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Knowledge and awareness of auxiliary health personnel about colorectal cancer

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Background/aims: *Colorectal cancer is one of the most common cancers worldwide. On the other hand, it is one of the most preventable cancers. There are effective treatment choices only if it is diagnosed at an early stage. Therefore, the screening programs are essential and the role of auxiliary health personnel is pivotal. Our study aimed to evaluate the awareness and knowledge of nurses on this subject.* ***Materials and Methods:*** *We prepared a questionnaire for 100 participants. The questionnaire contained ten questions about the disease. The participants were chosen from big hospitals where high percentages of this disease are observed. We achieved 100 percent attendance to our survey. All of the questionnaires were completed by the planned study population and evaluated.* ***Results:*** *There were satisfactory answers about the definition of colorectal cancer, incidence rate, general sign, symptoms, and prevention. The true answer rate was at least 69% for these questions. All participants had enough knowledge about what the colonoscopy procedure is, however, 25% had misinformation about haemorrhoidal disease. A quarter of the study population had no satisfactory knowledge about early diagnosis and screening.* ***Conclusions:*** *Since early diagnosis is very important for colorectal cancer survival rates, screening tests are vital. There are no established screening programs in Turkey. Turkey has to establish and implement these sorts of programs. Certainly, regular screening programs provide public awareness, help prevent colorectal cancer and reduce the mortality rates. We found some knowledge deficiency among auxiliary healthcare personnel about potential causes of colorectal cancer, early diagnosis, and screening. They must be trained and empowered to take active roles in screening programs.*

Key words: Knowledge, awareness, colorectal cancer, nurse

Yardımcı sağlık personelinin kolorektal kanser hakkındaki bilgi ve farkındalık düzeyi

Giriş ve Amaç: *Kolorektal kanser dünya genelindeki en sık rastlanan kanser türlerinden biridir. Diğer taraftan kanser türleri içinde önlenmesi en mümkün olanlardan da biridir. Eğer erken tanı sağlanabilirse etkin tedavi seçenekleri vardır. Bu noktada tarama programlarının önemi ve yardımcı sağlık personelinin kritik rolü ortaya çıkmaktadır. İlk olarak hemşirelerin bu konudaki bilgi ve farkındalık düzeylerini değerlendirmeyi amaçladık.* ***Gereç ve Yöntem:*** *Yüz katılımcı için bir anket hazırladık. Anket, hastalık hakkında 10 soruyu içermekteydi. Katılımcılar, hastalığın sık rastlanma olasılığı olan büyük hastanelerden seçildi. Tüm adaylar soruları yanıtladı ve sonuçlar değerlendirmeye alındı.* ***Bulgular:*** *Katılımcılardan kolorektal kanserin ne olduğu, görülme sıklığı, genel belirti ve bulguları ve korunma konusunda tatminkâr yanıtlar aldık. Bu sorularda doğru yanıt oranı en az %69 olarak tespit edildi. Tüm katılımcılar kolonoskopinin nasıl bir işlem olduğunu biliyordu ama %25 oranında hemoroidal hastalık hakkında yanlış bilgiye sahiptiler. Erken tanı ve tarama konusunda da dörtte bir oranında tatmin edici olmayan yanıtla karşılaştık.* ***Sonuç:*** *Türkiye'de resmi kanser tarama programları yoktur. Düzenli tarama programları ile halkın bilinçlenmesi ve kolorektal kanserin önlenmesi dolayısı ile de ölüm oranlarının düşürülmesi mümkündür. Dolayısı ile bu tür programları ciddi olarak geliştirmek ve uygulamak zorundayız. Çalışmamızda yardımcı sağlık personelleri arasında bazı bilgi eksiklikleri tespit ettik. Bunların öncelikle eğitilmeleri ve tarama programlarında aktif görev almaları gereklidir.*

Anahtar kelimeler: Bilgi, farkındalık, kolorektal kanser, hemşire

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INTRODUCTION

Colorectal cancer (CRC) is the second most common cancer in both the UK and the USA. It has a high mortality rate with 50.000 deaths annually in the USA and 19.000 in the UK (1). According to the official data in Turkey, CRC is the second most common cancer in women and the fourth in men (2). It represents a significant disease burden worldwide, with 1.23 million new cases diagnosed in 2008. Five-year survival rates for those diagnosed with early-stage disease are over 93% compared to only 7% of those diagnosed with advanced disease (3). The high mortality rates are alarming, particularly given that CRC is preventable and treatable through prevention efforts including lifestyle modification, cancer screening, early detection, and efficacious treatments (4). Effective communication between health professionals and people about cancer is an international goal, as evidenced by publications in this area (1). Nurses play a critical role in patient education and enhancing screening rates (5). Therefore, high levels of knowledge and awareness about CRC is essential for healthcare personnel. This study is designed to assess these knowledge and awareness levels by a simple questionnaire among a defined nurse population.

MATERIALS and METHODS

As mere observation might not be sufficient, the questionnaire was preferred as the study method. We chose 75 specialized nurses and 25 other auxiliary health personnel who contact CRC patients in the different stages of disease during diagnosis establishment, operation, postoperative treatment, and/or follow-up. There were no nurse practitioners in this study group. 74% of participants were from a tertiary and 26% were from a secondary reference hospital. The participants were classified in five groups as follows: clinical nurses, surgical nurses, anaesthesiology technicians, ward personnel, and operating room personnel (Figure 1). An additional 25 ward/operating room personnel were also enrolled to this study, since they are in close contact with patients, during their transportation and other daily activities. Patients usually have good communication with them.

The questionnaire contained 10 questions about the definition of CRC, incidence, signs and symptoms, diagnosis, early diagnosis and screening tests, as well as precursor lesions. In three questions, we ask the participants to choose multiple answers and in one question - to write their own opinions in a provided extra space (Table 1).

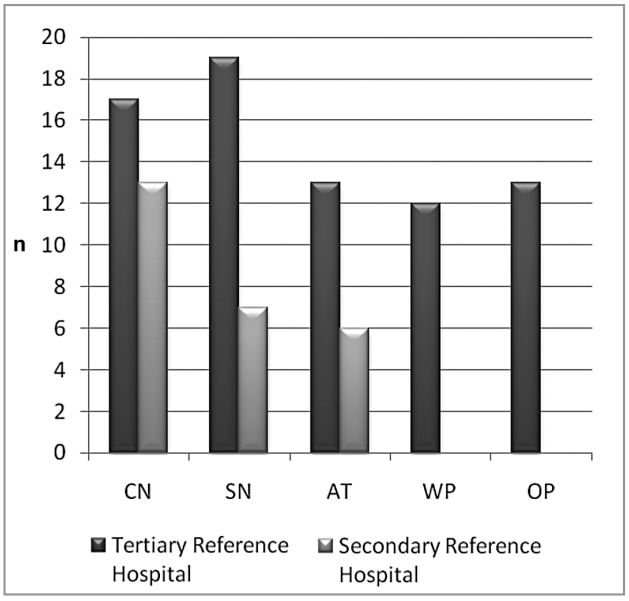

Figure 1. The distribution of the participants (n).

CN, indicates clinical nurse; SN, surgical nurse; AT, anaesthesia technician; WP, ward personnel; OP, operating room personnel.

The results were analyzed and interpreted using SPSS package program for Windows.

RESULTS

All of the planned study population completed the questionnaire. Globally, they gave satisfactory answers about the definition of CRC, the incidence rate, general sign and symptoms, and prevention (Questions 1,2,3,4 and 7). The true-answer rate was at least 69% for these parameters. On the other hand, we found out that in 25 % of participants, there was a misinformation that haemorrhoidal disease is a precursor lesion of CRC. More than a quarter of the study population (27%) was not aware of what and how important early diagnosis and screening of the disease are (Question 5), and 26% did not know the association between colorectal polyps and CRC (Question 8). The great amount of participants gave right answers about what colonoscopy is and what it is used for (Questions 6 and 10). However, 62% of participants did not know the main purpose of total colectomy in precancerous colon diseases (Question 9). All acquired data are shown in Tables 1 and 2.

DISCUSSION

Of all types of cancer, CRC is considered one of the most preventable. Up to 70% of CRC may be prevented by diet and physical activity alone (6). On

Table 1. Distribution of the percentage of the answers to the questions

The Questionnaire on Knowledge and Awareness of Auxiliary Health Personnel About Colorectal Cancer (CRC)		
Questions	**Answer choices** *(Multiple choices are available in Questions 3, 6 and 7)**	*%*
1 What is CRC?	a. Cancer of the small intestine	0
	b. Cancer of the large bowel	99
	c. Cancer of the cervix of uterus	0
	d. I don't know	1
2 What do you think the incidence of CRC is?	a. It is the most common type of cancer	20
	b. It is in the first five most common types of cancers	69
	c. It is a rare type of cancer	4
	d. I don't know	7
3* What causes do you know associated with colorectal cancer?	a. Poor nutrition and smoking	92
	b. Familial factors	78
	c. Haemorrhoidal disease	25
	d. I don't know	1
4 What are the symptoms of CRC in the foreground?	a. Weight loss, blood in stool, changes in defecation habit	96
	b. Cough, weight loss, fever	3
	c. Distension of abdomen, cough, osteoporosis	1
	d. I don't know	0
5 Early diagnosis of cancer saves lives. What do you know about the early diagnosis of CRC?	a. *(own opinions were written)*	73
	b. I don't know	27
6* Below are some of the methods used in the diagnosis of CRC. Just tick the familiar methods.	a. Examination and laboratory tests (WBC, FOBT, etc.)	43
	b. Imaging methods (USG, CT, etc.)	18
	c. Colonoscopy	89
	d. I don't know	0
7* What can be done to protect from CRC?	a. Balanced and healthy diet	90
	b. Quitting smoking and alcohol intake	41
	c. Treatment of haemorrhoidal disease	17
	d. I don't know	0
8 What are colon polyps?	a. A kind of haemorrhoidal disease	12
	b. A kind of colon cancer	10
	c. A kind of disease which may alter to cancer	74
	d. A trivial disease found in everyone	4
9 What is the purpose of total colectomy in some diseases of the colon such as ulcerative colitis and familial adenomatous polyposis coli?	a. Treatment of CRC	62
	b. Prevention of CRC	38
10 What is colonoscopy?	a. Examination of large bowel with a camera device	100
	b. Examination of small intestine with a camera device	0
	c. Examination of stomach with a camera device	0
	d. I don't know	0

the other hand, early detection of CRC is essential, as this enables a cure rate of over 90%. Despite an overall downward trend in cancer mortality over the last few decades, CRC continues to contribute heavily to the high mortality rates. Although CRC is a very preventable cancer, most Americans (48%) believe that cancer is "highly unlikely" or "impossible" to prevent (6). Perceptions of cancer fatalism (the belief that death is inevitable when cancer is present) have been identified as a barrier to CRC screening (5). Nurses need to be aware of CRC screening guidelines and they are positio-

Table 2. Distribution of the answers in groups (%).

Total 100		TRH					SRH		
Participants		CN	SN	AT	WP	OP	CN	SN	AT
n=100		17	19	13	12	13	13	7	6
Q1	T	100,0	100,0	100,0	91,7	100,0	100,0	100,0	100,0
	F	-	-	-	8,3	-	-	-	-
Q2	T	82,4	89,5	69,2	66,7	84,6	30,8	57,1	33,3
	F	17,6	10,5	30,8	36,4	15,4	69,2	42,9	66,7
Q3	T	52,9	84,2	92,3	75,0	84,6	53,8	85,7	66,7
	F	47,1	15,8	7,7	25,0	15,4	46,2	14,3	33,3
Q4	T	100,0	100,0	100,0	75,0	92,3	100,0	100,0	100,0
	F	-	-	-	25,0	7,7	-	-	-
Q5	T	70,6	89,5	76,9	16,7	61,5	100,0	71,4	100,0
	F	29,4	10,5	23,1	83,3	38,5	-	28,6	-
Q6	T	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
	F	-	-	-	-	-	-	-	-
Q7	T	70,6	89,5	100,0	83,3	92,3	61,5	85,7	83,3
	F	29,4	10,5	-	16,7	7,7	38,5	14,3	16,7
Q8	T	52,9	89,5	76,9	41,7	84,6	84,6	100,0	66,7
	F	47,1	10,5	23,1	58,3	15,4	15,4	-	33,3
Q9	T	29,4	15,8	38,5	50,0	69,2	46,2	42,9	16,7
	F	70,6	84,2	61,5	50,0	30,8	53,8	57,1	83,3
Q10	T	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
	F	-	-	-	-	-	-	-	-

CN indicates clinical nurse; SN, surgical nurse; AT, anaesthesia technician; WP, ward personnel; OP, operating room personnel; TRH, tertiary reference hospital; SRH, secondary reference hospital; Q, question; T, true answer; F, false or discrepant answer.

ned to play a pivotal role in reducing cancer mortality. Recent research studies indicate that nurses recognize the need and would like additional training related to cancer prevention and detection. Continuing education programs designed specifically for nurses should emphasize evidence-based cancer screening guidelines and their translation into clinical practice. They play a critical role in patient education, which ultimately may increase the screening rates. In light of their increased contact with patients, nurses are ideally situated to provide information that will increase knowledge regarding CRC screening guidelines. Nurses at all levels of practice routinely provide recommendations for preventive care to patients (4, 5). In the study of Shaheen and co-workers, they attempted to describe the CRC screening behaviors, training, and attitudes of non-physician clinicians and emphasized that changes in pre- and/or postgraduate training programs of nurses are necessary (7).

In Turkey, nurses are mainly recruited by two types of institutes; either they work in Family Health Centres or in hospitals. There are two kinds of nurse groups based on their training levels; one group is graduated from college of nursing and the other is licensed from nursing faculty after high school. However, regardless of their training backgrounds, all of them are usually recruited at the same units maybe with only a salary difference. In other words, both of the nurse groups receive the same basic training and an additional vocational/on the job training in their hospitals. Some of the nurses must be certified at certain subjects if they want to work in a specific area such as a haemodialysis clinic. When we were designing the study, in order to evaluate the level of knowledge and awareness, we decided to chose 75 hospital nurses who encounter CRC patients in different stages of the disease during diagnosis establishment, operation, postoperative treatment, and follow-up. An additional 25 ward/operating room personnel were also enrolled to this study. Since they are in close contact with patients during the-

ir transportation and other daily activities, their thoughts and opinions were also needed to be assessed.

The Health Belief Model (HBM) was developed by psychologists in 1950s to explain why people did not participate in health–screening programs. There are six key concepts in HBM. Perceived susceptibility is one's belief regarding the chances of developing a condition. Perceived severity is one's belief regarding the seriousness of condition and its sequel. Perceived benefits are one's beliefs in effectiveness of action to reduce the risk of a condition. Perceived barriers are one's beliefs regarding the total costs of implementing the recommend action. Cues to action are the strategies available to promote one's readiness to participate in recommended action. The last key concept self-efficacy refers to one's intention to take the recommended action. The impact of patient teaching on CRC screening effort may reach beyond the patients who were in contact with the nurses. Public awareness might be further increased when patients share this information with others (6).

A health fair can be a fun way to promote the prevention of and screening for CRC and nurses can use hospital, community, and university health fairs as opportunity to educate their communities on these important issues. The diversity of booths and interesting subjects has no limit (8). Nurses are also orchestrating key personnel to increase colorectal cancer awareness at the worksite. Education needs to include information on CRC prevention through diet and exercise (9). 92% of the participants marked true choices about nutrition and smoking.

The identification of genes that place individuals at high risk of CRC has greatly advanced our understanding of cancer predisposition over the past decade. This knowledge has received much attention from media, and referrals to geneticists and surgeons, and request for genetic testing have risen. Nurses who are aware of the genetic implications of (familial adenomatous polyposis) FAP can participate in early detection and referral of affected individuals before they develop symptoms. In history taking, persons with FAP should be asked about relatives who also have FAP. They should also be asked whether they have siblings or offspring (10, 11). By these kind of information, many cases of CRC can be prevented, which is inspiring information to share. The removal of precancerous polyps actually prevents cancer developing; however, many people are not aware of this fact, resulting in lower screening rates. An explanation of how quickly, easily, and painlessly polyps can be removed to prevent CRC may be a powerful motivator for screening (9). In our study, 78% of participants pointed familial factors in CRC etiology, but 26% of them marked wrong choices about colon polyps, and 62% had misinformation about prophylactic colectomy. However, there are already existing chapters in nurse forms related to patient history for quality system standards in the hospitals. Careful and true encoding can be of great help without a doubt.

Obstetrician/gynecologists and nurses are essential providers of primary and preventive care for their female patients. Therefore, CRC screening should be part of their routine preventive practices. Menees and colleagues' study implies that CRC screening awareness among these groups is less than screening for other cancer, such as for breast cancer and/or cervical cancer. Even though up to 80% of surveyed providers reported that they perform routine CRC screening, only 59% were routinely following recommended guidelines, and only 53% were able to identify the correct age to initiate screening. Further education of both healthcare providers and patients may improve compliance with current screening guidelines (12).

Eisemon and colleagues described a screening model for colorectal cancer by developing a preventive healthcare program utilizing nurse endoscopists (13). On the other hand, there was no consensus on whether nurses should be trained or not to perform endoscopic procedures for screening of CRC in the study of "Asia Pacific Working Group on CRC (14). In Turkey, colonoscopy procedures are allowed to be performed only by authorized physicians. Therefore, this programme cannot be initiated in Turkey. On the other hand, we found satisfactory answers regarding colonoscopy. 100% of participants knew the procedure, and 89% of them pointed its importance for the early diagnosis of CRC.

UK government guidelines and policy documents encourage patient participation in decision making and the forging of shared partnership between clinicians and users of services. There has been a pronounced shift from a paternalistic model of healthcare decision making towards a model of patient partnership. Nursing, is the single largest professional group within the cancer workforce. If health professionals focus only on aspects of deci-

sion making related to treatment, the potential for shared partnerships with patients in relation to choices about physical and psychological care may be lost. This may be particularly pertinent for nurses and allied professions who engage with patients throughout the illness trajectory (1). Beech and colleagues' study advances nursing knowledge by illustrating how recovery from surgery is more than simply physical repair. Opportunities exist for nurses to provide information and support to facilitate the individual in their progress towards achieving a sense of wellness (3).

The American Cancer Society screening guidelines suggest that starting from age of 50s, most patients should undergo CRC screening. Screening options include annual FOBT (Fecal Occult Blood Test), double contrast barium enema or flexible sigmoidoscopy every 5 years, or colonoscopy every 10 years (4). But, only 41% of Americans over 50 think they should be screened (8). Due to lack of formal screening programs in Turkey, these rates are possibly lower. In recent years, the Turkish Ministry of Health has been trying to develop screening programs for CRC, breast cancer, cervix cancer, and prostate cancer. Regarding these programs, Early Cancer Diagnose Screening and Training Centres (Abbreviation in Turkish: KETEM) were established. Through the content of this program, men and women aged between 50 and 74 will be able to have a free FOBT once a year. This program is still new and public awareness is not there yet.

In conclusion, Turkey is in a great need for developing and implementing CRC screening programs. Nurses and other auxiliary health personnel have to be encouraged to take active roles in these programs. We found some knowledge deficiency among the participants. Qualified and educated nurses can increase the public awareness. Therefore, we think these groups of healthcare personnel should be educated first. By this way, Turkey can establish and develop regular screening programs and achieve high prevention and low mortality rates.

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