

■ Research Article

Colon cancer awareness among male relatives of cancer patients

Kanser hastalarının erkek yakınları arasında kolon kanseri farkındalığı

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Abstract

Aim: Colorectal cancer (CRC) is a major global health concern, and awareness of risk factors, symptoms, and screening methods is crucial for early detection and prevention. This study aimed to assess the level of CRC awareness among male relatives of cancer patients attending a medical oncology outpatient clinic.

Material and Methods: A survey was conducted among 192 male relatives of cancer patients collecting demographic information and assessing their knowledge of CRC risk factors, symptoms, and screening methods. Statistical analyses were performed using IBM SPSS version 26.

Results: The study included 192 male relatives of patients with colon cancer. The mean age of the participants was 43.8±13.2 years (18-78). Of the participants, 149 (77.6%) were married, 41 (21.4%) were single. The study revealed significant knowledge gaps among participants. While most were aware that age is a risk factor for CRC, there was limited awareness of other important risk factors, such as family history, obesity, smoking, and unhealthy diet. Similarly, participants demonstrated awareness of some CRC symptoms, such as occult blood in the stool and abdominal pain, but lacked knowledge of other symptoms like black stools, anemia, and nausea/vomiting. There was a statistically significant difference between education and awareness of overweight, alcohol consumption, red meat consumption, black stools and anemia among cancer symptoms ($p<0.05$). No statistically significant difference was found between unhealthy diet and seeing blood in stool among risk factors ($p>0.05$). Moderate levels of awareness regarding CRC screening were observed, but there was insufficient knowledge about recommended screening methods and the appropriate age for screening.

Conclusion: The findings emphasize the need for targeted educational interventions to improve CRC awareness among male relatives. Efforts should focus on addressing the knowledge gaps related to risk factors, symptoms, and screening methods. Educational initiatives should employ community-based programs, mass media campaigns, and healthcare provider involvement to promote understanding and encourage proactive engagement in CRC screening.

Keywords: Colorectal cancer, Awareness, Risk factors, Screening methods

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Öz

Amaç: Kolorektal kanser (KRK), önemli bir küresel sağlık sorunudur ve risk faktörleri, belirtiler ve tarama yöntemleri hakkında farkındalık, erken teşhis ve önleme için önemlidir. Bu çalışmanın amacı, bir tıbbi onkoloji polikliniğine gelen kanser hastalarının erkek yakınlarının KRK farkındalık düzeyini değerlendirmektir.

Gereç ve Yöntemler: Çalışmada kolon kanseri hastası yakını 192 erkek üzerinde bir anket yapıldı ve katılımcıların demografik bilgileri toplandı, KRK risk faktörleri, belirtiler ve tarama yöntemleri hakkındaki bilgileri değerlendirildi. İstatistiksel analizler IBM SPSS 26 versiyonu kullanılarak gerçekleştirildi.

Bulgular: Çalışmaya 192 kolon kanseri hastası yakını erkek dahil edildi. Katılımcıların yaş ortalaması 43.8±13.2 yıl (18-78) idi. Katılımcıların 149'u (%77.6) evliydi, 41'i (%21.4) bekar. Çalışma, katılımcılar arasında önemli bilgi eksikliklerini ortaya koydu. Katılımcıların çoğu yaşın KRK için bir risk faktörü olduğunu bilmekle birlikte, aile öyküsü, obezite, sigara içme ve sağlıksız beslenme gibi diğer önemli risk faktörleri konusunda sınırlı farkındalığa sahipti. Benzer şekilde, katılımcılar dışkıda gizli kan ve karın ağrısı gibi bazı KRK belirtilerinin farkındaydı, ancak siyah dışkı, anemi ve bulantı/kusma gibi diğer belirtiler hakkında bilgi eksikliği vardı. Eğitim seviyesi ile kilo fazlalığı, alkol tüketimi, kırmızı et tüketimi, siyah dışkı ve kanser belirtileri arasındaki fark istatistiksel olarak anlamlıydı ($p<0.05$). Risk faktörleri arasında sağlıksız beslenme ile dışkıda kan görme arasında ise istatistiksel olarak anlamlı bir fark bulunamadı ($p>0.05$). KRK taraması ile ilgili orta düzeyde bir farkındalık gözlemlendi, ancak önerilen tarama yöntemleri ve uygun yaş konusunda yetersiz bilgi mevcuttu.

Sonuç: Bulgular, kolon kanseri hastalarının erkek yakınları arasında KRK farkındalığını artırmak için hedefe yönelik eğitim müdahalelerinin gerekliliğini vurgulamaktadır. Çalışmalar risk faktörleri, belirtiler ve tarama yöntemleri ile ilgili bilgi eksikliklerini ele almalıdır. Eğitim girişimleri, toplum tabanlı programlar, kitle iletişim araçları kampanyaları ve sağlık hizmeti sağlayıcılarının katılımını içermelidir. Bu şekilde, KRK anlayışının artırılması ve KRK taramalarına aktif katılımın teşvik edilmesi sağlanabilir.

Anahtar kelimeler: Kolorektal kanser, Farkındalık, Risk faktörleri, Tarama yöntemleri

Introduction

Colorectal cancer (CRC) is the 3rd most common cancer in the world and the 3rd most common cause of cancer-related death. According to 2020 data, 21,191 new cases were seen in Turkey and 10,798 people died due to CRC (1). American College of Gastroenterology (ACG) 2021 guidelines recommend CRC screening in average-risk individuals of age 50 to 75 years, and suggest screening in average-risk individuals of age 45 to 49 years (2). The ACG recommends colonoscopy and fecal immunochemical test (FIT) as the primary modalities for CRC screening (3, 4). In Turkey routine screening program is not applied except for fecal occult blood evaluation. In a study investigating CRC awareness among first-degree relatives of patients diagnosed with CRC in Iran, 35% of the participants had never heard of colonoscopy; only 22% of respondents correctly stated the age of screening (5). In a study on CRC awareness in Poland, 55.3% of participants had never even heard of CRC (6). In a study investigating CRC knowledge and awareness in Kuwait, 75% of participants had heard of CRC. When asked about the symptoms of CRC, the most common answers were weight loss, abdominal pain and change in bowel habits (7).

The incidence of CRC in men is 56.6%, higher than in women (1). The aim of this study was to determine the awareness of male relatives of patients applying to medical oncology outpatient clinic about CRC risk factors, symptoms and screening methods and their approaches to screening methods.

Material and Methods

Male relatives of patients who applied to Süleyman Demirel University medical oncology outpatient clinic were asked to answer survey questions that would determine their demographic characteristics and evaluate their knowledge about CRC risk factors, symptoms and screening methods. Informed consent was obtained before participating in the survey.

Statistical analysis

The data were transferred to IBM SPSS.26 (IBM Inc, Chicago, IL, USA) and analyzed statistically. Before statistical analyses, it was checked whether the parameters were within the expected range to avoid data entry errors. Mean and standard deviation were used for descriptive statistics of continuous variables and number of people (n) and percentage (%) were used for categorical variables.

Results

The study included 192 relatives of patients with colon cancer. The mean age of the participants was 43.8±13.2 years (18-78). Of the participants, 149 (77.6%) were married, 41 (21.4%) were single. Demographic data of the participants are summarized in Table 1.

Table 1. Demographic characteristics

	n	%
Marital Status		
Single	41	21.4
Married	149	77.6
Other	2	1.0
Education		
Primary School	72	37.5
High School	62	32.3
University	58	30.2
Relatedness		
1.degree	144	75
2. degree	48	25
Child		
Yes	145	75.5
No	47	24.5
Chronic disease		
Yes	56	29.2
No	136	70.8
Smoking		
Yes	86	44.8
No	106	55.2
Relatedness		
Spouse	32	16.7
Child	119	62
Parent	25	13
Other	16	8.3

When the participants were asked about CRC risk factors, the majority of them stated that it was true that the risk of CRC increases with age. The majority of the participants stated that they had no idea that having a family history of cancer, being overweight, excessive and processed red meat consumption increased the risk of CRC and that smoking, alcohol consumption and unhealthy diet increased the risk of CRC. The answers about CRC risk factors are summarized in Table 2.

When asked about the symptoms of CRC, participants said that occult blood in the stool, change in frequency of defecation and abdominal pain were symptoms of CRC. They stated that they had no idea that black stools, anemia and nausea and vomiting would be symptoms of CRC. Participants' answers to questions about CRC symptoms are summarized in Table 3.

There was a statistically significant difference between education and awareness of overweight, alcohol consumption, red meat consumption, black stools and anemia among cancer symptoms ($p < 0.05$). No statistically significant difference was found between unhealthy diet and seeing blood in stool among risk factors ($p > 0.05$). Participants' answers to questions about CRC screening are summarized in Table 4.

Table 2. CRC risk factors

	n	%
Age		
Correct	96	50.0
False	9	4.7
No idea	87	45.3
Family history		
Correct	84	43.8
False	19	9.9
No idea	89	46.4
Obesity		
Correct	57	29.7
False	16	8.3
No idea	119	62.0
Smoking		
Correct	90	46.9
False	14	7.3
No idea	88	45.8
Alcohol		
Correct	103	53.6
False	13	6.8
No idea	76	39.6
Excessive and processed red meat consumption		
Correct	80	41.7
False	16	8.3
No idea	96	50.0
Unhealthy Diet		
Correct	149	77.6
False	12	6.3
No idea	31	16.1

Discussion

The present study aimed to assess the level of awareness among male relatives of patients visiting the medical oncology outpatient clinic regarding CRC risk factors, symptoms, and screening methods. The findings reveal significant gaps in knowledge and awareness, indicating the need for improved education and awareness campaigns targeting this particular population.

In terms of CRC risk factors, the majority of participants were aware that age is a risk factor for CRC. However, there was a notable lack of awareness regarding other important risk factors such as family history of cancer, being overweight,

excessive and processed red meat consumption, smoking, alcohol consumption, and unhealthy diet. In a study on awareness of CRC risk factors among health sciences students, the majority of health sciences students correctly knew smoking and alcohol use, family history and obesity (8). In a study investigating pre-diagnostic awareness of CRC risk factors and screening methods in patients with advanced CRC, 65.1% of the patients had no related knowledge of the CRC risk factors, and 84.9% were unaware of the CRC screening-related information (9). Studies conducted in different countries have also found very low awareness of CRC risk factors in the population (10-13). These findings suggest a lack of comprehensive knowledge about the various factors that contribute to CRC development. Efforts should be made to educate male relatives about the significance of these risk factors and their potential impact on CRC risk.

Table 3. Symptoms of CRC

	n	%
Fecal blood		
Correct	137	71.4
False	3	1.6
No idea	52	27.1
Black stool		
Correct	74	38.5
False	2	1.0
No idea	116	60.4
Anemia		
Correct	88	45.8
False	11	5.7
No idea	93	48.4
Frequency of defecation		
Correct	116	60.4
False	2	1.0
No idea	74	38.5
Abdominal pain		
Correct	125	65.1
False	9	4.7
No idea	58	30.2
Nausea and vomiting		
Correct	83	43.2
False	11	5.7
No idea	98	51.0

Similarly, the study findings highlight insufficient awareness regarding CRC symptoms. In a study investigating awareness of CRC symptoms in a colorectal surgical unit outpatient clinic, the majority of respondents considered bleeding per

rectum as a possible symptom of CRC. However, a significant proportion incorrectly selected less ominous symptoms as relevant, while only fifty percent correctly cited weight loss (14). In a study conducted in Palestine on awareness of the signs and symptoms of CRC, the most frequently identified sign/symptom of CRC was 'abdominal distension' and the least frequently identified was 'back pain' (15). In the present study while participants demonstrated awareness of some common symptoms such as occult blood in the stool, change in frequency of defecation, and abdominal pain, they displayed limited knowledge about other symptoms such as black stools, anemia, and nausea/vomiting. This knowledge gap could hinder early detection and timely medical intervention. Public health initiatives should emphasize the importance of recognizing and reporting a wide range of CRC symptoms to improve early diagnosis rates.

Table 4. Knowledge about Screening in CRC

	n	%
Awareness of screening		
Correct	109	56.8
False	14	7.3
No idea	69	35.9
Screening method		
Colonoscopy	111	57.8
Fecal occult blood test (FOBT)	25	13.0
Computed tomography (CT)	34	17.7
CT and FOBT	6	3.1
Colonoscopy and CT	2	1.0
Colonoscopy, FOBT and CT	12	6.3
No idea	2	1.0
Age of screening		
<50	93	48.4
≥50	8	4.2
No idea	91	47.4
Acceptance of Self-screening		
Yes	97	50.5
No	67	34.9
No idea	28	14.6
Method of screening		
Colonoscopy	60	31.3
FOBT	51	26.6
CT	56	29.2
Colonoscopy+FOBT	8	4.2
FOBT+CT	5	2.6
Colonoscopy+FOBT+CT	3	1.6

Regarding CRC screening, the study revealed moderate levels of awareness among male relatives. However, a considerable proportion of participants lacked knowledge about the recommended screening methods and the appropriate age for screening. The most commonly known screening method was colonoscopy, while the knowledge of other methods such as fecal occult blood tests (FOBT) and computed tomography (CT) was relatively lower. In a study conducted in Saudi Arabia, almost (49.7%) knew that it is possible to detect CRC before symptoms appear. About 64% of respondents mentioned colonoscopy as a screening method for CRC. More than half of the participants (58.1%) indicated that they would like to be screened for CRC, while only 2.8% reported having been screened before (16). In a study on CRC screening awareness in women in Italy overall, only 20.3% of respondents knew about the three cancer screening tests available to women, and this knowledge was limited (17). In this study additionally, the majority of participants were unaware of the optimal age for initiating screening. These findings underscore the need for targeted educational campaigns to improve understanding of the available CRC screening modalities, their respective benefits, and the recommended age range for screening initiation.

Interestingly, education level demonstrated a significant association with awareness of certain risk factors and symptoms. Participants with higher education levels exhibited greater knowledge regarding overweight, alcohol consumption, red meat consumption, black stools, and anemia as risk factors and symptoms of CRC. This suggests that educational interventions could be particularly effective in bridging knowledge gaps and promoting awareness among this population.

To address these knowledge gaps and enhance CRC screening awareness among male relatives of cancer patients, tailored educational initiatives are crucial. These initiatives should employ various strategies such as community-based educational programs, mass media campaigns, and targeted messaging through healthcare providers. By improving knowledge and awareness, we can empower male relatives to take proactive steps in reducing their own CRC risk and encourage them to engage in timely screening, leading to earlier detection and improved outcomes.

This study has certain limitations that should be considered. Firstly, the sample size was relatively small, limiting the generalizability of the findings. Secondly, the study focused on male relatives attending a specific medical oncology outpatient clinic, which may introduce selection bias and limit

the representation of the wider population. Future research with larger and more diverse samples is necessary to validate these findings and gain a more comprehensive understanding of CRC awareness among male relatives.

Conclusion

This study highlights significant gaps in knowledge and awareness of CRC risk factors, symptoms, and screening methods among male relatives of cancer patients. It is imperative to develop targeted educational interventions to improve awareness and promote proactive engagement in CRC screening. By enhancing knowledge and awareness, we can potentially reduce the burden of CRC through early detection and appropriate preventive measures. Further research and collaborative efforts are needed to develop effective strategies that can address the specific needs of this population and achieve better CRC outcomes.

Conflict of Interest/ Funding

The study received no financial support from any individual or organization, and the authors declare no conflict of interest.

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