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Research Article

Investigation of Attitudes Towards Cancer Screening of Patients Applying to Hospital Outpatient Clinics

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Abstract

Objective: This study aimed to investigate the attitudes of individuals applying to hospital outpatient clinics toward cancer screening and the factors affecting them.

Methods: This study is a cross-sectional descriptive study. The study sample consisted of 348 individuals aged 30-70 years who applied to the outpatient clinics of two city hospitals located on the Anatolian and European sides of Istanbul. The data were collected by face-to-face interviews using Personal Information Form and Attitudes Towards Cancer Screenings Scale. Statistical analyses were performed using SPSS (IBM SPSS Statistics 27) package programme.

Results: It was determined that 72% of the individuals who participated in our study knew about cancer screening and 43.9% had had it before. The most common reasons for not having cancer screening were thinking that the person was healthy and lack of information. The mean score of the attitude towards cancer screening scale was 94.12± 17.64. It was determined that attitudes towards cancer screening differed according to age, history of cancer, family/neighborhood history of cancer, having information about cancer screening, having regular screening, and wanting to have screening ($p<0.05$).

Conclusion: The attitude of the individuals participating in the study towards cancer screening is above average. However, more than half of the individuals have never had cancer screening. Informing and raising awareness about cancer screening at both individual and social level may increase the frequency of participation in screening.

Keywords: Attitude, Cancer screening, Community, Early diagnosis

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1.Introduction

Cancer, which is a global health problem, ranks among the leading causes of death in our country and the World. In our country, cancer is the second most common cause of death after circulatory system-related deaths (1). According to the data published by the International Agency for Research on Cancer (IARC) and the World Health Organization (WHO) in 2020, there are 19.3 million new cancer cases and approximately 10 million cancer-related deaths in the World (2). According to the Türkiye Cancer Statistics 2021 Report, it is seen that the incidence of cancer is 223.1 per 100,000, and 180,288 people were diagnosed with new cancer. According to the Turkish Statistical Institute (TUIK), the mortality rate from benign and malignant tumors was 14.0% in 2021 and 15.2% in 2022 (1). As can be understood from these data, cancer is a significant health problem with high mortality, which continues to increase in Türkiye as in the World (3). Today, 30-50% of cancers can be prevented by applying evidence-based prevention practices and avoiding risk factors. In some types of cancer, early diagnosis and treatment can improve the quality of life of patients and reduce morbidity and mortality (4). For early diagnosis of cancer, standard screening programs are implemented for some cancer types all over the World and in Türkiye. In Türkiye, community-based screening programs for colorectal, cervical, and breast, cancers

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are carried out in Cancer Early Diagnosis, Screening, and Education Centers (KETEM) for defined risk groups. In our country, the cancer screening program includes counseling for monthly breast self-examination, mammography for women between the ages of 40 and 69 every 2 years, smear and HPV-DNA test for women between the ages of 30 and 65 every 5 years, fecal occult blood test for men and women between the ages of 50 and 70 every 2 years, and colonoscopy every 10 years for those between the ages of 50 and 70 (5).

Screening is an important preventive measure in cancer control. However, literature shows that participation in cancer screening is not at the desired level. It is seen that the biggest obstacle to inadequate participation in cancer screening is a lack of information (6-9). In a study, it was determined that the participants had inadequate knowledge about cancer screening, and most of them wanted to have cancer screening, but they did not have screening because they did not know what to do for which cancers (6). In another study, it was found that 27.5% of women regularly performed breast self-examination every month, 41.4% had clinical breast examination, 45.6% had mammography, 42.3% had smear tests, 17% had colorectal cancer screening and early diagnosis practices for cancers were inadequate (7). In other studies, it has been reported that knowledge and attitude levels create awareness in cancer screening, and participation in screening tests is higher as the level of knowledge increases (8). The literature shows that people with a positive opinion about screening tend to undergo screening more frequently (9, 10). Perceptions, beliefs, and attitudes are also very important in the development of behaviors affecting health (11). It is seen that studies investigating attitudes towards cancer screening in the community are limited. Most studies on attitudes toward screening have focused on specific cancers and screening tests, and attitudes toward general cancer screening have not been examined much. In this context, this study aimed to determine the attitudes of individuals applying to hospital outpatient clinics toward cancer screening and the related factors.

2.Methods

2.1. Study design: This research is a cross-sectional descriptive study.

2.2. Population and sample: The population of the study consists of individuals who applied to the outpatient clinics of two city hospitals on the Anatolian and European sides of Istanbul. The sample size was calculated as 326 in the G*Power 3.1.9.4 programme, based on a significance level of 0.05, a medium effect size of 0.401, and 95% power, using the mean scores of the Attitude Towards Cancer Screenings Scale in the study conducted by Yıldırım Öztürk and Uyar (2019) (12). Considering the losses that may occur during the study, the sample number was increased by 10%, and 348 patients were planned to be reached.

2.3. Inclusion criteria: Being between 30-70 years of age

2.4. Data collection: Verbal consent was obtained by the researcher by explaining the purpose of the study to the individuals before the study and informing them that participation in the study was voluntary; the information they provided would not be used outside the research and would not be shared with others.

2.5. Data collection tools: The data were collected through face-to-face interviews by the researchers using the "Personal Information Form" and "Attitude Scale towards Cancer Screenings."

Personal Information Form: The researchers prepared it in line with the literature. This form includes demographic, medical, and cancer screening information.

Attitude Scale Towards Cancer Screenings: This scale was developed by Yıldırım Öztürk et al. (2020). The scale consists of 24 items and is a 5-point Likert type. Items 9, 12, 14, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 are reverse coded. There is no specific cut-off point for the scale. In the validity and reliability

study, the Cronbach alpha coefficient of the scale was found to be 0.95 (12). In this study, the Cronbach alpha value of the scale was found to be 0.90.

2.6. Statistical analysis: Statistical analyses were performed using the SPSS package program. Frequency tables and descriptive statistics were used to interpret descriptive data. For measurements that were not suitable for normal distribution, the Mann-Whitney U test was used to compare two independent groups, and the Kruskal Wallis H test was used to compare three or more independent groups. Bonferroni correction was applied for variables showing significant differences for three or more groups.

2.7. Ethical statement: Uskudar University Non-Interventional Ethics approval was obtained for this study (Date: 30.12.2022, Number: 61351342/ DEC2022-72). The purpose of the study was explained to the individuals participating in the study, and consent was obtained.

3. Results

Three hundred eighty-five people who applied to the polyclinics of two city hospitals on the Anatolian and European sides of Istanbul participated in this study.

The mean age of the individuals participating in the study was 44.36±11.82 (years). It was determined that 73.8% of the individuals were female, 67.8% were married, 33.6% were primary school graduates, and 43.9% were not health workers and worked in a different job. The rate of those living in urban areas was 87.5%, 90.9% had social security, and 76.1% had no chronic disease (Table 1).

Table 1. Distribution of Identifying Characteristics of Individuals

Variables (N=385)	**n**	**%**
Ages [$\bar{x} \pm$ s.s.→44,36±11,82 (years)]		
≤34	93	24.2
35-44	127	33.0
45-54	78	20.3
≥55	87	22.5
Gender		
Female	284	73.8
Male	101	26.2
Marital status		
Single	76	19.7
Spouse deceased/divorced	48	12.5
Married	261	67.8
Education level		
Illiterate	13	3.4
Primary School	129	33.6
High School	86	22.3
Licence	106	27.5
Postgraduate	51	13.2
Occupation		
Not a health worker	169	43.9
Health worker	83	21.6
Not working	133	34.5
Place of residence		
Urban area	337	87.5
Rural areas	48	12.5
Social security		
There is	350	90.9
None	35	9.1
Chronic illness		
There is	92	23.9
None	293	76.1

It was determined that 94.8% of the individuals participating in the study did not have a history of cancer, 66.0% had a history of cancer in the family/environment, and 34.6% had cancer in one or second-degree relatives. It was determined that 36.4% of the individuals had knowledge about cancer screening tests, 50.9% received information from the nurse about cancer screening tests, 65.4% knew about breast cancer screening, 56.1% did not have cancer screening, 66.3% of those who had screening had mammography, It was determined that 54.4% had cancer screening on the recommendation of a physician in a branch other than a family physician, 51.3% did not have cancer screening because they thought they were healthy, and 69.4% of those who did not have screening thought about having screening (Table 2).

Table 2. Distribution of Individuals' Characteristics Regarding Cancer and Cancer Screenings

Variables (N=385)	**n**	**%**
History of cancer		
There is	20	5.2
None	365	94.8
Type of cancer[1]		
Lung	2	10.0
Breast	5	25.0
Prostate	4	20.0
Other	9	45.0
Cancer people around		
1. degree relative	88	22.9
2. degree relatives	88	22.9
Wife	27	7.1
Distant relatives/acquaintances	51	13.2
Type of cancer in the family/neighbourhood		
Colerectal	36	14.2
Breast	51	20.1
Cervix	36	14.2
Apart from these species	131	51.6
Having knowledge about cancer screening tests		
There is	140	36.4
None	108	28.1
Partially available	137	35.5
The place to receive information about the cancer screening test*		
From the family doctor	135	35.1
From other branch physician	141	36.6
Nurse	196	50.9
Social media	119	30.9
From acquaintances/relatives in the neighbourhood	132	34.3
Other	9	2.3
Regular cancer screening		
Regular	37	9.6
Has been screened at least once	132	34.3
Never had it done	216	56.1
Cancer screening method performed*		
Mammography	112	66.3
Pap Smear/Hpv DNA	103	60.9
PSA	8	4.7
Colonoscopy	50	29.6
Fecal occult blood	30	17.8
Element in cancer screening		
Recommendation for a physician in a branch other than family doctor	92	54.4
Family doctor recommendation	58	34.3
Family history of cancer	1	0.6
Neighbourhood/relative recommendation	14	8.3
Nurse recommendation	2	1.2
Social media	2	1.2
Reasons for not having cancer screening*		
Not informed	44	17.6
Don't think it won't help	3	1.2
Because it is not easy and accessible	3	1.2

Because he's afraid of bad news.	25	10.0
Embarrassment of the health worker/examination	7	2.8
Because he thinks he's healthy	134	53.3
Because he couldn't find the time.	33	13.3
Intention to have screening		
Yes	150	69.4
No	66	30.6

* The response has been given multiple times, [1] Intra-group percentage taken.

The mean score of the attitude scale towards cancer screening was 94.13±17.64 (Table 3).

Table 3. Individuals' Attitude towards Cancer Screening Scale Score

Scale (N=385)	Mean	s.d	Median	Min.	Max.	Cronbach-α
Attitude towards Cancer Screening Scale Score	94.12	17.64	98.0	42.0	120.0	0.904

A statistically significant difference was found in the attitude scale scores toward cancer screening according to age classes (χ2=16,121; p=0,001). It was determined that the attitudes towards cancer screening scale scores of individuals aged ≥55 years were higher than those of individuals aged ≤34 and 35-44 years. There was no statistically significant difference in the attitude scale scores toward cancer screening according to gender, marital status, educational level, occupational status, place of residence, social security, and chronic disease status (p>0.05) (Table 4).

Table 4. Comparison of Attitudes Towards Cancer Screening According to Descriptive Characteristics of Individuals

Variables (N=385)	n	Attitudes towards cancer screening	Test value
		x ± s. d	
Ages			
≤34 (1)	93	89.41±16.73	χ^2=16.121
35-44 (2)	127	93.02±16.77	**p=0.001**
45-54 (3)	78	96.27±17.08	**[1,2-4]**
≥55 (4)	87	98.86±19.11	
Gender			
Female	284	95.04±17.39	Z=-1.781
Male	101	91.53±18.16	p=0.075
Marital status			
Single	76	89.92±18.49	χ^2=5.281
Spouse deceased/divorced	48	96.73±18.67	p=0.071
Married	261	94.87±17.06	
Education level			
Primary School	142	94.29±18.68	χ^2=0.186
High School	86	93.56±19.35	p=0.980
Undergraduate	106	94.67±14.24	
Postgraduate	51	93.47±18.51	
Profession			
Not a health worker	169	93.56±17.74	χ^2=1.058
Health worker	83	96.39±15.20	p=0.589
Not working	133	93.42±18.91	
Place of residence			
Urban area	337	94.18±17.42	Z=-0.066
Rural areas	48	93.67±19.29	p=0.947
Social security			
There is	350	94.42±17.73	Z=-1.194
None	35	91.14±16.72	p=0.232
Chronic illness			
There is	92	95.83±18.01	Z=-1.181
None	293	93.59±17.52	p=0.237

In cases where data does not conform to a normal distribution, the 'Mann-Whitney U' test (Z-table value) was used to compare measurement values between two independent groups; and the 'Kruskall-Wallis H' test (χ2-table value) was employed for comparing three or more independent groups.

Cancer disease status revealed a statistically significant difference in attitude scale scores towards cancer screening (Z=-2,929; p=0,003). It was determined that the attitude toward cancer screening scale scores of those with cancer disease were significantly higher than those without cancer disease. It was determined that there was a statistically significant difference in the attitude scale scores towards cancer screening according to the person(s) with cancer in the family/environment (χ2=21,263; p=0,001). Those who had cancer in their first-degree relatives and spouses had significantly higher attitude scale scores towards cancer screening than those who had cancer in their second-degree relatives. There was a statistically significant difference between the attitudes towards cancer screening scale scores according to knowledge about cancer screening tests (χ2=45.426; p<0.001). The attitude towards cancer screening scale scores of those who knew were significantly higher than those who did not and partially knew. Likewise, the attitude scale scores of those with a partial understanding of cancer screening were significantly higher than those without knowledge. According to the status of having regular cancer screening, a statistically significant difference was found in attitude scale scores towards cancer screening (χ2=61,096; p<0,001). The attitudes towards cancer screening scale scores of those who had regular cancer screening were significantly higher than those who had regular cancer screening at least once and those who had never had cancer screening. Likewise, a significant difference was found between those who had at least once and those who had never had cancer screening. It was determined that the attitude scale scores of those who had at least one screening at least once were significantly higher than those who had never been screened. Cancer screening attitudes of individuals who do not undergo cancer screening differ according to the desire to undergo cancer screening (Z=-6,741; p<0,001). The attitudes towards cancer screening scale scores of those who wanted to be screened were significantly higher than those who did not want to be screened (Table 5).

Table 5. Comparison of Attitudes Towards Cancer Screening According to Cancer-Related Characteristics of Cancer

Variables (N=385)	**n**	**Attitudes towards cancer screening scale scores** $\bar{x} \pm$ **s. d.**	**Test value**
History of cancer			
There is	20	105.45±11.94	Z=-2.929
None	365	93.50±17.70	**p=0.003**
Family/neighbourhood history of cancer			
There is	254	95.74±17.95	Z=-5.174
None	131	96.79±16.77	p=0.060
Cancer people around			
1st degree relative (1)	88	95.28±18.83	χ^2=21.263
2. degree relatives (2)	88	88.37±17.43	**p<0.001**
Wife (3)	27	104.29±15.30	**[2-1,3]**
Distant relatives/acquaintances (4)	51	89.83±14.85	
Type of cancer in the environment			
Colorectal	36	96.08±16.34	χ^2=7.267
Breast	51	94.71±17.68	p=0.064
Cervix	36	96.14±21.38	
Apart from these species	131	90.04±17.05	
Knowledge of cancer screening tests			
Yes (1)	140	99.95±17.17	χ^2=45.426
None (2)	108	85.15±15.30	**p<0.001**
Partially available (3)	137	95.42±7.13	**[1-2,3] [2-3]**
Regular cancer screening			
Regular (1)	37	111.54±13.35	χ^2=61.096
At least once (2)	132	96.91±17.13	**p<0.001**
Never had it done (3)	216	89.43±16.38	**[1-2,3] [2-3]**

Intention to have screening			
Yes	150	96.12±15.53	Z=-6.741
No	66	81.78±15.51	**p<0.001**

"In cases where data does not follow a normal distribution, statistical analyses employed the 'Mann-Whitney U' test (Z-table value) for comparing measurement values between two independent groups, and the 'Kruskall-Wallis H' test (χ2-table value) for comparing three or more independent groups.

4. Discussion

Cancer is an important health problem with increasing prevalence in developed and developing countries. Cancer screening is an important resource in controlling certain types of cancer and reducing morbidity and mortality. The institutions where this study was conducted are among the busiest hospitals on both sides of Istanbul, one of the most populous and most migrant cities in Türkiye. Of the individuals who participated in the study, 36.4% stated that they knew about cancer screening and 35.5% indicated that they had partial knowledge. Studies show that knowing about cancer screening is associated with attitudes towards cancer screening. Lack of knowledge about cancer screening is one of the most important factors that reduce participation in screening (13-15). Babaoğlu et al. (2021) reported that 86.0% of the participants were aware of cancer screening (16). Again, in two different studies conducted in Türkiye, it was observed that the level of knowledge about cancer screening was 72.7% and 76.2% (13,17). The reason for the high results in our study and other studies may be explained by the fact that the ages of the study population were within the cancer risk groups, and Türkiye is one of the most socioculturally developed cities. It was observed that the most common source of information about cancer screening was physicians and nurses. When other studies are examined, it is seen that the most common sources of information about cancer screening are physicians and nurses, similar to this study (17,18). However, in many sources, media, awareness campaigns, and health education booklets are the highest sources of information (18,19). At this point, physicians and nurses are important resources in informing society, and the importance of informing society about screening through the media emerges. The rate of regular screening among the individuals participating in the study is quite low; most of them have never had any cancer screening before. The rate of those who had regular cancer screening was 9.6%, and the rate of those who had at least once was 34.3%. In the study of Özsöyler et al. (2023), the rate of those who had regular cancer screening was 6.1%, and the rate of those who had cancer screening at least once was between 6-63% in the literature (14,15,17,20,21). It was found that the most frequently performed screenings were mammography and smear tests. It is thought that this result may be due to the higher number of female participants and the fact that they are more known due to social activities. When we look at the literature, it is seen that breast and cervical cancer screenings are performed more frequently in studies similar to our study. While the rate of those who had mammography in the national literature was 23-62%, this rate was found to be 66.3% in our study (16,17,22). When the international literature is analyzed, it is seen that the frequency of breast cancer screening is low (23-25). While the rate of cervical cancer screening was 60% in our study, it was found to be between 20-58% in the national literature (16,17,20,26). In a study based on self-report data collected from 55 countries between 2005 and 2018, the frequency of cervical cancer screening was found to be 43.6% (0.03-97.4) (27). This study's third most common screening was colorectal cancer screening (29.6%). A literature review shows that Türkiye's rate of participation in colorectal cancer screening is between 4.5-33.8% (15). It is known that the incidence of colorectal cancer decreases significantly in countries with long-term screening programs (28). However, it is observed that participation in colorectal cancer screening is low. Many factors, such as lack of knowledge about cancer screening programs (16,17), lack of awareness of the seriousness of the condition, and lack of belief in its necessity (7), fear (29), and negative attitude (6) may be effective in individuals not participating in cancer screening programs. In this study, similar to the literature, the most common reasons for avoiding screening were thinking that the person was

healthy and lacking information and time, respectively. Increasing information and awareness activities at the social level may increase the effectiveness of cancer screening programs.

A positive attitude towards cancer screening increases the intention to undergo cancer screening (30). In this study, it was observed that individuals had positive attitudes towards cancer screening. There are many factors affecting attitudes towards cancer screening. In our study, age was found to be one of the factors affecting attitude. Attitude scores of participants over the age of fifty-five were higher than those of individuals aged 35 years and younger and 36 to 44 years. Similar to our study, age was found to be associated with attitude in the study of Farooqi et al. (2019) (21). The increase in attitude at an advanced age may be due to increased risk perception, more frequent health care services, and, therefore, recommendations by the physician. When we looked at the literature, some studies showed that factors such as educational status, marital status, and employment status also affected participation and attitude towards cancer screening (6,15,19,29). However, in our study, no difference was found between cancer attitudes according to gender, marital status, educational status, and employment. In our study, it was found that the attitude of patients who were previously diagnosed with cancer was high. Routine screening programs are recommended to cancer patients by physicians and nurses after treatment, and therefore individuals are informed about cancer screening. At the same time, their awareness of the seriousness of the disease may have increased. These factors are factors in favorable attitudes. In the study, it was observed that the attitudes of individuals with a history of cancer in their spouses and first-degree relatives were higher than those with cancer in their second-degree relatives. This can be explained by recognizing the disease and having information. It was observed that the attitude scores of those who had regular screening and those who had at least one screening were higher than those who had never been screened. This result suggests that attitude development studies through screening awareness programs and health education can increase participation in cancer screening. Similarly, our study observed that the screening attitudes of individuals who thought they had information about cancer screening were higher than those who did not have information. When the previous studies were analyzed, it was seen that knowledge was an important factor in increasing the attitude (13) and practice (29,30) regarding cancer screening. The attitude of those who had regular cancer screening was higher than those who had at least once, and the attitude of those who had at least once was higher than those who had never had cancer screening. At the same time, among individuals who did not undergo cancer screening, the attitude of those who wanted to undergo screening was higher than those who did not wish to undergo screening. All these results suggest that a positive attitude towards screening may increase participation in cancer screening programs. Today, it is known that incidence and mortality associated with cancers can be reduced with effectively implemented screening programs. In countries where colonoscopy and stool test screening programs have been implemented for a long time (Austria, Czech Republic, and Germany), it was observed that the incidence of colorectal cancer decreased significantly over time (28). When studies were conducted in Southern and Eastern Europe, where cervical cancer screening programs were implemented and monitored, it was observed that cervical cancer mortality decreased (31). In a worldwide meta-analysis of cohort studies measuring the effect of mammography screening programs on incidence-based breast cancer mortality, it was reported that breast cancer screening might significantly reduce mortality rates (32). Increasing the knowledge and attitude of society regarding cancer screening will contribute to a decrease in cancer incidence and mortality by increasing participation.

5. Conclusion and Recommendation

The attitude of the individuals participating in the study towards cancer screening is above average. However, more than half of the individuals have never undergone cancer screening. The most common reasons for not undergoing cancer screening are thinking that the person is healthy and lack of information. Informing and raising awareness about cancer screening at both individual and social levels may increase the frequency of participation in screening. In all healthcare settings, the role of

nurses in developing awareness and consciousness about cancer screening programs is very important. In this study, half of the patients reported that they received information about cancer screening from nurses. Nurses informing individuals and society about the importance of cancer screening, the benefits of early diagnosis and screening methods, and providing counseling services regarding cancer screening individually will contribute to developing knowledge and attitudes at the social and individual levels.

The findings of this study emphasize the importance of increasing awareness and encouraging regular participation in cancer screening. The fact that a significant portion of individuals refrain from screenings due to a lack of knowledge or the belief that they are healthy highlights a critical area for healthcare professionals and public health policies to address. Implementing educational programs and awareness campaigns focused on the benefits of early detection could significantly improve participation rates. In this context, raising awareness about early diagnosis can contribute to timely cancer detection, ultimately enhancing treatment outcomes and survival rates.

Limitations

The study only includes patients who applied to the polyclinics of two hospitals in one of Türkiye's largest cities. Therefore, the results may not be generalizable to the general population or to hospitals in different geographic regions.

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