Original Article

Colorectal cancer awareness among healthcare workers: implications for early detection

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Abstract

Objective: Colorectal cancer (CRC) is a significant global health concern, and its early detection through regular screening plays a pivotal role in reducing its burden. However, awareness levels among healthcare workers regarding CRC and its screening methods remain underexplored. This study aimed to assess CRC awareness among healthcare workers, to analyze their demographic characteristics, understanding of CRC, and screening preferences, and to highlight the potential for tailored educational interventions.

Methods: The study employed a quantitative approach to analyze CRC awareness data. It included 108 participants who were randomly selected from hospital staff. The participants' demographic information, CRC understanding, and screening preferences were collected and analyzed. Data integrity checks were conducted, descriptive statistics were calculated, and relationships between categorical variables were examined using chi-square and parametric tests.

Results: The study included 108 participants, with an average age of 54.8±12.1 years. The sex distribution was 56 males (51.9%) and 52 females (48.1%). The participants' demographic characteristics, including age ranges, marital status, education level, occupation, and health-related factors, were documented. The participant responses revealed varying levels of CRC awareness, symptom recognition, and screening method preferences. Significant disparities in awareness were observed based on sex, occupation, and age group. Physicians exhibited the highest levels of awareness, while drivers exhibited the lowest (p<0.05).

Conclusion: This study underscores the importance of healthcare workers as key agents in enhancing CRC awareness. While healthcare workers generally exhibit higher awareness levels than the general population, disparities remain based on demographic factors. The findings emphasize the need for targeted educational interventions to address these disparities and ensure comprehensive CRC knowledge dissemination among different occupational categories, sexes, and age groups. Ultimately, empowering healthcare workers as advocates and educators can contribute significantly to reducing the burden of CRC through early detection and effective prevention strategies.

Keywords: Colorectal cancer, colorectal cancer awareness, healthcare workers, screening methods.

INTRODUCTION

Colorectal cancer (CRC) is a significant public health concern worldwide and is known for its impact on morbidity and mortality. According to the most recent Global Cancer Incidence, Mortality and Prevalence (GLOBOCAN) 2020 data collected from 185 countries by the International Agency for Research on Cancer (IARC), there were approximately 19.3 million newly diagnosed cancer cases and approximately ten million deaths attributed to cancer globally. CRC is the third most commonly diagnosed cancer worldwide, with 1,930,000 cases, and it ranks second in terms of mortality, with 935,000 deaths. In Turkey, it has an incidence of 21,000 cases and ranks second in mortality, with 10,700 deaths (1). Early detection through regular screening plays a pivotal role in reducing the burden of CRC (2-4). In a randomized trial conducted on a group of presumptively healthy men and women aged 55 to 64 years undergoing a single screening colonoscopy, after a 10-year follow-up period, the risk of CRC was reduced by 18% (2). Other tests that can be used for CRC screening are virtual colonoscopy (5,6), flexible sigmoidoscopy (7), and the fecal occult blood test (FOBT) (8). The multitarget stool DNA (MT-sDNA) test is also used for colon cancer screening, although it is not commonly utilized in Turkey (9,10). Information campaigns aimed at raising awareness about CRC enhance public knowledge (11,12). This systematic review encompassing 33 studies sheds light on the effectiveness of CRC screening methods. Notably, flexible sigmoidoscopy and annual or biennial guaiac fecal occult blood tests were associated with reduced CRC-specific mortality (13). Healthcare workers, being pivotal in disseminating health-related information, hold the potential to influence public awareness and preventive behaviors (14). However, the awareness levels among healthcare workers regarding CRC, its risk factors, symptoms, and screening methods remain underexplored (15). Despite the critical role healthcare workers play in patient education and advocacy, studies investigating their awareness of CRC are limited. Addressing this gap is essential to enhance the effectiveness of health promotion efforts, ensure accurate information dissemination, and ultimately improve the early detection and management of CRC.

The primary aim of this study was to assess awareness of CRC among healthcare workers.

MATERIALS AND METHODS

The study was approved by the Ethics Committee of Akdeniz University Faculty of Medicine under protocol number 678 on August 23, 2023.

The survey questions related to CRC awareness were prepared using the Google Forms and distributed online to healthcare professionals at Antalya Opera Yaşam Hospital and Antalya Private Yaşam Foundation Hospital. Healthcare professionals included physicians, nurses, paramedics, technicians, patient caregivers, and drivers. A total of 108 participants who answered all survey questions had their responses transferred to the SPSS program for analysis. This study employed a quantitative approach to analyze data related to CRC awareness. The study population consisted of 108 participants randomly selected from hospital staff, who participated in the investigation to assess CRC awareness. The participants' demographic information, understanding of CRC, and preferences for screening methods were collected and analyzed.

Statistical analysis

The data collected were subjected to statistical analysis using IBM SPSS 26.0 (IBM Inc., Chicago, IL, USA). Prior to analysis, data integrity checks were conducted to ensure accuracy and reliability. Descriptive statistics were calculated, including the mean and standard deviation for continuous variables and counts (n) and percentages (%) for categorical variables. The relationships between categorical variables were examined using the chi-square test. Parametric tests, such as ANOVA, were applied for normally distributed variables, while the Kruskal–Wallis test was used for nonnormally distributed variables. The statistical significance was defined as $p < 0.05$.

RESULTS

The study employed 108 participants, with an average age of 54.8±12.1 years. Among them, 56 (51.9%) were male and 52 (48.1%) were female. Table 1 represents their demographic characteristics, including age ranges, marital status, education level, occupation, additional illnesses, chronic illnesses, family history of cancer, alcohol consumption, and smoking history. Table 2 shows their responses regarding CRC prevention methods, including fiber consumption and physical activity per week.

Table 1. Demographic characteristics of the participants

	N	%
Age range (years)		
18-30	44	40.7
31-45	16	14.8
46-60	40	37
61-67	4	3.7
Marital status		
Married	68	63
Single	40	37
Education level		
Elementary school	28	26
High school	40	37
University	40	37
Occupation		
Physician	44	40.7
Nurse	25	23.1
Driver	6	5.6
Caregiver	12	11.1
Technician	9	8.3
Paramedic	12	11.1
Chronic disease		
Yes	53	49.1
No	55	50.9
Chronic disease		
Diabetes mellitus	14	26.5
Hypertension	13	24.5
Coronary artery disease	8	15
Chronic obstructive lung disease	8	15
Family history of cancer		
Yes	32	29.6
No	76	70.4
Alcohol consumption		
Yes	40	37
No	68	63
Smoking history		
Yes	28	25.9
No	80	74.1

Table 2. CRC prevention methods

	N	%
Fiber Consumption		
Low	24	22.2
Moderate	36	33.3
High	48	44.5
Frequency of physical activity per week		
None	28	25.9
Low (up to 2 days)	52	48.2
High (more than 2 days)	28	25.9

Table 3. Knowledge of colon cancer

	N	%
Do you consider yourself knowledgeable about colon cancer?		
Yes	62	57.4
No	46	42.6
Which are symptoms of colon cancer?		
Abdominal pain	30	27.8
Constipation-diarrhea	31	28.7
Fatigue	12	11.1
Loss of appetite	6	5.5
Weight loss	5	4.6
Dark-colored stool	7	6.5
Rectal bleeding	6	5.5
Anemia	7	6.5
I don't know	4	3.8
Do you consider yourself knowledgeable about colon cancer screening methods?		
In-depth knowledge	44	40.7
Somewhat knowledgeable	28	25.9
No knowledge	36	33.4
Which colon cancer screening methods are you familiar with?		
Colonoscopy	46	42.6
Fecal occult blood test	45	41.7
Virtual colonoscopy	9	8.3
None	8	7.4
Which colon cancer screening method would you prefer?		
Colonoscopy	51	47.2
Fecal occult blood test	27	25
Virtual colonoscopy	10	9.3
None	20	18.5

Table 3 provides insights into participants' knowledge of colon cancer symptoms and screening methods, along with their preferences for screening modalities.

According to the analysis, while men exhibited higher awareness of colon cancer than women, this disparity did not result in significant differences in knowledge of colon cancer, screening, or preferred methods (p>0.05). Notably, awareness levels regarding symptoms and screening methods were most pronounced among physicians and least pronounced among drivers, with occupation exhibiting a significant relationship with knowledge and preferences for colon cancer-related factors (p<0.05). Colonoscopy emerged as the preferred screening method, with significant differences based on sex and occupation (p<0.05). Additionally, the highest awareness of colon cancer risk factors and symptoms was observed among the age group of 46-60, indicating a significant relationship (p<0.05).

DISCUSSION

CRC remains a global health challenge, impacting both morbidity and mortality. In light of the latest GLOBOCAN 2020 data from the International Agency for Research on Cancer (IARC), the worldwide burden of cancer remains substantial, with CRC ranking as the third most commonly diagnosed cancer and the second leading cause of cancer-related deaths. These alarming statistics underscore the imperative of effective strategies for early detection and prevention. In this context, our study aimed to explore the awareness levels of CRC among healthcare workers, a group pivotal in disseminating health-related information. In a study conducted in Saudi Arabia comprising 431 respondents, the most prevalent symptoms of colon cancer were identified as abdominal pain and changes in bowel habits. Remarkably, risk factors associated with colon cancer included inflammatory bowel disease and consumption of fatty foods (16). A study conducted in Kuwait showed that 75% of the participants had heard about CRC. The most frequent risk factors were genetic factors and family history (73.5%). Most of the symptoms found to be related to colon rectal cancer were bloody stool and lower abdominal pain (17). The observed incidence of CRC in Turkey is significant, with substantial mortality rates. Early detection strategies have the potential to considerably alleviate the disease burden. Colonoscopy and alternative screening methods, such as virtual colonoscopy, flexible sigmoidoscopy, and fecal occult blood tests, also hold promise in promoting early detection. It is worth noting that our study focused on healthcare workers as agents of health promotion. Their role in influencing public awareness and preventive behaviors is pivotal, yet their own awareness levels regarding CRC are often overlooked. Our investigation has underlined the gaps in knowledge among healthcare workers, indicating the need for targeted educational interventions. Although healthcare workers exhibited higher awareness levels than the general population, disparities were still evident, particularly in relation to symptom recognition and screening modalities. In a study conducted with 1912 residents in Riyadh, Saudi Arabia, the results revealed limited awareness about the colon and rectum, with only approximately half correctly identifying them (18). In a cross-sectional study conducted with 449 participants in Izmir, Turkey, the awareness rate of colon cancer was 62%. The majority of participants had not undergone screening, with the primary reasons for not doing so being lack of awareness and not perceiving themselves as being at risk (19). In a community-based cross-sectional study conducted in Kırklareli, Turkey, the participation rate in CRC screenings was 21.1%. Factors such as working status, physical activity, awareness of early diagnosis tests and health literacy significantly influenced participation rates. Surprisingly, individuals with higher health literacy levels were more likely not to participate in CRC screenings (20). In a study, among 237 participants from a university hospital, only 19.8% participated in CRC screening. Knowledge about CRC screening was significantly correlated with a 2.5 times higher likelihood of participating in screening (21).

Our study revealed that sex disparities in CRC awareness among healthcare workers do exist, with men displaying higher awareness levels. However, these differences did not result in significant disparities in knowledge of CRC, screening practices, or preferred methods. Interestingly, occupation emerged as a significant factor influencing awareness levels, with physicians exhibiting the highest levels of awareness and drivers exhibiting the lowest. This highlights the significance of tailored education programs for various occupational groups, ensuring that accurate and comprehensive information reaches all segments of the population. Furthermore, the identification of colonoscopy as the preferred screening method aligns with the notion that it remains the gold standard for CRC detection. However, efforts should be directed toward addressing barriers that may discourage individuals

from undergoing this procedure. Furthermore, the higher preference for colonoscopy among men and physicians emphasizes the need for targeted interventions to increase awareness and acceptance of other screening modalities, particularly among women and nonmedical personnel. The highest awareness levels observed among the 46-60 age group reflect the potential impact of targeted awareness campaigns. Efforts should be directed toward extending this heightened awareness to other age groups, thus enhancing early detection and reducing CRC-associated morbidity and mortality.

The present study has several strengths, including its quantitative approach and thorough analysis of healthcare workers' awareness levels regarding CRC. However, it is important to acknowledge certain limitations that might influence the interpretation of the results.

Limitations:

The sample size of 108 participants, while adequately representative, may impose some limitations on the generalizability of the findings. Additionally, the study was conducted within a specific geographic region (Antalya, Turkey), and the demographics and healthcare system of this region could influence the outcomes. Future research with larger, more diverse samples and across various regions would contribute to a more comprehensive understanding of healthcare workers' awareness of colorectal cancer.

CONCLUSION

This study sheds light on the crucial role healthcare workers play in enhancing CRC awareness. Although their awareness levels are generally higher, targeted interventions are warranted to address disparities among different demographic groups and occupational categories. A comprehensive approach involving healthcare workers as advocates and educators can significantly contribute to reducing the burden of CRC through early detection and effective prevention strategies.

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