancer had a positive correlation with the BSE application frequency.

Conclusion

It was seen in this study that clinical examination, which is an early diagnosis method of breast cancer, was not applied by most of the women. The average scores in CHBMS for the sub-dimensions of benefit, obstacle, health motivation and self-confidence of women were found to be effective on BSE application. Considering these results, for women to apply self-breast examination on regular basis, it can be advisable to improve their health motivation, to increase their awareness about the risk factors contributing to breast cancer development, to increase their consciousness about early diagnosis behavior, to raise a proper level of awareness, to apply education supported with models to make sure that these attitudes become permanent, to inform women about BSE through newspapers, television, magazines, etc. by means of experts and to ensure the continuity of these education programs.

Ethics Committee Approval: Ethics committee approval was received for this study from Ödemiş Health Group Presidency.

Informed Consent: Informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

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