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Original Research Article

Knowledge, attitude, practice, and perceived barriers of colorectal cancer screening among primary care physicians in the Kingdom of Bahrain

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ABSTRACT

Background: Colorectal cancer (CRC) is one of the lethal cancers all over the world. Early detection of colorectal cancer has been shown to reduce incidence and mortality. Primary care physicians have a crucial role in early detection of cancer. This study aims to explore the knowledge, attitude and practice of primary care physicians in Bahrain towards CRC screening and to determine the barriers related to CRC screening.
Methods: A cross sectional study was carried out among primary care physicians working at primary health care centers in Bahrain. It included 174 physicians. A self-filled questionnaire that includes demographic information, knowledge scale, attitude scale, practice scale items and barriers of not performing CRC screening was used as the study tool.
Results: The overall knowledge score revealed that 51.7% had poor knowledge score and 48.3% had adequate knowledge score. Majority of the participants (93.7%) agreed to have a structured screening program for colorectal cancer rather than an opportunistic one. Most of the physicians (60%) reported that less than 25% of those eligible patients truly receive a screening. Physician's lack of time was the top barrier of not performing CRC screening.
Conclusions: This study showed that most primary care physicians have poor knowledge regarding CRC screening and the majority do not screen their eligible patients for CRC.

Keywords: Colorectal cancer, Screening, Primary care, Physicians, Bahrain

INTRODUCTION

Colorectal cancer (CRC) is one of the lethal cancers all over the world. It is the third most common cancer diagnosed worldwide after breast and lung cancers and the second leading cause of cancer deaths after lung cancer.[1] Colorectal cancer accounted for 1.93 million new cases and 935 000 deaths in 2020.[1]

According to the Gulf Center for Cancer Control and Prevention[2], colon cancer was the second most common cancer in males and third most common cancer in females in the Gulf Region in the period between 1998-2007. Sixty percent of the cases presented with advanced metastatic disease.[3]

In Bahrain, a study on the incidence of colorectal cancer was conducted by Al-Awadhi et al in the period from 1998-2011 found that colorectal cancer is the second most common cancer in both males and females. It accounts for 10.2% and 7% of all cancer cases respectively.[4] Furthermore, colorectal cancer incidence

continued to rise over the years and thirty-nine percent of the newly diagnosed cases were presented in advanced metastatic stage.[5]

Early detection of colorectal cancer has been shown to reduce incidence and mortality. The pathogenesis of CRC starts from a precancerous polyp that if detected at early stages and removed can prevent the development of CRC.[6,7] Furthermore, detecting and resecting colon polyps at their early stages can prevent death from colorectal cancer as described by Zauber et al.[8]

The majority of the international guidelines recommend that adults 50-75 years should be screened for colorectal cancer by either colonoscopy every 10 years, flexible sigmoidoscopy every 5 years or fecal occult blood test (FOBT) annually.[9-11]

Primary care physicians have a crucial role in early detection of cancer. Studies have shown that most of cancer cases are diagnosed by general practitioners.[12,13]

Douglas M et al. has shown that primary care physicians' recommendations for colorectal cancer screening was associated with higher rate of completion of colorectal cancer screening among patients attending the clinics. [14]

Many studies all over the globe have explored the knowledge, attitude and practice of primary care physicians towards CRC screening in order to improve the practice of early detection and hence better prognosis of colorectal cancer cases.[15-20] In the Kingdom of Saudi Arabia, studies have shown that primary care physicians have good level of knowledge regarding CRC screening and the recommendations, however their practice towards screening was suboptimal[17,18]. On the other hand, studies conducted in Malaysia, Oman and Canada shows that physicians have poor knowledge regarding CRC screening[15,19,20]. In Bahrain, no published literature was found to date that test the knowledge of the primary care physicians towards CRC screening and their practice.

The aim of this study is to explore the knowledge, attitude and practice of primary care physicians in Bahrain towards CRC screening and to determine the barriers related to CRC screening.

METHODS

A cross sectional study was carried out among primary care physicians working at primary health care centers in Bahrain in the period from November 2021- February 2022. Those who refused to participate were excluded. The sample size has been determined according to the following formula:

$$n = \frac{N}{1 + N \times e^2}$$

Where N=378 the population of is primary care physicians in Kingdom of Bahrain, and e denotes the allowed probability of committing an error in selecting a sample from the population. Therefore, the sample size is

$$n = \frac{378}{1 + 378 \times 0.05^2} = 195$$

A total of 174 primary care physician responded to the questionnaire which represents 89% of the sample size.

Data were collected using self-administered questionnaire in English language adopted from similar study done in Oman[20], developed using the 2008 USA Preventive Services Task Force guidelines for CRC screening. The questionnaire was customized by adding and eliminating some questions. It contains five main sections: participants' demographic characteristics, knowledge assessment, attitude towards colorectal cancer screening, practice assessment and barriers of CRC screening at the primary health care level. A pilot study was done in September 2021 on 10 primary care physicians to check the understanding of the questionnaire. As a result, some vocabularies were changed to avoid confusion. The questionnaire was reviewed and approved by Primary Health Care Research Committee. The questionnaire was distributed online through mobiles/emails.

Ethical consideration

The research was approved by Primary Health Care Research Committee in Bahrain.

Statistical analysis

SPSS 26 was used for data entry and analysis. Frequencies and percentages were computed for the categorical variables. Mean and standard deviation were computed for the quantitative variables. Mann Whitney test was used to determine whether there is a significant difference in means between two independent groups. Kruskal Wallis test was used to determine whether there is a significant difference in means between more than two independent groups. Chi-Square test was used to determine whether there is a significant relationship between two categorical variables. In all statistical tests, P value of less than 0.05 was statistically considered significant. The mean of the total knowledge score was used to determine the cut-off point of the knowledge level; those scored above the mean considered to have an adequate knowledge and those scored equal or below the mean considered to have poor knowledge.

RESULTS

In this study, 174 family physicians participated in the study. The mean age of the participants was 40.1 with a standard deviation of 9.8. Those who were less than 35 years of age accounted for 41.8 %. Females constitute 83 % of the sample. The majority were Bahraini (95 %).

More than three quarters of the sample are board certified family physicians (80%), the others were either family physicians with higher studies or general practitioners. Around 42 % worked less than 10 years in practice and 22% worked more than 20 years. (Table 1).

Table 1: Socio-demographic characteristics of the participants (total=174).

Variables	N (%)
Age (in years)	
<35	71 (41.8)
35-45	54 (31.8)
>45	45 (26.5)
Mean ± SD	40.1 ± 9.8
Total	170[a] (100)
Gender	
Male	29 (16.7)
Female	145 (83.3)
Total	174 (100)
Nationality	
Bahraini	166 (95.4)
Non-bahraini	8 (4.6)
Total	174 (100)
Professional title	
Board certified family physician	139 (79.9)
Board certified family physician + master/diploma	25 (14.4)
General practitioner	6 (3.4)
General practitioner + master/diploma	4 (2.3)
Total	174 (100)
Total years in practice after internship	
<10	73 (42.2)
10 - 20	62 (35.8)
>20	38 (22)
Mean ± SD	14.0 ± 9.3
Total	173[b] (100)
a. Number of missing is 4. b. Number of missing is1.	

The total knowledge score ranged from 33.3% to 93.3% with a mean) of 68.1 (SD 13.3). The overall knowledge score revealed that 51.7% had poor knowledge score and 48.3% had adequate knowledge score. (Figure 1).

Participants' knowledge about colorectal cancer screening is shown in Table 2. Most participants answered the questions about colorectal cancer screening correctly. Half of the sample only (50%) correctly answered the question of the frequency of performing colonoscopy as a screening for colorectal cancer. Two questions were mostly answered incorrectly which were effectiveness of contrast barium enema (58%) and CT colonography (88%) in CRC screening.

55.7% were able to identify that CRC is the second most common cancer in Bahrain.

Studying physician's attitudes reveals that 93.7% agreed to have a structured screening program for colorectal cancer. While 63.8% preferred to have an opportunistic screening program. (Figure 2).

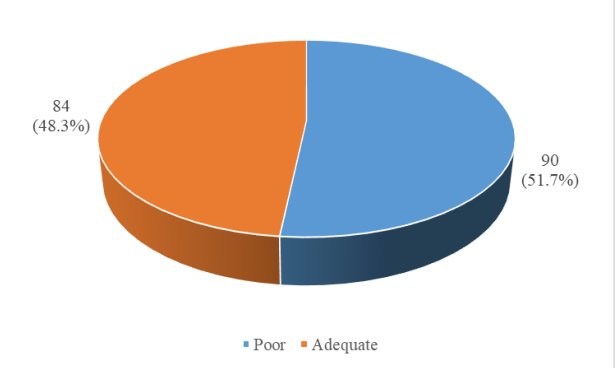

Figure 1: Overall knowledge score among the participants (total=174).

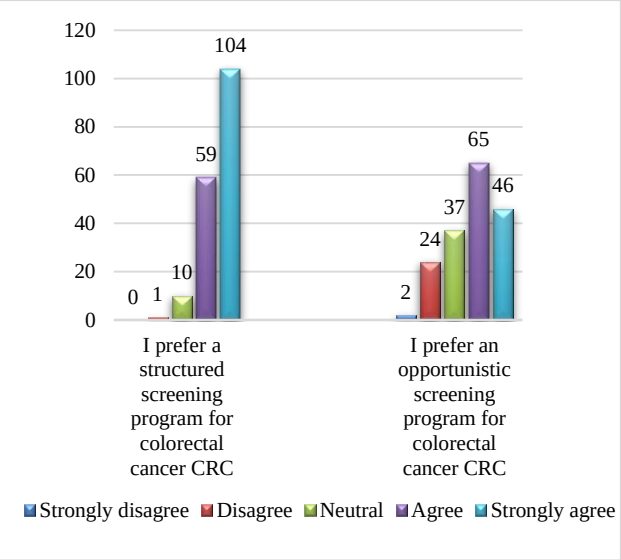

Figure 2: Attitude of participants towards CRC screening (Total=174).

The practice of physicians can be explained in Table 3. The majority of physicians see 25-99 patients a day. Among those, around 50% of physicians think that less than 25% of patients a day are eligible for colorectal cancer screening. Unfortunately, 60% of the physicians reported that less than 25% of those eligible patients truly receive a screening. And only 50% of physicians asks less than 25% of patients about family history of colorectal cancer.

Barriers toward performing colorectal cancer screening are shown in Table 4. The physician's lack of time was the top barrier on the list (90%), followed by barriers related to patients. 80% of physicians reported that poor patient awareness is a barrier and (77%) claimed that patients are in a hurry.

Table 2: Participants' knowledge about CRC screening (total=174).

Questions	Incorrect N (%)	Correct N (%)
1. What is the recommended age for initiating colorectal cancer (CRC) screening in average-risk adults? (50 years)*	64 (36.8)	110 (63.2)
2. Which of the following procedures is not recommended to be used for colorectal cancer (CRC) screening? (Abdominal ultrasound)*	10 (5.7)	164 (94.3)
3. According to the international guidelines, how often should fecal occult blood testing for colorectal cancer (CRC) screening be performed in eligible patients? (Every one year)*	54 (31)	120 (69)
4. According to international guidelines, how often should Sigmoidoscopy for colorectal cancer (CRC) screening be performed in eligible patients? (Every five years)*	67 (38.5)	107 (61.5)
5. According to international guidelines, how often should colonoscopy for colorectal cancer (CRC) screening be performed in eligible patients? (Every ten years)*	88 (50.6)	86 (49.4)
6. International guidelines recommend against colorectal cancer (CRC) screening in adults who are older than which age? (75 years)*	73 (42)	101 (58)
7. In your practice which category of patients do you consider to be at the highest risk for colorectal cancer for screening purposes? (If at least one 1st degree relative had CRC diagnosis at age <50 years)*	32 (18.4)	142 (81.6)
8. Colorectal cancer is the second most common cancer in Bahrain (Yes)*	77 (44.3)	97 (55.7)
9. Colorectal cancer screening effective for asymptomatic average-risk patients (Effective)*	18 (10.3)	156 (89.7)
10. Fecal occult blood test (FOBT) is effective (Effective)*	45 (25.9)	129 (74.1)
11. Flexible sigmoidoscopy is effective (Effective)*	23 (13.2)	151 (86.8)
12. Colonoscopy is effective (Effective)*	3 (1.7)	171 (98.3)
13. -contrast barium enema is effective (Not effective)*	101 (58)	73 (42)
14. CT colonography is effective (Not effective)*	153 (87.9)	21 (12.1)
15. Colonoscopy as the best available screening test (Agree)*	24 (13.8)	150 (86.2)
* Correct answer.		

Table 3: Participants' practice towards CRC screening (total=174).

	n (%)
Number of patients I see per day	
<25	19 (10.9)
25- 49	77 (44.3)
50-99	76 (43.7)
>100	2 (1.1)
Proportion of eligible patients for CRC screening from the total number of patients I see per day	
>75%	2 (1.1)
50- 75%	12 (6.9)
25-50%	66 (37.9)
<25%	83 (47.7)
None	11 (6.3)
Approximately how much percentage you screen for colorectal cancer of the eligible patients you see per day	
>75%	4 (2.3)
50- 75%	6 (3.4)
25-50%	40 (23)
<25%	105 (60.3)
None	19 (10.9)
Approximately how much percent of your patients you ask about family history of colorectal cancer	
>75%	11 (6.3)
50- 75%	15 (8.6)
25-50%	33 (19)
<25%	86 (49.4)
None	29 (16.7)

Table 4: Barriers towards performing CRC screening (total=174).

Barriers	Yes	No
	N (%)	N (%)
Unavailability of FOBT test	51 (29.3)	123 (70.7)
Patient in a hurry	134 (77)	40 (23)
Poor patient awareness	139 (79.9)	35 (20.1)
Patient refusal	118 (67.8)	56 (32.2)
Patient's fear of the test result	98 (56.3)	76 (43.7)
Assuming other health care providers will screen patient	48 (27.6)	126 (72.4)
Lack of time	156 (89.7)	18 (10.3)
Test is not covered by patient's medical insurance	35 (20.1)	139 (79.9)
No proper follow-up system is available in my clinic	78 (44.8)	96 (55.2)
Difficult to get a hospital appointment if the test is positive	56 (32.2)	118 (67.8)

Table 5: Differences in participants' mean knowledge about CRC screening according to socio-demographic characteristics.

Socio-demographic variables	Overall knowledge score		P value
	Poor N (%)	Adequate N (%)	
Age (in years)			
<35	29 (40.8)	42 (59.2)	0.024
35-45	29 (53.7)	25 (46.3)	
>45	30 (66.7)	15 (33.3)	
Gender			
Male	17 (58.6)	12 (41.4)	0.416
Female	73 (50.3)	72 (49.7)	
Nationality			
Bahraini	84 (50.6)	82 (49.4)	0.177
Non-Bahraini	6 (75)	2 (25)	
Professional title			
Board certified family physician	81 (49.4)	83 (50.6)	0.013
General practitioner	9 (90)	1 (10)	
Total years of practice after the internship			
<10	30 (41.1)	43 (58.9)	0.020
10-20	34 (54.8)	28 (45.2)	
>20	26 (68.4)	12 (31.6)	

Differences in participants' mean knowledge about CRC screening according to sociodemographic characteristics is illustrated in Table 5. Board certified physicians had higher adequate knowledge score than the general practitioners (50.6% vs 10%), p=0.013. Physicians who worked less than 10 years in practice had the highest adequate knowledge score (58.9%), than those who worked more than 10 years, p=0.020. Those less than 35 years of age scored more than others (59.2%), p=0.024. There were no significant differences in the knowledge of Bahrainis compared to non-Bahrainis and in females compared to males.

Table 6 shows that there was no difference in the mean score knowledge of those who mostly screen their eligible patients for CRC compared to those who barely screen their eligible patients for CRC, p=0.017. In addition, physicians who ask their patients about family history of CRC and those who do not ask their patients had comparable levels of knowledge about CRC screening, p=0.834.

Table 6: Difference in mean score knowledge according to participants' practice.

Variables	Knowledge score	P value
	Mean ± SD	
Number of patients I see per day		
<25	63.2 ± 14.5	0.517
25-49	68.6 ± 12.7	
50-99	68.9 ± 13.4	
>100	70 ± 23.6	
Proportion of eligible patients for CRC screening from the total number of patients I see per day		
>75%	50 ± 4.7	0.001
50-75%	70 ± 11.2	
25-50%	71 ± 13.4	
<25%	67.9 ± 12.4	
None	53.9 ± 12.5	
Approximately how much percentage you screen for colorectal cancer of the eligible patients you see per day		
>75%	65 ± 6.4	0.017
50-75%	70 ± 9.2	
25-50%	67.3 ± 12.4	
<25%	70 ± 13.8	
None	59.6 ± 11.4	
Approximately how much percent of your patients you ask about family history of colorectal cancer		
>75%	64.2 ± 12	0.834
50-75%	68.4 ± 7.8	
25-50%	67.3 ± 15	
<25%	68.9 ± 14	
None	68 ± 12.3	

Table 7 shows Association between barriers of not performing CRC screening and professional title and years of practice. There was a significant difference between the board-certified family physicians (93%) and

the general practitioners (40%) in considering the lack of time as a barrier of not performing CRC screening, p=<0.001. As the number of years in practice increases, physicians did not consider patients in a hurry and patients' refusal as barriers of not performing CRC screening, p=<0.001 and p=0.002 respectively.

Table 7: Association between barriers of not performing CRC screening and professional title and years of practice.

Barriers	Professional title		Total years in practice after internship		
	Board certified family physician	General Practitioner	<10	10 - 20	>20
	N (%)	N (%)	N (%)	N (%)	N (%)
Unavailability of FOBT test					
Yes	49 (29.9)	2 (20)	18 (24.7)	23 (37.1)	10 (26.3)
No	115 (70.1)	8 (80)	55 (75.3)	39 (62.9)	28 (73.7)
P value	0.505		0.255		
Patient in a hurry					
Yes	129 (78.7)	5 (50)	70 (95.9)	45 (72.6)	18 (47.4)
No	35 (21.3)	5 (50)	3 (4.1)	17 (27.4)	20 (52.6)
P value	0.037		<0.001		
Poor patient awareness					
Yes	131 (79.9)	8 (80)	59 (80.8)	50 (80.6)	29 (76.3)
No	33 (20.1)	2 (20)	14 (19.2)	12 (19.4)	9 (23.7)
P value	0.993		0.835		
Patient refusal					
Yes	113 (68.9)	5 (50)	57 (78.1)	43 (69.4)	17 (44.7)
No	51 (31.1)	5 (50)	16 (21.9)	19 (30.6)	21 (55.3)
P value	0.214		0.002		
Patient's fear of the test result					
Yes	91 (55.5)	7 (70)	45 (61.6)	34 (54.8)	18 (47.4)
No	73 (44.5)	3 (30)	28 (38.4)	28 (45.2)	20 (52.6)
P value	0.369		0.345		
Assuming other health care providers will screen patient					
Yes	44 (26.8)	4 (40)	16 (21.9)	19 (30.6)	13 (34.2)
No	120 (73.2)	6 (60)	57 (78.1)	43 (69.4)	25 (65.8)
P value	0.366		0.318		
Lack of time					
Yes	152 (92.7)	4 (40)	70 (95.9)	56 (90.3)	29 (76.3)
No	12 (7.3)	6 (60)	3 (4.1)	6 (9.7)	9 (23.7)
P value	<0.001		0.006		
Test is not covered by patient's medical insurance					
Yes	32 (19.5)	3 (30)	12 (16.4)	17 (27.4)	6 (15.8)
No	132 (80.5)	7 (70)	61 (83.6)	45 (72.6)	32 (84.2)
P value	0.422		0.212		
No proper follow-up system is available in my clinic					
Yes	75 (45.7)	3 (30)	29 (39.7)	29 (46.8)	20 (52.6)
No	89 (54.3)	7 (70)	44 (60.3)	33 (53.2)	18 (47.4)
P value	0.331		0.408		
Difficult to get a hospital appointment if the test is positive					
Yes	52 (31.7)	4 (40)	20 (27.4)	23 (37.1)	12 (31.6)
No	112 (68.3)	6 (60)	53 (72.6)	39 (62.9)	26 (68.4)
P value	0.586		0.483		

DISCUSSION

In Bahrain CRC is the second most common cancer. Screening and early detection of CRC is associated with reduction in morbidity and mortality. No previous studies done in Bahrain exploring the knowledge of primary care physicians about CRC screening. This study explored primary care physicians' knowledge, attitude, and

practice towards CRC screening in the Kingdom of Bahrain.

It involved 174 primary care physicians who are practicing in the primary care settings in the Kingdom of Bahrain. The findings revealed that more than half of the participants (51.7%) had poor knowledge regarding CRC screening. This finding could be attributed to the deficiency in the training programs' curriculum in CRC screening guidelines, lack of CME lectures regarding the international guidelines of CRC screening and lack of awareness of the prevalence and burden of CRC in Bahrain that led to poor awareness of the screening guidelines of CRC.

This result is better than that found in a study done in Oman which showed that only 43% of the participants had good knowledge.[20] This could be attributed to the participants' who were involved in Oman's study that included both physicians and nurses working in the primary care settings whereas our study involved only physicians. Furthermore, our study results showed a better knowledge about CRC screening among primary care physicians compared to a study done in Saudi Arabia that showed only about 34% of their primary care physicians had good knowledge about CRC screening and around 21% of primary care physicians had good knowledge about CRC screening in a similar study done in Malaysia.[19,21]

In this study, most primary care physicians (63.2%) were able to identify the appropriate age of initiating CRC screening and 69% correctly answered that fecal occult blood testing should be repeated annually as a screening method for CRC screening. However only 49.4% correctly answered that colonoscopy should be repeated every 10 years for CRC screening. This could be attributed to the unavailability of colonoscopy at the primary care setting hence the physicians were unaware how frequent it should be repeated. On the other hand, the majority correctly identified the frequency of conducting fecal occult blood test for CRC screening which is the screening tool available in the primary care settings.

Muliira et al showed that 62.7% of primary care physicians were able to identify the appropriate age of starting CRC screening while 43.7% and 7 % of the participants correctly identified the frequency of performing fecal occult blood test and colonoscopy respectively for CRC screening.[20]

In a study done in Saudi Arabia, Alshaikhi et al reported that around 92% were able to identify correctly the age of starting CRC screening, 61.5% would repeat fecal occult blood annually and 62.5% would repeat the colonoscopy every 10 years for CRC screening.[21] Ooi et al reported in a study done in Malaysia that 66.7% of primary care physicians would start screening for CRC at age of 50 years.[22] In a study conducted in Canada among physicians working in university-affiliated hospitals found that 90.6% were able to identify the correct age of starting screening in adults, 87.6% correctly choose to perform FOBT every one year and only 40% were able to correctly identify the appropriate period for repeating colonoscopy for CRC screening.[15]

On the other hand, only 55.7% correctly identified CRC as the second most common cancer in Bahrain. This could be one reason also for the poor knowledge level among more than half of the participants as they are unaware of the burden of disease in the country.

Even though 51.7% of the participants had poor overall knowledge score regarding CRC screening, the majority believed that CRC screening is effective for asymptomatic average risk patients. In addition, most of them believe that FOBT, flexible sigmoidoscopy and colonoscopy are effective measures for CRC screening. However, the majority also wrongly believe that contrast barium enema and CT colonography are effective in CRC screening.

Unawareness of the best methods for CRC screening might be related to the deficiency in the curriculum used to qualify health care professionals and lack of CME activities that focus on CRC screening. These findings might not be parallel to those found in a study done in Korea which showed that most of the primary care physicians do not believe in the effectiveness of FOBT and they tend to do colonoscopy as it is readily available in Korea.[15] A survey was conducted in the United States showed that the majority of the primary care physicians believe that colonoscopy is the most effective modality for CRC screening.[23]

This study showed that the participant's age, level of education and total years of practice in the primary care were significantly correlated with the knowledge score. Participants younger than 35 years and those with less than 10 years in practice have higher knowledge scores. This could be explained by the effectiveness of the modern educational curriculum in focusing on prevention of diseases. Furthermore, the younger the participants the more enthusiastic they are regarding updating themselves with the latest guidelines, especially with the lack of experience. Similarly, studies conducted in Saudi Arabia found that participants younger than 35 years had better knowledge than older participants.[21,24] Alshaikhi et al also found that the knowledge level is positively correlated with the number of years of experience.

Board certified family physicians had a better knowledge than general practitioners regarding CRC screening in this study, which is attributed to the importance of having board certifications and specialization in the field concerned. These results were consistent with other studies that showed the higher the educational level the better the knowledge regarding CRC screening.[24,25,20] Although this study did not find a significant difference in the level of knowledge between male and female

physicians, Alshaikhi et al found that female physicians had a significantly better knowledge about CRC screening than male physicians.[21]

The practice of CRC screening among primary care physicians in this study was low. 60.3% of the physicians screen less than 25% of their eligible patients for CRC. Several factors might be attributed to this low level of CRC screening practice. The poor knowledge about CRC screening is a major factor that contributes to the low practice level as the physicians are unaware of the burden and significance of CRC hence, they do not screen their patients. In addition, the large number of patients seen by each physician per day (around 50-99 patients) and the limited times of the consultation might also affect patients' screening. Furthermore, lack of clear national guidelines that are distributed to the primary care sector and lack of monitoring on the application of the primary health care indicators are other reasons for the decrease in the practice level of CRC screening among primary care physicians. The result of this study is consistent with other studies that relieved low level of practice among primary care physicians.[19,24,26]

Most of the participants (89.7%) in this study reported lack of time as one of the barriers that hinder them from screening their patients for CRC. The regular consultation visit time is eight minutes, hence physicians might not get adequate time to explain to patients about performing FOBT to screen for CRC.

Other barriers that were mostly reported in this study and in the literature as well are patients in hurry, poor patients' awareness and patients' refusal to do the screening test.[13,19,22,27,28]

Poor public awareness of the burden of CRC and the importance of early detection in the prognosis of the disease could be a major factor for those barriers of not performing CRC screening. In addition, poor physicians' and nurses' knowledge about CRC may also contribute to the unawareness of patients about CRC as doctors and nurses are an important source of medical information to the public.

Limitations

Although this study is the first study in Bahrain to address the knowledge and practice of primary health care physicians towards CRC screening and it adds a crucial value in the understanding of the physicians' knowledge and barriers to CRC screening, it is not without any limitations. The small sample size might be a major limitation of this study. The online distribution of the questionnaire affected the response rate and hence sample size. In addition, the data of the CRC screening practice was obtained through self-report by the physicians and was not compared to their actual screening rates. Doctors probably overestimate how often they screen their eligible patients.

CONCLUSION

This study showed that most primary care physicians have poor knowledge regarding CRC screening. Hence, efforts on improving physicians' knowledge should be increased through the followings:

Implementing medical education sessions to the primary care physicians that focus on cancer prevention and screening including the awareness of the international available guidelines.

Improving the curricula used to train primary care physicians in terms of colorectal cancer burden and screening.

Implementation of National guidelines for CRC screening might improve physicians' knowledge as well.

Increase awareness of the public about CRC screening through the media.

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