International Journal of Medical Research Professionals
P-ISSN: 2454-6356; E-ISSN: 2454-6364
DOI: 10.21276/ijmrp

IJMRP

Original Research Article.

Evaluation of Knowledge, Risk Factors, Perceived Barriers, Attitude and Screening Practice of Colorectal Cancer among Tabuk Population, Saudi Arabia-2017

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ABSTRACT

Introduction: In Tabuk region, colorectal cancer (CRC) ranked the first among male and the third among female. Therefore, the current study was carried out to investigate the extent of both knowledge and attitude toward CRC risk factor and screening among specific age group (31 and above) from both males and females through conducting self-administrated questionnaire. In addition the study aimed at identifying the practice of CRC screening tests through fecal occult blood testing (FOBT), flexible sigmoidoscopy (FS) and colonoscopy, which are the main tests in cancer screening programme in Saudi Arabia. The study also identified perceived barrier of CRC screening of those who aged 51 year and above.

Methods: We have conducted a descriptive cross-sectional study in Tabuk city population, Saudi Arabia. A self-administered questionnaire, about colorectal cancer was filled by participants. A 33-item instrument was developed based on an earlier studies and instruments used in other prior studies.

Results: Participants classified to three categories according to age. Male and female groups contributed to (26.3%) and (73.6%) respectively. Mostly noticed perceived barriers for doing FOBT were: because of no symptoms and because I do not know if I have to do it, and the similar results documented for doing flexible sigmoidoscopy and colonoscopy. Participants were more likely not to be familiar with CRC screening.

Conclusion: Many misconceptions regarding cancer and its development were evident in the discussions. Collective effort is needed to broadcast this knowledge through media and public schools, with a hope that it will alter the current aggressive disease presentation in Saudi Arabia.

Keywords: Colorectal Cancer, Screening, Risk Factors, Perceived Barriers, Attitude.

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Article History:

Received: 07-10-2017, **Revised:** 01-11-2017, **Accepted:** 09-01-2018

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2018.4.1.020	

INTRODUCTION

The second most popular type of cancer among all ages from both females and males in the kingdom of Saudi Arabia is colorectal cancer (CRC) according to the most recent report by cancer registry in Saudi Arabia 2013. In Tabuk region ranked the first among male and the third among female.[1] In Saudi Arabia, recently, clinical practice guidelines for CRC has been published,[2] which is undoubtedly an excellent step in controlling CRC. The guideline presents recommendations on the age of initiating and stopping screening for CRC in average-risk individuals. It also contrasts different screening modalities (fecal occult blood testing (FOBT), flexible sigmoidoscopy, colonoscopy, or barium enema), which is an important issue at this stage in which a nationwide CRC screening program is being considered. FOBT is a self-administered test that examines fecal matter for blood, while FS screening involves an examination of the distal colon and rectum to detect and remove polyps at the pre-cancerous stage.[3]

Despite the national recommendations and positive evidence, CRC screening has not been widely adopted by the Saudi public, and a majority of people are not adherent to the guidelines. Screening can be effective at detecting cancer at treatable stages, but a large proportion of people at risk have not been screened or are not screened regularly, as recommended by national guidelines. When detected in early stages, CRC is highly treatable with 5-year survival rates as high as 90%; however, many cases are not diagnosed until later stages, when survival rates decline sharply.[4] Empirical evidence suggests that both primary (*e.g.,* diet and physical activity) and secondary (*e.g.,* screening and early detection) prevention strategies are effective means of reducing CRC incidence and mortality.[5] Secondary prevention through regular screening is valuable because CRC can have a lag period during which the disease is detectable but asymptomatic.[6]

Therefore, the current study was carried out to investigate the

extent of both knowledge and attitude toward CRC risk factor and screening among specific age group (31 and above) from both males and females through conducting self administrated questionnaire. In addition the study aimed at identifying the practice of CRC screening test through Fecal Occult Blood tests (FOBT), flexible sigmoidoscopy (FS) and colonoscopy, which are the main tests in cancer screening programme in Saudi Arabia. The study also identified perceived barrier of CRC screening of those who aged 51 year and above. Among the factors that account for inadequate levels of CRC screening, barriers perceived and encountered by patients figure prominently. These include the failure of physicians to recommend screening, gaps in knowledge, fear, embarrassment, pain and a lack of symptoms.[7-13]

METHODS

We have conducted a descriptive cross-sectional study in Tabuk city population, Saudi Arabia. The study was conducted during the period from June to October 2017. The participants were selected by random sampling. Sampling was stratified for the different geographical areas of the city. The sample size was calculated based on the formula ($n= Z_{1-\alpha}^2 P (1-P)/d^2$), where n= sample size = 384,[14,15] Z= standard normal variate = 1.96 (at 5% type I error, p= 0.05), P= expected proportion = 50%, and d= precision error = 5%. Additional 20 % was added to cover the missing data. The total sample obtained was 460. All the pupils were approached to obtain the desired sample size.270 respondents were excluded because they were below 30 years old, and the final total sample were 190.

A self-administered questionnaire, about colorectal cancer was filled by participants. A 33-item instrument was developed based on an earlier studies and instruments used in other prior studies.[8,16-18] A letter that explains the objectives of the study and asks for participants consent was sent with the questionnaire. The questionnaire requires information about Knowledge, risk factors, perceived barriers, attitude, and screening practice of colorectal cancer.

The questionnaire responses were analyzed using the Statistical Package for the Social Science (SPSS Inc. Chicago, IL, USA) version 23. Categorical variables were described by frequencies and percentages. Descriptive analysis involving Chi-square test was used to test significance of association between categorical variables. The level of significance was set at $P< 0.05$.

The research was approved by the local Research Committee of the Faculty of Medicine, University of Tabuk.

Table 1: General characteristics: (n=190)

Character		[n(%)]
Gender	**Male**	50(26.3%)
	Female	140(73.6%)
Age	**From 31 to 40 year old**	68(35.7%)
	From 41 to 50 year old	71(37.3%)
	From 51 year old and above	51(26.8%)
Education	**Bellow secondary school**	4(2.1%)
	Secondary school	28(14.7%)
	Bachelor	158(83.1%)
Income	**Poor**	29(15.2%)
	Average	153(80.5%)
	High	8(4.2%)

Table 2: Frequency of perceived barriers for screening methods of CRC (FOBT, Colonoscopy)

What prevents you from early doing FOBT for screening of CRC?	**Total (n=190)**	%
There is no reason	36	18.9%
Because of carelessness and procrastination	36	18.9%
Because I do not know if I have to do it	61	32.1%
Because it is not recommended by a doctor	45	23.6%
Because it is too embarrassing	9	4.7%
Because there is no symptoms	71	37.3%
Because I do not want to know if I have CRC	2	1.1%
What prevents you from early doing Colonoscopy for screening of CRC?	**Total (n=190)**	%
There is no reason	35	18.4%
Because of carelessness and procrastination	32	16.8%
Because I do not know if I have to do it	52	27.3%
Because it is not recommended by a doctor	50	26.3%
Because I do not think it is necessary	2	1.1%
Because it is too embarrassing	12	6.3%
Because there is no symptoms	67	35.2
Because I do not want to know if I have CRC	3	1.5%
Because it is too painful	6	3.1%

Abbreviations: FOBT, fecal occult blood test; CRC, colorectal cancer.

Table 3: Frequency of perceived barriers in relation to participants above age fifty year old and who did not do FOBT

Perceived barriers	Participants did not do FOBT n=50 (%)	P-Value
There is no reason to do FOBT	4(8%)	0.768
Because of carelessness and procrastination	4(8%)	0.768
Because I do not know if I have to do it	16(32%)	0.495
Because it is not recommended by a doctor	10(20%)	0.618
Because there is no symptoms	18(36%)	0.456

Abbreviations: FOBT, fecal occult blood test.

Table 4: Frequency of perceived barriers in relation to participants above age fifty year old and who did not do colonoscopy

Perceived barriers	Participants did not do colonoscopy or flexible sigmoidoscopy (n=45)	P-Value
There is no reason	3(6.7%)	0.392
Because of carelessness and procrastination	3(6.7%)	0.392
Because I do not know if I have to do it	9(20%)	0.104
Because it is not recommended by a doctor	9(20%)	0.104
Because of there is no symptoms	15(33.3%)	0.422

Table 5: Knowledge, attitudes, and believe within age groups:

Knowledge\Attitude\Believe	Age			P-value
	31 year-40 year old (n=68)	41 year-50 year old (n=71)	Above 50 year old (n=51)	
KNOWLEDGE				
Too much meat increases the risk of CRC	18(26.5%)	28(39.4%)	24(47.1%)	0.000
Microwaves used to reheat food increase the risk of CRC	41(60.3%)	34(47.9%)	27(52.9%)	0.535
Smoking increases the risk of CRC	65(95.6%)	69(97.2%)	51(100%)	0.469
Obesity or overweight increases the risk of CRC	35(51.5%)	40(56.3%)	30(58.8%)	0.006
Never heard about FOBT	48(70.6%)	44(62%)	36(70.6%)	0.001
Never heard about flexible sigmoidoscopy or colonoscopy	38(55.9%)	42(59.2%)	36(70.6%)	0.003
ATTITUDE				
Want to know if they have CRC	64(94.1%)	69(97.2%)	43(84.3%)	0.009
Agree to have an early cancer screening test if you do not have symptoms of CRC	61(89.7%)	56(78.9%)	40(78.4%)	0.022
It is possible to conduct an early detection test for CRC if doctor recommended	66(97.1%)	69(97.2%)	49(96.1%)	0.138
BELIEVE				
Believe CRC is serious if found late	51(75%)	55(77.5%)	41(80.4%)	0.621

Abbreviations: FOBT, fecal occult blood test; CRC, colorectal cancer.

RESULTS

Table 1 shows general characteristics of the participants. Participants classified to three categories according to age: from 31 to 40 years old, from -41 to 50 years old and 51 years old and above. Male and female groups contributed to (26.3%) and (73.6%) respectively. The majority of participants were university graduates (83.1%), about (14.7%) were secondary education, and (2.1%) were bellow secondary education.

Table 2 shows Frequency of perceived barriers of screening methods of CRC (FOBT, Colonoscopy) among participants. Participants committed that they did not do FOBT because of the following barriers: they do not know if they have to do it (32.1%), because there is no symptoms (37.3%), because it is not recommended by a doctor (23,6%), there is no reason (18.9%), and because of carelessness and procrastination (18.9%). Participants committed that they did not do colonoscopy because of the following barriers: they do not know if they have to do it (27.3%), because there is no symptoms (35.2%), because it is not recommended by a doctor (26.3%), there is no reason (18.4%), and because of carelessness and procrastination (16.8%) and only (1.1%) because they think it is not necessary.

Table 3 shows perceived barriers in relation to participants who did not do FOBT among whom above fifty years. Participants who were above age 50 were 51. Only one participant did FOBT among them. Participants committed that they will not do FOBT because of the following barriers: there is no symptoms (36%) (p=0.456), because they do not know if they have to it (32%) (p=0.495), not recommended by a doctor (20%) (p=0.618), because of carelessness and procrastination (8%) (p=0.768), and because of there is no reason (8%) (p=0.768).

Table 4 shows perceived barriers in relation to participants who did not do colonoscopy among whom above fifty years.

Participants who were above age 50 were 51. Only six participants did colonoscopy among them. Participants committed that they will not do colonoscopy because of the following barriers: there is no symptoms (33.3%) (p=0.422), because they do not know if they have to it (20%)(p=0.104), not recommended by a doctor (20%) (p=0.104), because of carelessness and procrastination (6.7%) (p=0.392), and because of there is no reason (6.7%) (p=0.392).

Table 5 shows Knowledge, attitudes, and believes of participants within age groups**.** Knowledge of participants about risk factors of CRC were varied among different risk factors and age groups. All age groups were aware about smoking as a risk of CRC. Participants who agreed that too much meat increases the risk of CRC among the age groups 31 to 40 year, 41 to 50, and 51 year and above, were (26.5%), (39.4%), and (47.1%) respectively (p=0.000). Participants who agreed that microwaves used to reheat food increases the risk of CRC among the age groups 31 to 40 year, 41 to 50, and 51 year and above, were (60.3%), (47.9%), and (52.9%) respectively (p=0.535). Participants who agreed that obesity or overweight increases the risk of CRC among the age groups 31 to 40 year, 41 to 50, and 51 year and above, were (51.5%), (56.3%), and (58.8%) respectively (p=0.006). Knowledge of participants about screening for CRC were varied among different risk factors and age groups. Participants were more likely not to be familiar with CRC screening. those whom never heard about FOBT among the age groups 31 to 40 year, 41 to 50, and 51 year and above, were (70.6%), (62%), and (70.6%) respectively (p=0.001), and those whom never heard about colonoscopy among the age groups 31 to 40 year, 41 to 50, and 51 year and above, were (55.9%), (59.2%), and (70.6%) respectively (p=0.003). Participants showed good attitude toward detection and screening of CRC. About (97%) of participants in average agreed to conduct an early detection test for CRC if doctor recommended (p=0.138), and about (82.3%) in average agreed to have an early CRC screening test even if they have no symptoms (p=0.022). In average, (77.6%) of participants believe that CRC is serious if found late (p=0.621).

DISCUSSION

Barriers experienced by patients influence the uptake of colorectal cancer (CRC) screening. In the present study, mostly noticed perceived barriers for doing fecal occult blood testing (FOBT) were: because of no symptoms, because I do not know if I have to do it, and because it is not recommended by doctor, and the similar results documented for doing flexible sigmoidoscopy and colonoscopy. Another study demonstrated that participants only will attend screening services when they noticed symptom.[19] A study showed that participants not aware if they have to do CRC screening test were (7.9%), also only (1.6%) were because it is not recommended by a doctor.[17] In this study, (1.5%) committed not to do flexible sigmoidoscopy and colonoscopy because they do not want to know if they have CRC, another study showed fear of a cancer diagnosis is a common barrier for doing flexible sigmoidoscopy for CRC screening.[19] In this study, (5.5%) in average, found it is too embarrassing to do CRC screening tests, higher results reported in other study (22%).[8] In the present study, mostly noticed perceived barriers among participants above age 50 and did not do FOBT were: because of no symptoms, because I do not know if I have to do it, and because it is not recommended by doctor, and the similar barriers in whom did not do flexible sigmoidoscopy and colonoscopy . Another study showed that the most frequently cited reasons for never obtained a FOBT for CRC screening were: lack of physician recommendation (36.6%), and lack of symptoms (30.7%), and those of the flexible sigmoidoscopy were: lack of physician recommendation (35.8%), and lack of symptoms (33.5%).[20] The present study showed that participants above age 50 more aware than participants younger the 50, similar results found in a study where participants under 45 years old knew significantly less about the risks of CRC screening than participants aged 45 to 64 (P , 0.001).[21] In total, all participants were less aware about the risk factors: unhealthy diet (p=0.000), and obesity (0.006), and about two thirds of all participants above age 50 never heard about FOBT, flexible sigmoidoscopy, and colonoscopy . Participants showed good attitude toward early detection, and early screening for CRC.

In conclusion, many misconceptions regarding cancer and its development were evident in the discussions. However participants were willing to follow the recommendations of physicians. This study highlighted the importance of increasing the awareness and knowledge about CRC, risk factors, and screening methods. Increasing screening may require system supports to help physicians identify patients due for CRC testing and interventions to educate patients about the rationale for screening.

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Source of Support: Nil.

Conflict of Interest: None Declared.

Cite this article as: Mohammed Ahmed Alhejaili, Saleh Hammad Alhawiti, Mohammed Hamad Alrashedi, Meshari Faisal Alenezi, Khalid Awad Albalawi, Tarig H Merghani. Evaluation of Knowledge, Risk Factors, Perceived Barriers, Attitude and Screening Practice of Colorectal Cancer among Tabuk Population, Saudi Arabia-2017. Int J Med Res Prof. 2018 Jan; 4(1):104-08. DOI:10.21276/ijmrp.2018.4.1.020