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Awareness and Approaches of Breast, Cervical, and Colorectal Cancer Screening in Rize, Türkiye

Burcu Aykanat Yurtsever,[1] Ceyhun Yurtsever,[1] Mehmet Çınar[2]

[1]Kanuni Training and Research Hospital, Family Medicine Clinic, Trabzon, Türkiye
[2]Çayeli District Health Directorate, Rize, Türkiye

ABSTRACT

Objectives: It was aimed to determine the awareness and approaches of people who make up the target group of national cancer screening programs in Rize, Türkiye.

Methods: This observational study was carried out in community health centers and family health centers between January 15, and November 15, 2020, in Rize. A survey questioning their demographics, awareness, and approaches about breast, cervical, and colorectal cancer screenings was applied to women aged 20–70 and men aged 50–70 who volunteered to participate in the study.

Results: The numbers of participants who knew about breast self-examination (BSE), clinical breast examination (CBE), mammography, Pap smear test, fecal occult blood test (FOBT), and colonoscopy were found to be 216 (87.4%), 190 (76.9%), 139 (94.6%), 184 (92.0%), 156 (73.9%), and 104 (49.3%), respectively. Family physicians were the most common source of information for all cancer screen-ings except BSE. The numbers of participants who perform BSE, CBE, mammography, Pap smear test, FOBT, and colonoscopy at the recommended frequency were found to be 71 (28.7%), 51 (20.6%), 61 (41.5%), 81 (40.5%), 46 (21.8%), and 13 (6.2%), respectively.

Conclusion: This study has shown that it is important to inform people more comprehensively about cancer screening and to take encouraging measures.

Keywords: Early detection of cancer, early diagnosis, preventive medicine, primary health care

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Address for correspondence:
Dr. Burcu Aykanat Yurtsever. Kanuni Training and Research Hospital, Family Medicine Clinic, Trabzon, Türkiye

Phone: +90 535 461 23 48

E-mail:
burcuaykanat61@hotmail.com

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INTRODUCTION

Cancer is a major public health problem, accounting for nearly 10 million deaths worldwide in 2020.[1] Besides its mortality, it causes heavy losses in the workforce and in the country's economy due to its morbidities and high costs in its treatment.[2] If cancer treatment can be started in the early period, the mortality rate can be reduced.[1] This makes cancer screening programs important for early detection. Cancer screenings aim to detect findings suggestive of a specific cancer or pre-cancer in individuals with no symptoms and promptly direct individuals who appear at risk for diagnosis and treatment. In Turkey, cancer screenings have been carried out for three types of cancer (breast, cervical, and colorectal cancers) recommended by the World Health Organization, within the "National Cancer Control Program" since 2008.[3]

In Turkey, breast cancer screenings are performed with breast examinations and mammography, cervical cancer screenings with Pap smear test, colorectal cancer screenings with fecal occult blood test (FOBT), and colonoscopy.[2] The recommendations of the Ministry of Health are as follows: Breast self-examination (BSE) for women once a month after the age of 20, clinical breast examination (CBE) for women every 2 years after the age of 20 and annually af-

ter the age of 40, mammography for women every 2 years aged 40–69, Pap smear test (including cervical cytology and HPV-DNA test) for women every 5 years aged 30–65, FOBT every 2 years, and colonoscopy every 10 years for men and women aged 50–70 years. These screenings are provided by "Cancer Early Diagnosis, Screening, and Education Centers" (In Turkish: Kanser Erken Teşhis, Tarama ve Eğitim Merkezleri [KETEM]), community health centers and family health centers throughout the country.[3] In particular, family physicians, who are the first point of contact with patients and provide preventive health services to their patients, have been given authority and responsibility in this struggle.

Although great efforts are being made by health workers for cancer screening in Turkey, early diagnosis rates are low due to the low participation of the population in screening.[4-7] In recent studies in our country, it has been determined that there are still numerous people who do not have breast, cervical, and colorectal cancer screenings.

The aim of our study is to determine the awareness and approaches of the people who make up the target group of the national cancer screening programs, including breast, cervical, and colorectal cancers in Rize Province, in the Eastern Black Sea region of Turkey.

METHOD

This is an observational study carried out in community health centers and family health centers affiliated to the Provincial Health Directorate between January 15, and November 15, 2020, in Rize, on the Black Sea coast, in the northwest of Turkey.

The population of the study comprised women between the ages of 20 and 70 and men between the ages of 50 and 70 living in the province of Rize. A sample was randomly selected from (1) people who applied to family health centers and community health centers for any reason, and their attend-ants, (2) those invited to the stands established by the community health centers in the socializing are-as of the public, and (3) individuals who were visited for neighborhood and village tours organized within community health services. Individuals with cognitive impairment to the extent that they could not carry out the survey application and those who could not communicate were excluded from the study.

Besides the central district of Rize, data were collected from eight districts (Çamlıhemşin, Çayeli, Derepazarı, Güneysu, Hemşin, İyidere, Kalkandere, and Pazar) and the number of participants in these districts was determined according to the population frequency of the districts within the province. Half of the data were obtained from randomly selected family health centers and the other half from community health centers in each district.

As a data collection form, a survey was created by the researchers questioning the demographic characteristics of the participants and their awareness and approaches for breast, cervical, and colorectal cancer screenings.

In the first part of the data form, the participants' age, gender, marital status, educational status, working status, place of residence, whether they have any additional disease, and applied to KETEM were questioned. Afterward, in separate sections for each cancer screening method, it has been tried to determine whether they knew the screening method, if they have, from where they heard it, whether they had the screening as recommended, and why they did not. Finally, the questionnaire was ended by asking people whether they wanted training in cancer screening.

After being informed about the study, the questionnaire form was applied to the individuals who volunteered to participate by face-to-face interview method. While the first part of the questionnaire containing demographic characteristics was applied to all participants, the sections related to cancer screening were applied only to the relevant gender and age groups. Women aged 20–70 were asked questions about BSE and CBE; women aged 40–70 about mammography; women aged 30–65 about Pap smear test; and all participants aged 50–70 about FOBT and colonoscopy.

The Statistical Package for Social Science software was used for data entry and analysis. Descriptive data were evaluated as frequency and percentage distributions. Percentages were calculated independently for each cancer screening method, considering the total number of individuals within the recommended age and gender groups. Chi-square test was used to determine the relationship between categorical variables. Statistical significance level was taken as $p<0.05$.

RESULTS

Three hundred and seventy-five participants were included in the study. Of the participants, 123 (32.8%) were men aged 50–70, and 252 (67.2%) were women aged 20–70. While 5 (2.0%) women did not want to answer questions about breast cancer screening, this number was also 5 (2.4%) for cervical cancer screening. Finally, the number of people who answered the questions about BSE, CBE, mammography, Pap smear test, FOBT, and colonoscopy were 247 (98.0%), 247 (98.0%), 147 (96.7%), 200 (97.6%), 211 (100.0%), and 211 (100.0%), respectively.

Breast Cancer Screenings

The number of women aware of breast cancer screening was 216 (87.4%) for BSE, 190 (76.9%) for CBE, and 139 (94.6%) for mammography. While "nurses" were the most common source of information for BSE, it was "family doctor" for CBE and mammography. The number of women who reported performing BSE and CBE as recommended was 71 (28.7%) and 51 (20.6%). Sixty-one (41.5%) of women aged 40–70 said that they had a mammogram regularly. The sources of infor-mation about breast cancer screenings for participants and their reasons for not performing them are summarized in Table 1.

When the frequency of CBE was examined, it was seen that it was higher in women between the ages of 50 and 59, married individuals and primary school graduates. BSE and CBE of participants according to demographic characteristics are summarized in Table 2.

It was determined that the frequency of mammography was higher in women between the ages of 50 and 59. Mammography of participants according to demographic characteristics are summarized in Table 3.

Cervical Cancer Screening

While the number of people who knew that Pap smear test is recommended every 5 years after the age of 30 was 184 (92.0%), 51 (28.2%) of them learned this from "family doctor." Other sources of information were "nurses" with 48 (26.5%), "relatives, neighbors, friends" with 22 (12.2%), "other doctors" with 21 (11.6%), "other" with 20 (11.1%), and "television, internet" with 19 (10.5%), respectively. Eighty-one (40.5%) women stated that they had a Pap smear test as recommended. The reasons for not having this screening were "laziness-neglect" (34 [34.0%]), "other" (32 [32.0%]), "shame" (22 [22.0%]), "fear that the procedure will be painful" (4 [4.0%]), "ignorance" (3 [3.0%]), "find unnecessary" (3 [3.0%]), and "fear of being diagnosed with cancer" (2 [2.0%]), respectively.

Cervical cancer screening was observed at a higher frequency in individuals aged 50–59 (27 [54.0%] for ages 50–59 vs. 15 [25.0%] for ages 30–39, 28 [44.4%] for ages 40–49, 11 [40.7%] for ages 60–70, p=0.017), married (74 [43.8%] vs. 7 [22.6%], p=0.027), residing in the city center (46 [51.7%] vs. 35 [31.5%], p=0.004), having comorbidities (38 [58.5%] vs. 43 [31.9%], p<0.001), and applying to KETEM (61 [62.9%] vs. 20 [19.4%], p<0.001).

Colorectal Cancer Screening

While 156 (73.9%) participants were aware of FOBT, the number of participants who knew that colonoscopy was

Table 1. The sources of information about breast cancer screenings for participants and their reasons for not performing them

	n (%)
Breast self-examination	
The sources of information (n=212)	
Television and internet	42 (19.8)
Relatives, neighbors, and friends	34 (16.0)
Family doctor	42 (19.8)
Other doctors	15 (7.1)
Nurses	53 (25.0)
Other	26 (12.3)
Reasons for not performing (n=124)	
Afraid to find a mass	10 (8.1)
Ignorance	7 (5.7)
Laziness-neglect	82 (66.1)
Find unnecessary	4 (3.2)
Other/no answer	21 (16.9)
Clinical breast examination	
The sources of information (n=187)	
Television and internet	37 (19.8)
Relatives, neighbors, and friends	23 (12.3)
Family doctor	42 (22.5)
Other doctors	24 (12.8)
Nurses	37 (19.8)
Other	24 (12.8)
Reasons for not having (n=147)	
Afraid to find a mass	7 (4.8)
Ignorance	15 (10.2)
Laziness-neglect	63 (42.9)
Find unnecessary	13 (8.8)
Shame	25 (17.0)
Other	24 (16.3)
Mammography	
The sources of information (n=136)	
Television and internet	20 (14.7)
Relatives, neighbors, and friends	19 (14.0)
Family doctor	46 (33.8)
Other doctors	14 (10.3)
Nurses	28 (20.6)
Other	9 (6.6)
Reasons for not having (n=67)	
Afraid to find a mass	3 (4.5)
Fear that the procedure will be painful	10 (14.9)
Ignorance	3 (4.5)
Laziness-neglect	34 (50.7)
Find unnecessary	5 (7.5)
Shame	4 (6.0)
Other	8 (11.9)

Table 2. Self-breast examination and clinical breast examination of participants according to demographic characteristics

	Total (n=247)	BSE (n=71)	p	CBE (n=51)	p
Age groups					
20–29 years	40 (16.2)	9 (12.7)	0.181	1 (2.0)	<0.001
30–39 years	60 (24.3)	16 (22.5)		6 (11.8)	
40–49 years	64 (25.9)	17 (23.9)		17 (33.3)	
50–59 years	49 (19.8)	21 (29.6)		20 (39.2)	
60–70 years	34 (13.8)	8 (12.3)		7 (13.7)	
Marital status			0.752		0.023
Married	188 (76.1)	55 (77.5)		45 (88.2)	
Single	59 (23.9)	16 (22.5)		6 (11.8)	
Educational status			0.785		0.011
Illiterate	34 (13.8)	8 (11.2)		4 (7.8)	
Primary school	80 (32.4)	24 (33.8)		25 (49.0)	
High school	45 (18.2)	15 (21.2)		11 (21.6)	
University	88 (35.6)	24 (33.8)		11 (21.6)	
Employment status			0.704		0.171
Employee	88 (35.6)	24 (33.8)		14 (27.5)	
Unemployee	159 (64.4)	47 (66.2)		37 (72.5)	
Residence			0.043		0.038
City center	104 (42.1)	37 (52.1)		28 (54.9)	
District	143 (57.9)	34 (47.9)		23 (45.1)	
Comorbidities			0.241		0.164
Yes	77 (31.2)	26 (36.6)		20 (39.2)	
No	170 (68.8)	45 (63.4)		31 (60.8)	
Those who applied to "KETEM"			0.112		<0.001
Yes	99 (40.1)	34 (47.9)		39 (76.5)	
No	148 (59.9)	37 (52.1)		12 (23.5)	

BSE: Breast self-examination, CBE: Clinical breast examination, KETEM: Cancer Early Diagnosis, Screening and Education Centers (In Turkish: Kanser Erken Teşhis, Tarama ve Eğitim Merkezleri)

Data are given as n (%)

Chi-square test.

recommended every 10 years was 104 (49.3%). The frequency of participants who had colorectal cancer screening was 46 (21.8%) for FOBT and 13 (6.2%) for colonoscopy. The sources of information about colorectal cancer screening for participants and their reasons for not per-forming it are summarized in Table 4.

While it was found that individuals applying to KETEM tended to undergo both screenings more frequently, the frequency of FOBT was higher among women, whereas the frequency of colonoscopy was higher among those residing in the city center. Colorectal cancer screenings of participants according to demographic characteristics are summarized in Table 5.

DISCUSSION

In our study, the awareness and approaches of women about breast, cervical, and colorectal cancer screenings and of men about colorectal cancer screenings were examined.

While the frequency of knowing BSE, CBE, and mammography screenings of the women in our study was quite high, the frequencies of having these screenings regularly remained low. In other studies, conducted in Turkey, the frequency of regular BSE in women varies from 11.1% to 62.1%.[4,8-13] In some studies, conducted abroad, the frequency of regular BSE was 13.2%, 17.4%, and 20.3%.[14-16] In the study of Tarı Selçuk et al. published in 2020, the frequency of CBE was reported as 8.9%.[10] Again, in the same study, the frequency of mammography was determined as

Table 3. Mammography of participants according to demographic characteristics

	Total (n=147)	Mammography (n=61)	p
Age groups			0.004
40–49 years	64 (43.5)	18 (29.5)	
50–59 years	49 (33.4)	29 (47.5)	
60–70 years	34 (23.1)	14 (23.0)	
Marital status			0.150
Married	128 (87.1)	56 (91.8)	
Single	19 (12.9)	5 (8.2)	
Educational status			0.151
Illiterate	34 (23.1)	11 (18.0)	
Primary school	65 (44.2)	32 (52.5)	
High school	20 (13.6)	10 (16.4)	
University	28 (19.1)	8 (13.1)	
Employment status			0.150
Employee	38 (25.9)	12 (19.7)	
Unemployee	109 (74.1)	49 (80.3)	
Residence			0.060
City center	59 (40.1)	30 (49.2)	
District	88 (59.9)	31 (50.8)	
Comorbidities			0.066
Yes	64 (43.5)	32 (52.5)	
No	83 (56.5)	29 (47.5)	
Those who applied to "KETEM"			<0.001
Yes	89 (60.5)	56 (91.8)	
No	58 (39.5)	5 (8.2)	

KETEM: Cancer Early Diagnosis, Screening and Education Centers (In Turkish: Kanser Erken Teşhis, Tarama ve Eğitim Merkezleri)
Data are given as n (%)
Chi-square test.

11.3%, while in two different studies in Turkey, it was shown that 99.1% and 89.3% of women did not have mammography.[13,17] In a study conducted in Jamaica, 88.6% of women and in a study conducted in Vietnam, 83.3% of women have never had a mammogram in their lives.[18,19] As a result of our study, it was seen that the frequency of mammography in Rize Province was higher than other studies in our country and some studies abroad.

When the literature is assessed, in studies conducted in different groups and regions in Turkey, the frequency of women hearing about the Pap smear test varies between 48.2% and 79.1%, and the screening frequency varies between 29% and 51.3%, and these results are close to our study.[4,6,13,20-23] In a study conducted in Saudi Arabia in 2020, the frequency of women hearing about the Pap smear test was 51.5%, and the screening frequency was 14.2%, while frequencies very close to ours were reported in the study of Bakogianni et al. in Greece.[24,25] In 2012, the proportion of women in the United States who were not screened for cervical cancer in the past 5 years was estimated to be only 11.4%, and most cases of cervical cancer occur in underserved, underscreened female populations.[26,27] From 2007 to 2011, the incidence frequency of cervical cancer in the United States of America (USA) decreased by 1.9%/year. According to the results of our study, although almost all women have heard of the Pap smear test, our screening frequency is quite low compared to the USA and there is still a target population that we cannot reach.

As a result of a study conducted in the province of Trabzon, which is right next to Rize, the frequency of performing the FOBT was 6.6% for women and 30% for men, while the frequency of having colonoscopy was 3.7% for women and 10.8% for men and these results are close to our study.[4] Ac-cording to the results of the Turkey Household Health

Table 4. The sources of information about colorectal cancer screenings for participants and their reasons for not performing them

	n (%)
Fecal occult blood test	
The sources of information (n=155)	
Television and internet	13 (8.4)
Relatives, neighbors, and friends	23 (14.8)
Family doctor	67 (43.2)
Other doctors	13 (8.4)
Nurses	33 (21.3)
Other	6 (3.9)
Reasons for not having (n=128)	
Fear of being diagnosed with cancer	10 (7.8)
Ignorance	31 (24.2)
Laziness-neglect	59 (46.1)
Find unnecessary	15 (11.7)
Shame	2 (1.6)
Other	11 (8.6)
Colonoscopy	
The sources of information (n=100)	
Television and internet	13 (13.0)
Relatives, neighbors, and friends	17 (17.0)
Family doctor	41 (41.0)
Other doctors	15 (15.0)
Nurses	9 (9.0)
Other	5 (5.0)
Reasons for not having (n=162)	
Fear of being diagnosed with cancer	9 (5.5)
Fear that the procedure will be painful	15 (9.3)
Ignorance	38 (23.5)
Laziness-neglect	53 (32.7)
Find unnecessary	21 (13.0)
Shame	7 (4.3)
Other/no answer	19 (11.7)

Survey, 74.5% of the 50–70 age group have never had a FOBT, and the frequency of colonoscopy in this age group in the past 10 years is only 12.1%.[5] In a study conducted in Saudi Arabia, it was seen that 69% of the participants had heard of colorectal cancer screenings, and only 12.5% had had colorectal cancer screening at least once.[28] According to the results of our study and the literature, it is concluded that the frequency of colon cancer screening in societies is quite low.

To increase the participation frequencies of the society in cancer screening, it is important to find the reasons that decrease participation and to solve these reasons. In our study, it was observed that the most common reason for not performing the cancer screenings we investigated was "laziness-neglect." We have determined that the frequency of participants not having cancer screening due to "ignorance" is quite low. In a study conducted in Jordan, it was determined that the most common reason women do not have mammography, and in a study conducted in Korea, the most common reason for not performing BSE is "ignorance."[14,29] A study conducted in Egypt showed that the most common reason women do not have a Pap smear test is that they are not informed.[30] In a study from Saudi Arabia, the most common reason for participants not being screened for colorectal cancer was lack of doctor's advice, and the second most common reason was absence of symptoms.[28] In a study conducted in the USA, the most common reason participants did not have FOBT and colonoscopy was the absence of symptoms.[31]

In our study, it was seen that the source of information for people who stated that they heard about cancer screenings except BSE was family physicians (BSE was heard most frequently from nurses, and from family physicians second most frequently). Similarly, in another study conducted in Turkey, cancer screening was recommended to most women by their family physicians.[6] In a study from Korea, it was observed that participants heard BSE mostly from the media.[14] Considering that in a study in Vietnam, 81.7% of women did not receive a recommendation for mammography from a healthcare professional, it is a source of pride that the frequency of knowing about breast cancer screening in our province is high, and family physicians have a significant share in this situation.[19]

The first limitation of our study was the evaluation of individuals' cancer screening status based on their own statements. This limitation can be removed using health records in future studies. Second, this study was conducted in Rize, Turkey, and the findings are valid for this city. For this reason, multicenter studies involving people living in different regions and having different sociocultural characteristics should be encouraged.

CONCLUSION

In our study, although the frequency of knowing about cancer screenings we investigated was quite high, it was observed that the screening frequency remained below the desired level. Screening frequency can increase significantly by providing more detailed information and guidance to people about cancer screenings. In this context, al-

Table 5. Colorectal cancer screenings of participants according to demographic characteristics

	Total (n=211)	FOBT (n=46)	p	Colonoscopy (n=13)	p
Gender			0.001		0.134
Male	123 (58.3)	17 (37.0)		5 (38.5)	
Female	88 (41.7)	29 (63.0)		8 (61.5)	
Age groups			0.926		0.059
50–59 years	118 (55.9)	26 (56.5)		4 (30.8)	
60–70 years	93 (44,1)	20 (43.5)		9 (69.2)	
Marital status			0.065		0.141
Married	200 (94.8)	41 (89.1)		11 (84.6)	
Single	11 (5.2)	5 (10.9)		2 (15.4)	
Educational status			0.247		0.736
Illiterate	32 (15.2)	8 (17.4)		1 (7.7)	
Primary school	107 (50.7)	28 (60.9)		8 (61.5)	
High school	47 (22.3)	6 (13.0)		2 (15.4)	
University	25 (11.8)	4 (8.7)		2 (15.4)	
Employment status			0.695		0.568
Employee	46 (21.8)	11 (23.9)		3 (23.1)	
Unemployee	165 (78.2)	35 (76.1)		10 (76.9)	
Residence			0.056		0.019
City center	80 (37.9)	23 (50.0)		9 (69.2)	
District	131 (62.1)	23 (50.0)		4 (30.8)	
Comorbidities			0.396		0.343
Yes	103 (48.8)	25 (54.3)		8 (61.5)	
No	108 (51.2)	21 (45.7)		5 (38.5)	
Those who applied to "KETEM"			<0.001		0.025
Yes	84 (39.8)	36 (78.3)		9 (69.2)	
No	127 (60.2)	10 (21.7)		4 (30.8)	

FOBT: Fecal occult blood test, KETEM: Cancer Early Diagnosis, Screening and Education Centers (In Turkish: Kanser Erken Teşhis, Tarama ve Eğitim Merkezleri)
Data are given as n (%).
Chi-square test.

though many elements such as health workers and media tools, are struggling, the most valuable role in raising this awareness and especially in eliminating the reservations about screening belongs to family physicians, who serve the individual and society and display a holistic and comprehensive approach.

Disclosures

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