

Knowledge, attitude, and practice of interns and practitioners graduated from the Medical Universities of Shahid Beheshti, Tehran, and Iran about colorectal cancer screening between 2014-2015

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Abstract

Background: Cancer is the third most common cause of death in Iran. Colorectal cancer is an ideal tumor for screening. Therefore, early diagnosis through screening can reduce its prevalence and mortality. On the other hand, knowledge of practitioners about screening programs has a direct relationship with their performance.

Methods: In the present cross-sectional-educational study, knowledge, attitude, and practice of medical interns and practitioners about colorectal cancer screening were evaluated in 2014-2015 and were reviewed using Chi² and ANOVA statistical tests.

Results: From among 300 physicians surveyed, 17.3% knew the age of the screening for colorectal cancer, 73% knew the average-risk, and 68% knew the high-risk criteria correctly. About 48% of the respondents recommended Fecal Occult Blood Test (FOBT) method for population at medium risk and 75% of recommended colonoscopy as a screening method in high-risk populations. Also, 90% of physicians knew the signs and symptoms of colorectal cancer. About half of the practitioners asked their patients about risk factors and advised them to undergo screening. About 55% of the participants who had family members needing screening decided to undergo screening and 6.3% of them who needed screening, decided to undergo screening.

Conclusion: Colorectal cancer is growing in the country; a fact that can be prevented. The results of the present study showed that practitioners have little knowledge of appropriate age of screening and screening methods and insufficient attitudes and actions about this issue. It is recommended that general practitioners and family physicians, who are the first lines of encounter with the patients, be properly trained.

Keywords: Knowledge; Attitude; Performance; Colorectal cancer; Medical students

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Introduction

Cancer is the third most common cause of death in Iran (1). Among the five most common cancers in the country,

colorectal cancer is the third most prevalent type in both sexes (2). Across the country, nearly 7,000 cases of colorectal cancer are reported annually half of whom die within

three years (3). Colorectal cancer is an ideal tumor for screening and its rapid diagnosis through screening can reduce its mortality (4).

Different international guidelines have been developed to involve general practitioners in screening programs, however evidence show that it is difficult to get general practitioners involved (5). In another study, 77.5% of doctors in Arizona used colorectal screening guidelines whereas only 51.7% had recommendations for colorectal screening in accordance with the guidelines (6).

Given that disease screening capabilities are important subheadings of educational programs in basic medical education program, assessing the knowledge, attitude and practice of medical students and newly graduated doctors can be useful to provide feedback to the authorities on the training program of general practitioners. It can also provide fruitful information for curriculum developers to develop programs for re-training of practitioners.

Practitioner's attention to the screening tests has a direct impact on patients' acceptance (7, 8). On the other hand, the level of practitioners' knowledge about screening programs has a direct relationship with their performance (8). In the present study, attempts were made to assess knowledge, attitude, and practice of medical students and graduated practitioners about screening for colorectal cancer.

Methods

In the current cross-sectional-educational study, knowledge, attitude and practice of practitioners about colorectal cancer screening were evaluated in the target population of physicians including interns of Shahid Beheshti, Tehran, and Iran medical universities and graduate practitioners of Tehran between 2014-2015. Based on similar studies, 210 participants were selected and divided into two groups. From among a total

of 300 participants, 153 interns came from the three universities (76.5%) and 143 were graduates (68%), including 104 general practitioners, 36 assistants, and 7 internists.

Also, the questionnaire comprised of 11 questions on colorectal cancer screening prepared based on the latest cancer screening guidelines of National Comprehensive Cancer Network (NCCN) (9) including 6 knowledge questions, 3 attitude questions, and 2 practice questions. Face validity and content validity of this questionnaire was checked by the panel of specialists. The final reliability of the questionnaire was found to be 0.86.

Interns completed the questionnaires at the major hospitals of three universities (Emam Khomeini Hospital, Emam Hossein Hospital, and Firozgar Hospital). Some physicians who filled out the questionnaire were the participants of the Congress of general practitioners at the University of Iran, and some questionnaires were sent via social media (Telegram) to graduated doctors (10). After collecting the data, the statistical analysis was performed using IBM Statistical Package for the Social Sciences (SPSS) (version 21) running ANOVA and Chi² statistical tests.

Results

In the present study, 300 physicians were studied among whom 104 (34.7%) were general practitioners, 7 (2.3%) were specialists in Internal Medicine, 153 (51%), were interns, and 36 (12%) were assistants. A total of 158 participants (52.7 %) were women and 142 (47.3%) were males with the age range of 31±8.9 years.

A total of 66% of the participants said that the appropriate age of screening is 55-40 years and only 17.3% correctly mentioned the screening age. Also, 73% mentioned the average-risk and 68% knew the high-risk criteria correctly. In addition, 48.3% of the participants recommended Fecal Occult

Blood Test FOBT method for the population at medium risk and 75% of them recommended colonoscopy as a screening method in high-risk populations, followed by 21.7% who advised undergoing sigmoidoscopy. Ninety percent of physicians knew the signs and symptoms of colorectal cancer. The average knowledge of the studied practitioners was 3.7 ± 1.06 out of a total six points, which was not observed to be significantly different between the two sexes ($P=0.3$). The correlation between knowledge and age was -0.12 ($P=0.03$) revealing that participants' knowledge decreased as the age increased. Among the knowledge questions, the only significant difference was found for the answer to question 5 (Recommended colorectal cancer screening test in the population of high-risk) in which female doctors had significantly higher knowledge scores (57.8%). According to the questions of attitude, 60.3% (181 participants) stated that they sometimes recommend screening for patients referring with complaints other than colorectal problems in which the status of interns and general practitioners in recommending colorectal screening in these patients was significantly better ($P=0.04$). Of all the participants, 57% (172) noted that they sometimes asked about the risk factors of colorectal cancer in patients referring with complaints other than colorectal problems where significant difference was seen in different educational levels. Also, assistants

asked the least amount of questions from their patients ($P=0.02$) and 57% (171) of doctors sometimes informed the patients referring with complaints other than colorectal problems about the best method of colorectal cancer screening. Furthermore, there was no significant difference for this between different educational levels ($P=0.2$) (Table 1). There was no significant difference between practitioners according to the three questions on attitude. Regarding the questions on performance, 55.3% (N= 166) of doctors mentioned that they performed colorectal cancer screening for their family members who needed it (Table1). Moreover, 64% of men and 46% of women performed screening for their family members who needed it ($P=0.001$). From among all the participants, 6.3% (N= 19) of the physicians mentioned that they needed to have colorectal cancer screening and performed it and 68.7% (206 people) said they did not need screening. Also, 12.5% of general practitioners, 2.6% of interns, and 5.6% of assistants performed screening on themselves while internists did not screen themselves which resulted in significant difference between different educational levels in this regard ($P=0.001$). A total of 8.5% of male practitioners and 4.4% of female practitioners screened themselves in terms of colorectal cancer; the difference was not found to be significantly different ($P=0.2$).

Table1. Comparison between attitude and practice of intern and graduated physicians

Variables	Intern N=153	Graduate practitioners N=147			P
		General practitioners N=104	Assistants N=36	Internist N=7	
Attitude					
recommend screening in patients	51(33.3)	29(27.9)	10(27.8)	-	0.04*
asked about the risk factors of colorectal cancer	50(32.7)	38(36.5)	12(33.3)	1(14.3)	0.02*
inform the patients referring about the best method of colorectal cancer screening	47(30.7)	30(28.8)	12(33.3)	-	0.2
Practice					
they performed colorectal cancer screening for their family members who need it	83(54.2)	59(56.7)	19(52.8)	5(71.4)	0.8

*Significant

Discussion

The results showed that in questions of knowledge, among 300 physicians surveyed, only 17.3% correctly mentioned the appropriate age for screening according to the NCCN Guideline. Furthermore, 73% of physicians mentioned the average-risk criteria in accordance with the guidelines and 68% of practitioners knew the high-risk criteria in accordance with the guidelines. The attitudes of all the participants were below 50%.

In a study in East Asia, of 308 physicians surveyed, about 43% responded the correct age for screening. In this study, in 57.9% of the participants, being uninformed was the barrier to the screening (11). In a similar study, 51.7% of practitioners reported the recommendations in accordance with the guidelines; in this study the recommendations of younger women physicians were more in line with the guidelines (6). In another study, from among 1192 general practitioners, 699 (94%) considered the colorectal cancer as a predictable disease (5). Awareness of oncological screening was higher in general practitioners according to the existing guidelines. A total of 25% suggested the available colorectal cancer screening methods, 22% did not have any suggestions, 6% suggested less than expected, and 47% suggested more than expected. Low response rate shows the low interest of general practitioners in screening (5).

In another study in 2004, 55 surgeons, interns, residents, and specialists were investigated who demonstrated little knowledge. Only 55% of the respondents had the correct knowledge about the appropriate screening age. The small proportion of them knew the definition of medium-risk and high-risk groups and respectively 29% and 18% of them answered correctly when asked about appropriate methods. Also, 78% of practitioners mentioned FOBT as an

appropriate screening method for high risk patients (12). In a similar study in Brazil, 30% of physicians started colon cancer screening in the appropriate age. However, in this study, only 53% of physicians ordered the colorectal cancer screening for their patients (13). In contrast, in a survey conducted in Balearic Islands and in a part of the metropolitan area of Barcelona, 68% of family physicians advised colorectal screening according to guidelines as the first-line (14). In a survey conducted in New Jersey, 82% of patients received recommended screening (15). Of course, this is not the case in all studies, for instance, in a survey conducted in 2007, 19.1% of physicians performed according to screening guidelines and the rest more or less practiced according to the guidelines (16). In another study conducted in Chicago, 87.9% of physicians believed colonoscopy was the best way of colorectal cancer screening. On the other hand, only 24.6% agreed on stool exam as a screening method (17). This recent finding does not match with the finding of studies used for preparing the clinical guidelines.

Due to the growing trend observed, colorectal cancer may be the most common cancer in the country in the future. Although deaths from colorectal cancer could be reduced with early diagnosis and treatment, almost two-thirds of patients are diagnosed in advanced stages of the disease. Also, colorectal cancer screening rates are lower than those for other cancers (3). According to the study carried out in Tehran, only 11% of 200 randomly-selected above-50-year-old participants had undergone colorectal cancer screening. In further investigations, 29% mentioned that their doctors had not recommended them to do screening (18). Also, in a study in Malaysia, only 20% of physicians had been doing colorectal cancer screening based on guideline (19). In another study in Jordan, 49% of general practitioners involved in

colorectal cancer screening had unsatisfactory information about guidelines (20). Previous studies have shown that educating physicians results in their increased performance (21, 22); this education should be performed through in-service education using screening guidelines, which should result in more application of screening (23, 24). In addition, the increasing awareness of screening programs among patients will lead to greater receptivity of screening programs (25).

The limitation of the present study was different variety of graduated practitioners.

In conclusion, the results of the research are that low knowledge of practitioners and young graduate students as well as their insufficient action and attitude need to be addressed by more trainings and informing. It is also necessary to describe the importance of colorectal cancer and proper screening method according to the patients' age and according to national guidelines for colorectal cancer screening for general practitioners, internists, and interns.

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