

Attitude, Behavior, and Barriers towards Screening Colonoscopy Participation among Physicians in Mashhad University of Medical Sciences, Iran

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ABSTRACT

Background:

Colorectal cancer is one of the most common cancers among men and women worldwide. Patients who are diagnosed at the early stages of the disease have a significantly better prognosis, lower mortality, and lower burden of the disease. Thus, screening methods, namely colonoscopy, and fecal occult blood test are effective means of a timely diagnosis. However, there are pearls and pitfalls among doctors in the decision to participate and implement these methods. This article aims to evaluate and discuss the attitude and behavior of physicians toward colonoscopy screening.

Materials and Methods:

This cross-sectional study was performed on 81 physicians working in academic hospitals of Mashhad University of Medical Sciences, Iran, between February and May 2019. Data were gathered using demographic information checklists and a researcher-developed checklist to evaluate the attitude of physicians towards the benefits and necessity of colonoscopy. Data were analyzed using SPSS software version 23, and $p < 0.05$ was considered statistically significant.

Results:

81 physicians with a mean age of 58.9 ± 6.6 years were studied. Most of the participants were male ($n = 60, 74.1\%$), married ($n = 79, 97.5\%$), and had fellowships in their specialty ($n = 44, 54.3\%$). When asked about barriers against colonoscopy, most physicians mentioned unwillingness ($n = 24, 29.6\%$) and lack of time ($n = 14, 17.3\%$). There was no significant association between physicians' sex and their screening colonoscopy history ($p = 0.98$). Moreover, no significant association was detected between the physicians' level of education and undertaking colonoscopy ($p = 0.15$).

Conclusion:

This study revealed that a large number of physicians are not willing to undergo screening colonoscopy despite the fact that they have a positive attitude towards the method. Although physicians are knowledgeable about the benefits of colonoscopy, it is not sufficient, and creating the right cultural context is also needed.

Keywords: Colonoscopy, Screening, Colon Cancer, Attitude, Physicians, Faculty, Barrier

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INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer in men and the second most common cancer in women worldwide (1). Colon cancer, due to its lengthy progression time from precancerous polyps to carcinoma and the considerable improvement in patients' prognosis if diagnosed at early stages, is excellent for screening. In addition, the likelihood of decreasing the burden of the disease and mortality rates by timely detection is significant (2).

Screening methods should be efficient with high sensitivity and specificity, in addition to cost-justified

benefits. Currently, CRC screening methods are divided into invasive and non-invasive tests. The non-invasive tests include stool and blood-based tests and radiologic tests. The stool-based tests currently offered are the guaiac-based fecal occult blood test (gFOBT), fecal immunochemical test (FIT), and the novel fecal DNA testing. The role of these tests revolves around the concept of identifying blood or shedding cell fragments from polyps, adenomas, and cancers (3). Radiological examinations provide radiographic visualization of polyps or cancer in addition to the opportunity to grasp extra-colonic findings (4). Invasive tests include flexible sigmoidoscopy (FS) and colonoscopy, which offer direct visualization and detection of a colonic polyp or advanced neoplasia with the advantage of being able to perform a biopsy (5).

Colonoscopy is considered the gold standard method of screening with high sensitivity and specificity. This test provides the opportunity to detect and resect neoplasia and precancerous lesions across the entire large bowel and is the ultimate examination tool when other screening tests are positive. However, colonoscopy requires full bowel preparation and sedation, which may be of the most noticeable obstacles people face while opting to undergo screening (6-10). Physicians are at the frontlines of patient encounters and play a key role in advising patients to undergo cancer screening, not just by words but also by setting examples for the community by applying the advice themselves.

While proven beneficial, the decision to participate in screening colonoscopy is closely intertwined with a multitude of thoughts and interpersonal factors. Considering that physicians' attitudes about their habits and their own health exert a strong influence on their recommendations to patients, in addition, there are several barriers, which affect individual decision-making. Based on past studies, physicians' own compliance with CRC screening is suboptimal (11). In contrast, in Canadian society, a study showed that over one-half of Canadian specialists older than 50 years underwent CRC screening (12). This article aims to evaluate and discuss the attitude, behavior, and barriers among physicians towards colonoscopy screening participation and recommendation.

MATERIALS AND METHODS

In this cross-sectional study, we investigated the attitude of 81 physicians, working in academic hospitals of Mashhad University of Medical Sciences, Iran, towards the benefits and necessity of colonoscopy, and their willingness to undergo this procedure, between February and May 2019. All participants gave written informed consent before they enter the study. The Ethics Committee of Mashhad University of Medical Sciences approved the study.

After reviewing the relevant literature, a checklist was developed and structured into the following sections: (i) personal and socio-demographic characteristics of the participants, (ii) gastrointestinal symptoms and risk factors, (iii) undergoing colonoscopy and knowledge of its benefits, (iv) barriers to using colonoscopy screening, and (v) perceptions of colon cancer screening awareness.

In section (i), information about age, marital status, education, and being a faculty member of the university was collected. In section (ii), complete personal and family histories of gastrointestinal cancers were collected.

Section (iii) included questions about colonoscopy use and familiarity with its benefits. In this regard, first, the history of CRC screening use was assessed by asking physicians the following questions: "Have you ever taken a FOBT?" and "Have you ever undergone colonoscopy?" Second, their knowledge of colonoscopy benefits was evaluated by asking: "Are you aware of the benefits of screening colonoscopy?" Third, physicians were asked to report their willingness to undergo a screening colonoscopy.

In section (iv), the physicians were asked to identify the most probable barriers to colonoscopy use, described as reasons for not undergoing a colonoscopy. The reasons consisted of lack of time, unwillingness, possible pain, fear of side effects, high cost, using alternative methods, being unsure of the benefits, or other reasons (for which the participants were asked to state possible reasons).

Data were analyzed using SPSS software (version 23 for Windows, IBM Statistics, Chicago, IL, USA). Associations between socio-demographic factors and colonoscopy use were tested using the Chi-square test. $p < 0.05$ was considered statistically significant.

Table 1: Socio-demographic characteristics of the study participants

Variables	Number	Percent
Age	58.9 ± 6.6	-
Sex		
Male	60	74.1
Female	21	25.9
Marital Status		
Married	79	97.5
Single	0	0
Divorced	0	0
Education		
General Practitioner	1	1.2
Specialist	34	42.0
Fellowship	44	54.3
Occupation		
Faculty	72	88.9
Staff	7	8.6
Total	81	100

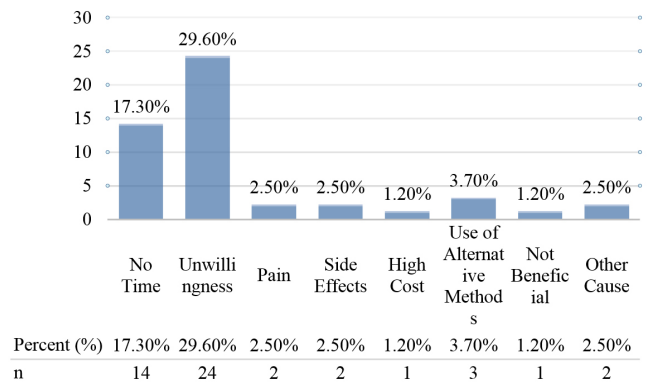
RESULTS

Overall, 81 physicians were included in this study. The mean age of the participants was 58.9 ± 6.6 years. Most of the participants were male (n = 60, 74.1%), married (n = 79, 97.5%), and had fellowships in their specialty (n = 44, 54.3%). In addition, 88.9% of the physicians who participated were the university's faculty members (Table 1).

A total of 19 participants (23.5%) had a history of underlying diseases, and 20 (24.7%) had a history of gastrointestinal diseases. In first-degree family members of 15 (18.5%) participants, there was a history of gastrointestinal diseases. Also, 13 (16.0%) of the participants mentioned a history of gastrointestinal cancers in their first family members.

A total of 32 participants (39.5%) had a history of screening using colonoscopy or FOBT, of them 23 (28.4%) had undergone a colonoscopy, and 20 (24.7%) had done FOBT. Also, 41 participants (50.6%), in addition to not having undergone colonoscopy before, were also reluctant to do it.

When asked about whether or not the physicians recommend patients older than 50 years of age to undergo screening colonoscopy, 47 (61.8%) physicians recommended colonoscopy to clients over 50 years of age. This rate was significantly related to the physician's history of colonoscopy or FOBT, so that in the group with a history of CRC screening, 82.8% of physicians recommended screening to

**Fig.1: Barriers against screening colonoscopy among physician**

clients over 50 years of age, while this rate was 48.9% in the other group of physicians ($p < 0.05$).

Although the personal or family histories of non-malignant gastrointestinal diseases were not significantly associated with the rate of colonoscopy ($p = 0.45$ and $p = 0.11$, respectively), the family history of gastrointestinal malignancies was significantly associated with a higher history of colonoscopy ($p < 0.05$).

Although 72 participants (88.9%) reported being aware of the benefits of screening colonoscopy, the most frequent barriers against CRC screening as stated by physicians were unwillingness (n = 24, 29.6%), and lack of time (n = 14, 17.3%). Other barriers and their frequencies are summarized in figure 1.

No significant association was observed between physicians' sex and their colonoscopy history ($p = 0.98$). Furthermore, the education status of the physicians had no significant association with undergoing colonoscopy ($p = 0.15$). Table 2 details the comparison.

DISCUSSION

Screening for CRC can reduce the burden of the disease, mortality, and incidence of cancer. Several randomized controlled trials have confirmed that biennial use of guaiac FOBT coupled with colonoscopy in individuals who tested positive was associated with a reduction in CRC mortality by 15% (13-15). While there is a little doubt about the benefits of screening colonoscopy with strong evidence at hand, the results of this study revealed that the willingness to undergo screening among physicians was considerably low. Aside from the lack of time, which may solely contribute to a physician not being able to get off work and prepare for the procedure, awareness, or observation of false positives, potential for complications and possible emotional harm may lead to the unwillingness and a predisposition to skip

Table 2: Associations between socio-demographic characteristics and colonoscopy use

Variables	Number	Ever underwent a colonoscopy	Never underwent a colonoscopy	P*
Sex				
Male	60 (74.1%)	17 (21.0%)	43 (53.1%)	0.983
Female	21 (25.9%)	6 (7.4%)	15 (18.5%)	
Total	81 (100%)	23 (28.4%)	58 (71.6%)	
Education				
General practitioner	1 (1.3%)	0	1 (1.3%)	0.155
Specialist	34 (43.0%)	6 (7.6%)	28 (35.4%)	
Fellowship	44 (55.7%)	16 (20.3%)	28 (35.4%)	
Total	79 (100%)	32 (27.9%)	57 (72.2%)	

the screening among doctors (16).

Our study did not show any significant associations between sex and participation in CRC screening. However, this may be due to the small sample size. Other studies have reported the participation in CRC screening to be lower among men (17-19). In addition, psychosocial inequities should not be underrated in reluctance to undergo colonoscopy. Comprehensive analyses of cultural studies reveal the complexity of social aspects that affect an individual's decision to take part in colorectal screening. In certain cultures, men perceive colonoscopy as embarrassing, invasive, and a threat to their masculinity (18-19). The masculinity norms in the culture of Iranians have not been thoroughly investigated, even though the observation of other cultural aspects regarding masculinity makes its impact almost undeniable on the unwillingness described by the physicians as the most common barrier. Based on a study, lack of time is the most common reason cited for not participating in CRC screening among physicians (12). In this study, the most frequent barriers against CRC screening, as stated by physicians, were unwillingness and lack of time similarly. In Luis E. study, physicians' own compliance with CRC screening is suboptimal. The reasons for this finding were personal decision, fear of the procedure, insufficient knowledge of guidelines on screening, and lack of time (11). As can be seen, the lack of time is a major reason for not following this procedure.

According to our data analysis, the level of education among participants did not influence behavior towards undergoing screening colonoscopy. However, there are studies that claim the rate of colorectal screening is higher among board-certified physicians (20). In other studies, radiologists and gastroenterologists were more likely to be screened than other specialties (11,12). In our

study, physicians' job information was not collected by specialty; perhaps if we consider this case, we would achieve similar results. Studies with larger sample sizes are required to assess the effect of education on physician's behavior and mindset on CRC screening.

In conclusion, this study presented that a large number of physicians are not willing to undergo screening colonoscopy despite the fact that they have a positive attitude towards the method. Our findings suggest that although physicians are knowledgeable about the benefits of colonoscopy, it is not sufficient, and creating the right cultural context is also needed.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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