

The Relationship Between Women's Health Literacy and Breast Cancer Concern Levels

Kadınların Sağlık Okuryazarlığı ile Meme Kanseri Endişe Düzeyleri Arasındaki İlişki

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ABSTRACT

The research was done descriptively and cross-sectionally to define the relationship between women's health literacy and their anxiety levels regarding breast cancer. 315 female patients participated in the study who are over the age of 20 and inpatient women of a training and research hospital. The interval of study was three months (May and July 2022). Researchers obtained the research data with face-to-face interview technique and they used the "Personal Information Form", "Breast Cancer Concern Scale (BCCS)", and "Health Literacy Scale (HLS)". The mean HLS and BCSS scores of women were 103.8±19 and 9.2±5.6 respectively. It has been found that women's employment status, menopause, education level and knowledge of breast self-examination (BSE) and having BSE have an impact on their level of health literacy. With correlation analysis, it was defined that there was a statistically insignificant and low level, negative relationship between the women's total mean scores of HLS and the BCCS ($r=-0.06$, $p>0.05$). As a result, it was determined that women had above moderate level of health literacy and low level of anxiety about breast cancer, and there was no relationship between health literacy level and breast cancer anxiety. The results showed that women's education level, working outside the home, menopause status, and whether they know and regularly practice BSE affect their health literacy.

Keywords: Anxiety, Breast cancer, Health literacy, Women's health

ÖZ

Araştırma, kadınların sağlık okuryazarlığı ile meme kanserine ilişkin kaygı düzeyleri arasındaki ilişkiyi tanımlamak amacıyla tanımlayıcı ve kesitsel olarak yapılmıştır. Çalışmaya bir eğitim ve araştırma hastanesinde yatarak tedavi gören 20 yaş üstü 315 kadın hasta katılmıştır. Çalışma aralığı üç aydır (Mayıs ve Temmuz 2022). Araştırmacılar araştırma verilerini yüz yüze görüşme tekniği ile elde etmiş ve "Kişisel Bilgi Formu", "Meme Kanseri Endişe Ölçeği (MKES)" ve "Sağlık Okuryazarlığı Ölçeği (SOÖ)" kullanmışlardır. Kadınların ortalama SOÖ ve MKES puanları sırasıyla 103,8±19 ve 9,2±5,6'dır. Kadınların; çalışma durumlarının, menopozda olmalarının, eğitim düzeylerinin, kendi kendine meme muayenesi (KKMM) hakkında bilgi sahibi olmalarının ve KKMM yapmalarının sağlık okuryazarlığı düzeyleri üzerinde etkili olduğu bulunmuştur. Korelasyon analizi ile kadınların SOÖ ile MKES toplam puan ortalamaları arasında istatistiksel olarak anlamsız ve düşük düzeyde negatif bir ilişki olduğu belirlenmiştir ($r=-0,06$, $p>0,05$). Sonuç olarak, kadınların orta düzeyin üzerinde sağlık okuryazarlığına ve meme kanserine ilişkin düşük düzeyde kaygıya sahip oldukları ve sağlık okuryazarlığı düzeyi ile meme kanseri kaygısı arasında bir ilişki olmadığı belirlenmiştir. Sonuçlar, kadınların eğitim düzeylerinin, ev dışında çalışma durumlarının, menopoz durumlarının ve KKMM'yi bilip bilmemelerinin ve düzenli olarak uygulayıp uygulamamalarının sağlık okuryazarlıklarını etkilediğini göstermiştir.

Anahtar Kelimeler: Endişe, Meme kanseri, Sağlık okuryazarlığı, Kadın sağlığı

Permission to conduct the study was received from the university's Clinical Research Ethics Committee (2022/10-09 and 26.05.2022). This research was presented as an oral presentation at the 4th International 5th National Oncology Nursing Congress (12-14 October 2022, Ankara).

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INTRODUCTION

Health literacy is defined as accessing and understanding health information to protect and improve health and using this information to prevent diseases and improve quality of life.^{1,2} Improving health literacy contributes to the improvement of the general health level of society.³ It has been found that individuals who have a low level of health literacy are less likely to seek out preventive health services, have increased hospitalization rates, cannot manage their chronic disease conditions including cancers well, have high mortality and morbidity rates,^{2,4,5} avoid going to the doctor, are more fatalistic towards cancer, show less interest in cancer screening tests, and avoid obtaining information about their diseases.⁶

Health literacy is a necessary element for individuals to make healthy decisions about cancer, access the health information and services they need, and have the ability to understand and apply this information.⁶ Therefore, the place of health literacy is very important in raising awareness of cancer, a chronic disease that affects the individual and society.⁷ Health education activities that will maintain social well-being and increase the health literacy level

of society should be given importance from early childhood. Cancer screening programs and health-promoting awareness activities for cancer prevention should be increased.⁸

It is known that the rate of breast cancer, which ranks first in the causes of death from cancer in women, increases with age, and mortality and morbidity rates decrease in case of early diagnosis.⁹ Therefore, it is necessary to disseminate effective education programs that will enable women to gain awareness about the symptoms and risks of breast cancer and to provide individuals with healthy behaviors.^{10,11} In the literature, it is stated that women's adequate health literacy level affects their behaviors to access healthy and reliable information about cancer more easily, prevent cancer⁸ and reduce breast anxiety.¹²

Although there are studies evaluating women's health literacy level^{13,14} and the level of concern about breast cancer in our country^{15,16}, studies to determine the relationship between health literacy and breast cancer concern are limited. This study's objective was thus to examine the relationship between women's health literacy and breast cancer anxiety level.

MATERIAL AND METHOD

Type and Aim of the Research

This descriptive cross-sectional study was conducted in order to evaluate the relationship between women's health literacy levels and their concerns about breast cancer.

Place of Research

The study was carried out between May and July 2022 with women hospitalized in the internal and surgical departments of a

university's Training and Research Hospital.

Population and Sample of the Research

The population of the study took place female patients hospitalized in the surgical and internal clinics of a Training and Research Hospital with a diagnosis of any disease other than cancer, and the sample consisted of 315 female patients over the age of 20 who were at least literate, had not been diagnosed with breast cancer before,

and approved to participate in the study between May and July 2022. The data for the study were gathered using the face-to-face interview method.

Data Collection Tools

Personal Information Form: It consisted of 22 questions and was developed by the researchers following a literature review in order to country^{15,16} to assess the socio-demographic and obstetric characteristics of women.

Health Literacy Scale (HLS): The scale which was five-point Likert-type was developed by Sorensen et al and simplified as 25 items by Toçi et al. The study's reliability and validity study of scale in Turkish was done by Aras and Bayık Temel.¹⁷⁻¹⁹ The scale is a consisting of 25 items and four sub-dimensions (Min.=25-Max.=125). The sub-dimensions are "Accessing Information, Understanding Information, Appraising/Evaluating, and Applying/Using." High scores on the scale indicate that the health literacy status is adequate and very good. As the score increases, the health literacy level of the individual increases. The Cronbach's alpha value of the HLS was determined as 0.94 in the present study.

Breast Cancer Concern Scale (BCCS): The scale with five-point Likert was developed by Lerman et al. in 1991 and modified for breast cancer by Taşhan et al. 2018, and its Turkish validity and reliability was established.^{20,21} If the total score obtained from the scale is below 12, it

indicates low cancer anxiety, and if it is equal to or above 12, it indicates high cancer anxiety (Min.=0, Max.=24). The Cronbach's α reliability coefficient of the six-item BCCS is 0.78. The value of Cronbach's alpha was found to be 0.78 in this study.

Evaluation of Data

The data were evaluated with the Statistical Package of Social Science (SPSS) 23.0 statistical program. The personal characteristics of the women in the study were analyzed with descriptive statistics. The suitability of the data for normal distribution was evaluated with the Kolmogorov-Smirnov test, independent samples t-test was used for two-group comparisons, and One Way Anova test and Tukey HSD tests were used for comparisons with three or more groups due to the normal distribution of the data. The relationship between women's health literacy level and breast cancer anxiety levels was evaluated using analysis Pearson correlation and the level of statistical significance was accepted as $p < 0.05$.

Ethical Aspect of Research

The study was carried out in accordance with the Helsinki Declaration. Permission to conduct the study was received from the university's Clinical Research Ethics Committee (2022/10-09 and 26.05.2022). Verbal consent was obtained from women who agreed to be included in the sample after being informed about the research.

RESULTS AND DISCUSSION

The participants' mean age was 37.9 ± 13.1 , while the age at menarche was 13.3 ± 1.2 . It was determined that 47.6% of these women were primary school graduates, 82.9% were not employed, 82.2% did not exercise regularly, 83.5% did not smoke, 86.3% had children, 79.4% did not go

through menopause, 74.9% did not use birth control pills or injections. It was found that 51.4% of the women were informed about the practice of BSE, 95.2% stated that they never or occasionally performed BSE, and 80.3% did not have regular gynecologic examinations (Table 1).

Table 1. Distribution of Socio-Demographic Characteristics of Women (n=315)

Variables	n	%
Age mean: 37.94 ± 13.13 (min.: 20, max.: 86) mean age at menarche: 13.33 ±1.27 (min.: 9, max.: 17)		
Marital status		
Married	266	84.4
Single	49	15.6
Level of education		
Literate	48	15.2
Primary/secondary school	150	47.6
High school	70	22.2
University	47	14.9
Occupation		
Active worker	54	17.1
Housewife	261	82.9
Level of income		
Income less than expenses	127	40.3
Income equals expense	160	50.8
Income more than expenses	28	8.9
Regular exercise status		
Yes	56	17.8
No	259	82.2
Smoking		
Yes	52	16.5
No	263	83.5
Having children		
Yes	272	86.3
No	43	13.7
Menopause		
Yes	65	20.6
No	250	79.4
Family history of cancer		
Yes	86	27.3
No	229	72.7
Birth control pill or injection		
Yes	79	25.1
No	236	74.9
Knowledge of breast self-exam		
Yes	162	51.4
No	153	48.6
Doing a breast self-exam		
I never do it	135	42.8
I do it occasionally	165	52.4
I do it regularly every month	15	4.8
Previous Clinical Breast Examination		
Yes	99	31.4
No	216	68.6
Prior mammography		
Yes	82	26.0
No	233	74.0
Regular gynecological examination		
Yes	62	19.7
No	253	80.3

%: Percentage

The average total score of the women obtained from the HLS was 103.8 ± 19.2 (min=32, max=125). The mean scores of the sub-dimensions of the scale were determined as "Accessing Information" 20.1 ± 4.9 , "Understanding Information"

29.0 ± 6.2 , "Appraising/Evaluating" 33.4 ± 6.5 , "Applying/Using" 21.1 ± 4.3 . The women's mean total item score was determined to be 9.2 ± 5.6 (min=0, max=24) (Table 2).

Table 2. Distribution of Health Literacy Scale (HLS) and Breast Cancer Concern Scale (BCCS) Mean Scores In Women (n=315)

Scale	Mean \pm SD	Min.- Max.
Accessing Information	20.1 ± 4.9	5-25
Understanding Information	29.0 ± 6.2	7-35
Appraising/Evaluating	33.4 ± 6.5	10-40
Applying/Using	21.1 ± 4.3	6-25
HLS total score average	103.8 ± 19.2	32-125
BCCS total score average	9.2 ± 5.6	0-24

Comparing the mean total score for the HLS according to the women's descriptive characteristics, there was a statistical considerable difference between the educational status of the women and the mean total score for the HLS ($p=0.000$). According to further analysis, it was determined that the difference was between literate and high school ($p=0.000$) and university graduates ($p= 0.002$). There was a statistical considerable difference between the women's employment situation and the mean total HLS score ($p=0.006$). The mean HLS total score of the women who worked in a job outside the home was statistically significantly higher than the women who did not work ($p=0.006$). It was determined that the mean total HLS score was statistically significantly higher in menopausal women compared to women who were non-menopausal ($p=0.026$) and in

women who had information about BSE compared to those who did not have information ($p=0.000$). There was a statistical considerable difference between the status of practicing BSE and the mean overall score of the HLS ($p=0.007$). Further analysis showed that the difference was due to the difference between the group that performed BSE regularly every month and the group that never performed BSE ($p=0.007$). There was no considerable difference between the mean overall score of the HLS and regular exercise, smoking, having children, having a family member diagnosed with cancer, and having a clinical breast examination before statistically ($p>0.05$). There was no considerable difference between the descriptive characteristics variables of the women and the mean overall score of the BCCES statistically ($p>0.05$) (Table 3).

Table 3. Distribution of the Mean HLS and BCCS Scores of Women According to Their Descriptive Characteristics (n=315)

Characteristics	HLS (Mean \pm SD)	Test and p value	BCCS (Mean \pm SD)	Test and p value
Level of education				
Literate	95.8 ± 22.3	F=12.064	10.3 ± 6.3	F=1.337
Primary/secondary school	100.3 ± 20.4	p=0.000	9.3 ± 5.6	p=0.262
High school	112.8 ± 10.3		8.4 ± 5.2	
University	109.6 ± 15.5		8.5 ± 5.4	

Table 2. (Continued)

Occupation				
Active worker	110.3±11.5	t=-2.750	8.7±5.9	t=-0.611
Housewife	102.4±20.2	p=0.006	9.2±5.6	p=0.558
Regular exercise status				
Yes	104.0±20.7	t=0.104	8.5±5.7	t=-0.979
No	103.7±18.9	p=0.917	9.3±5.6	p=0.328
Smoking				
Yes	101.5±19.7	t= -0.903	9.2±5.6	t=-0.156
No	104.2±19.1	p=0.370	9.0±5.5	p=0.877
Having children				
Yes	103.3±19.7	t= -1.418	9.2±5.6	t=-0.031
No	107.0±15.0	p=0.161	9.2±6.0	p=0.975
Menopause				
Yes	99.0±19.0	t= -2.260	9.3±6.2	t=0.196
No	105.0±19.1	p=0.026	9.1±5.5	p=0.845
Family history of cancer				
Yes	101.0±19.5	t= -1.579	9.5±5.7	t=-0.557
No	104.8±19.0	p=0.116	9.0±5.6	p=0.579
Knowledge of breast self-exam				
Yes	107.6±16.0	t= 3.673	9.0±5.3	t=-0.386
No	99.8±21.4	p=0.000	9.3±5.9	p=0.700
Doing a breast self-exam				
I never do it	100.8±20.8	F=5.028	9.1±5.8	F=0.238
I do it occasionally	105.2±17.8	p=0.007	9.3±5.6	p=0.788
I do it regularly every month	115.6±11.7		8.2±4.8	
Previous clinical breast examination				
Yes	104.4±19.4	t= 0.370	9.8±5.5	t=1.341
No	103.5±19.1	p=0.712	8.9±5.7	p=0.182

In Table 4, it was found that there was a statistically insignificant, low level and negative correlation between women's mean total score on the HLS and mean score on the BCCS (r=-.068, p=0.232). No significant correlation was found between the "Accessing information" (r=-.070,

p=0.216), "Understanding information" (r=-.013, p=0.822), "Appraising/Evaluating" (r=-.064, p=0.257), "Applying/Using" (r=-.103, p=0.068) dimensions of HLS, and the mean score of the total dimensions of the BCCS.

Table 4. The Relationship Between Women's HLS And BCCS Mean Scores (n=315)

HLS sub-dimension and total score average	Breast Cancer Concern Scale total score average	
	r*	p
Accessing Information	-.070	.216
Understanding Information	-.013	.822
Appraising/Evaluating	-.064	.257
Applying/Using	-.103	.068
HLS Total Score Average	-.068	.232

* Correlation coefficient

It is known that the level of health literacy positively affects individuals'

utilization of preventive health services and awareness of health risks. The women's

mean total score for the HLS was 103.8 ± 19.2 in the current study, and the health literacy of women was above the middle level. In studies conducted with different groups of women in the literature, it was determined that the health literacy of women in the climacteric period²², pregnant²³, puerperal²⁴ and women who applied to obstetrics and gynecology outpatient clinics for any reason²⁵ was above the middle level. The results of the literature are similar to our study.

In the study, women's level of breast cancer concern was found to be low (9.2 ± 5.6). In other studies with the level of breast cancer concern was found, it was found that women's anxiety about breast cancer was low.^{15,16,26,27} These studies are similar to our research results.

It is known that health literacy level is important for cancer awareness. Breast cancer is the cancer most frequently encountered in women. It negatively affects their health by causing morbidity and mortality. In the study, no significant relationship was found between women's health literacy levels and their concerns about breast cancer. In the literature, it has been determined that awareness about breast cancer is affected by women's health literacy level.¹²

Results showed that the educational status of women affected their health literacy levels, and the health literacy level of high school and university graduates was statistically significantly higher than that of primary school graduates. Aktan and Özdemir (2020) reported that increasing education level increased the rate of health literacy in women during the climacteric period²², and Ayaz-Alkaya and Öztürk (2021) reported that the health literacy level of primary school graduate women was insufficient and limited.²⁸ Considering that the level of education positively affects the morbidity and mortality rates. This study found that women who had knowledge

processes of accessing and understanding health information, it is an expected result that the level of education positively affects the level of health literacy, considering that approximately half of the women included in the study were high school and university graduates.

In the study, the health literacy level of women who were employed in an income-generating job was determined to be higher than that of women who were not employed. The findings of the current study support those found in other research.^{22,24,28} It is thought that women's economic competence contributes positively to accessing health services and information in relation to their education level.

High health literacy levels of women in all life stages have an important effect on protecting and promoting their health. In the study, the health literacy level of women who did not go through menopause was higher than that of postmenopausal women. Results from a similar study showed that premenopausal and perimenopausal women had better and more adequate health literacy than postmenopausal women.²² Considering that the risk of breast cancer increases with age and women who do not care about health problems, have a sense of shame and lack of knowledge, and postpone applying to health institutions due to economic issues, it is crucial that activities that increase health literacy get delivered to women in this age group.

Understanding and interpreting basic health information and developing appropriate behaviors to protect and maintain one's health are realized with an increase in health literacy level, and this increase leads to a decrease in unnecessary hospital admissions, an increase in the frequency of conditions that can be diagnosed early, and a decrease in

about BSE and performed BSE regularly every month had higher health literacy

levels than women who did not know about BSE and never performed BSE. Research findings are similar to the literature.^{29,30}

In this study, it was determined that as women's health literacy level increased, their level of concern about breast cancer decreased. In the literature, it was found that high health literacy level was associated with higher use of preventive health

services and positive health behaviors (such as not smoking, not consuming alcohol, being normal weight, adequate physical activity and adequate fluid consumption), and women with adequate health literacy level were more likely to use preventive health services such as pap smear test, osteoporosis screening and breast self-examination. The results of our study are similar to the literature findings.³⁰

CONCLUSION AND RECOMMENDATIONS

It was determined that women's health literacy was above the middle level, their concerns about breast cancer were low, and there was no relationship between health literacy level and breast cancer concern. Results showed that women's education level, employment outside the home, menopausal status, and knowing and

regularly practicing BSE affected their health literacy. It is recommended to conduct studies with women in different sociodemographic groups (university students, pregnant, premenopausal, and postmenopausal women) and with larger sample groups.

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