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

Original Research Article

Awareness of Colorectal Cancer in Tabuk City, Saudi Arabia

Mona Awad Al Othmani[1], Salwa Masad ALenzi[1], Farah Abdullah AL Atawi[1], Waad Atiah AL Omairi[1], Muna Ali AL Shehri[1], Tarig H Merghani[1], Fisal Najm K Alatawi[1]

[1]Faculty of Medicine, University of Tabuk, Tabuk, Saudi Arabia.

ABSTRACT

Background: Colorectal cancer (CRC) is an important cause of mortality in Saudi Arabia. Recent studies showed that the Saudi patients are more likely to present at advanced stages when compared to Western countries.

Objectives: The aim of this study was to investigate general awareness of colorectal cancer and its screening in in Tabuk City, Saudi Arabia.

Subjects and Methods: The study was conducted in the Surgery Department of the Military hospital in Tabuk city, Saudi Arabia. A total of 200 patients who were complaining of lower gastrointestinal symptoms participated in our study. Each participant responded to a self-administered questionnaire requesting information about age, gender, level of education, and knowledge about CRC, and its screening and prevention.

Results: About 37% males and 41% females know about CRC (p=0.478). A total of 78 participants (39%) heard about CRC screening and 58% of these performed the screening tests. The educational level has a significant association was knowledge about CRC. The majority of the higher graduated (67.2%) know about the screening methods whereas only 10.4% of those who received lower education heard about them ($p < 0.001$). Knowledge about preventive measures was significantly related to both gender (p= 0.006) and the educational attainment (p= 0.015).

Conclusion: The results demonstrated deficiency of knowledge with regard to CRC and its screening methods. Educational programs are highly recommended to increase awareness of the community about this disease.

Keywords: Colorectal cancer, Awareness, Screening, Saudi Arabia.

***Correspondence to:**

Salwa Masad ALenzi,
Faculty of Medicine,
University of Tabuk,
Tabuk, Saudi Arabia.

Article History:

Received: 05-01-2017, **Revised:** 14-01-2017, **Accepted:** 21-01-2017

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2017.3.1.021	

INTRODUCTION

Globally, colorectal cancer (CRC) is the fourth leading cause of death resulting in approximately 608.000 deaths in 2008 and 8% of all cancer related deaths. Also, it ranks as the third more incidental cancer accounting for 1,200,000 new cases in 2008.[1]

In the Kingdom of Saudi Arabia, the incidence of CRC in the Kingdom of Saudi Arabia has been on a constant rise over the past few years. The age at the time of diagnosis is lower when compared with results from developed countries.[2]

In 2005, the Saudi Cancer Registry (SCR) reported that colorectal cancer (CRC) was the second most common malignancy among Saudis for all ages (10.3%) and the number one malignancy in males (11.8%).[3] Reports from the Saudi Cancer Registry showed that the incidence of CRC in males and females were 51% and 62% higher than those reported in the world in general, with mortality reported between 1993 - 2003 in males and females as 65% and 77% respectively.[4]

It has been documented that people in Saudi Arabia have become more aware of the increase incidence of CRC among people of different ages, due to the improved diagnostic tools.[5]

In USA, the decline in CRC mortality may be associated with the declining incidence, screening and improving disease outcomes by earlier stage diagnosis and improving cancer treatment Conversely, higher CRC mortality in Saudis, especially females, might relate to increasing incidence, lack of screening with consequent advanced stage at diagnosis, accessibility to specialized centers and high prevalence of obesity, physical inactivity and diabetes.[4]

Different tertiary care hospitals (governmental and private) in KSA major cities, colonoscopy is available. Despite of that, there is no organized program to perform colonoscopy for screening purposes. Additionally, for an average income individual, performing screening colonoscopy in private health centers would be costly.[5] Qumseya et al. identified, from their population-based study conducted to survey individuals who had performed screening using colonoscopy or fecal occult blood testing (FOBT), several barriers, namely demographic, health, resource-related and personal reasons.[6] This study aimed to explore knowledge of CRC screening among Saudi general public in Tabuk city.

SUBJECTS AND METHODS

This is a cross-sectional study carried out in the Surgery Department of military hospital in Tabuk city, Saudi Arabia. Patients who were complaining from colon cancer were kindly requested to participate in a survey study about the public awareness of screening for colorectal. The questionnaire was self-administered, designed in Arabic language. It included demographic data, such as age, gender, and education level as well as questions regarding knowledge, perception and dealing with colon cancer, particularly preventive and early screening. Survey was conducted out between April to September 2016.

Data entry and descriptive analysis were done using SPSS software, version 22. Chi-square test was applied to test fir association between categorical variables and p value less than 0.05 was chosen as a cut-off level of statistical significance.

Table 1: Baseline characteristics of the participants (n=200).

Baseline characteristics	Frequency	Percentage
Gender		
Male	107	53.5
Female	93	46.5
Age (years)		
18-30	64	32.0
31-50	99	49.5
>50	37	18.5
Educational level		
Low (illiterate/elementary)	48	24.0
Moderate (intermediate/secondary)	88	44.0
High (University/above)	64	32.0

Table 2: Awareness of colorectal screening among patients

	Frequency	Percentage
CRC is equally prevalent in both genders	77	38.5
Searching for information about CRC	65	32.5
Hearing about early screening for CRC	78	39.0
Knowledge of methods of early CRC screening		
-Colonoscopy	62	31.0
-Sigmoidoscopy/fecal occult blood testing	58	29.0
-Barium enema	25	12.5
-CT scan of the abdomen	55	27.5
Self-screening for CRC	45	22.5
Awareness of preventive measures of colon cancer		
Eat plenty of fruits, vegetables and whole grain	62	31.0
Reductions of fat, especially saturated fat	63	31.5
Stop smoking	49	24.5
Physical activity and maintaining a healthy weight	26	13.0

RESULTS

Two hundred patients participated in the study. Table 1 presents their baseline characteristics. More than half of them were males (53.5%). The age of almost half of them (49.5%) ranged between 31 and 50 years whereas that of 32% ranged between 18 and 30 years. About one-third of them (32%) were high educated (University and above) whereas 24% were low educated (illiterate/elementary school).

From table 2, it is shown that 38.5% of patients could recognize that CRC is equally prevalent in both genders and 32.5% reported searching for information about CRC. More than one third of them (39%) heard about screening for CRC. The most frequent known screening methods were colonoscopy (31%), Sigmoidoscopy/fecal occult blood testing (29%) and CT scan of the abdomen (27.5%).

Self-screening for CRC was mentioned by 22.5% of the participants. Regarding preventive measures, the awareness of patients was highest regarding eating plenty of fruits, vegetables and whole grain (31%) and lowest regarding practicing physical activity and maintaining a healthy weight (13%).

Table 3 demonstrates that awareness of CRC screening did not associated with patients` age. Concerning patients` gender, female patients were more searching for information regarding CRC than males (37.6% versus, 28%), p=0.021. Also, they were more aware about some preventive measures such as eating plenty of fruits, vegetables and whole grain and reductions of fat, especially saturated fat whereas males were more aware regarding the protective role of stopping smoking. The difference between both genders in this regard was statistically significant, p=0.006. Higher educated patients were more aware about different aspects of CRC screening than low-educated patients. The differences were statistically significant with the exception of the awareness regarding the fact that CRC is equally prevalent in both genders.

Table 3: Awareness of colorectal screening among patients according to their age

	Age (years)			p-value*
	18-30 N=64 N (%)	31-50 N=99 N (%)	>50 N=37 N (%)	
CRC is equally prevalent in both genders	28 (43.8)	35 (35.4)	14 (37.8)	0.558
Searching for information about CRC	22 (34.4)	30 (30.3)	13 (35.1)	0.804
Hearing about early screening for CRC	32 (50.0)	34 (34.3)	12 (32.4)	0.089
Knowledge of methods of early CRC screening				
-Colonoscopy	14 (21.9)	34 (34.3)	14 (37.8)	0.062
-Sigmoidoscopy/fecal occult blood testing	17 (26.6)	30 (30.3)	11 (29.8)	
-Barium enema	15 (23.4)	8 (8.1)	2 (5.4)	
-CT scan of the abdomen	18 (28.1)	27 (27.3)	10 (27.0)	
Self-screening for CRC	13 (20.3)	24 (24.2)	8 (21.6)	0.833
Awareness of preventive measures of colon cancer				
Eat plenty of fruits, vegetables and whole grain	24 (37.5)	28 (28.3)	10 (27.0)	0.131
Reductions of fat, especially saturated fat	15 (23.4)	30 (30.3)	18 (48.7)	
Stop smoking	14 (21.9)	28 (28.3)	7 (18.9)	
Physical activity and maintaining a healthy weight	11 (17.2)	13 (13.1)	2 (5.4)	

*Chi-square test

Table 4: Awareness of colorectal screening among patients according to their gender.

	Males N=107 N (%)	Females N=93 N (%)	p-value*
CRC is equally prevalent in both genders	39 (36.4)	38 (40.9)	0.688
Searching for information about CRC	30 (28.0)	35 (37.6)	0.021
Hearing about early screening for CRC	40 (37.4)	38 (40.9)	0.478
Knowledge of methods of early CRC screening			
-Colonoscopy	35 (32.8)	28 (30.1)	0.929
-Sigmoidoscopy/fecal occult blood testing	30 (28.0)	27 (29.0)	
-Barium enema	12 (11.2)	13 (14.0)	
-CT scan of the abdomen	30 (28.0)	25 (26.9)	
Self-screening for CRC	22 (20.6)	23 (24.7)	0.455
Awareness of preventive measures of colon cancer			
Eat plenty of fruits, vegetables and whole grain	25 (23.3)	37 (39.8)	0.006
Reductions of fat, especially saturated fat	32 (30.0)	31 (33.3)	
Stop smoking	36 (33.6)	13 (14.0)	
Physical activity and maintaining a healthy weight	14 (13.1)	12 (12.9)	

*Chi-square test

Table 5: Awareness of colorectal screening among patients according to their educational level

	Educational level			p-value*
	Low N=48 N (%)	Moderate N=88 N (%)	High N=64 N (%)	
CRC is equally prevalent in both genders	12 (25.0)	37 (42.0)	28 (43.8)	0.086
Searching for information about CRC	4 (8.3)	19 (21.6)	42 (65.6)	<0.001
Hearing about early screening for CRC	5 (10.4)	30 (34.1)	43 (67.2)	<0.001
Knowledge of methods of early CRC screening				
-Colonoscopy	15 (31.3)	26 (29.5)	21 (32.8)	0.004
-Sigmoidoscopy/fecal occult blood testing	10 (20.8)	20 (22.8)	28 (43.8)	
-Barium enema	5 (10.4)	11 (12.5)	9 (14.1)	
-CT scan of the abdomen	18 (20.5)	31 (35.2)	6 (9.3)	
Self-screening for CRC	4 (8.3)	13 (14.8)	28 (43.8)	<0.001
Awareness of preventive measures of colon cancer				
Eat plenty of fruits, vegetables and whole grain	11 (22.9)	31 (35.3)	20 (31.3)	0.015
Reductions of fat, especially saturated fat	17 (35.4)	25 (28.4)	21 (32.8)	
Stop smoking	15 (31.3)	26 (29.5)	8 (12.5)	
Physical activity and maintaining a healthy weight	5 (10.4)	6 (6.8)	15 (23.4)	

*Chi-square test

DISCUSSION

Although the incidence of CRC is relatively low in the Kingdom of Saudi Arabia, it ranks first among men and third among women.[7] CRC screening programs have been initiated in some countries, despite of that the participation rates in these programs are relatively low compared with other screening programs conducted for breast and cervical cancers.[8] Furthermore, it has been documented that awareness of a disease is directly related to participation in its screening program;[9] therefore, this study aimed to explore knowledge of CRC screening among Saudi general public in Tabuk city which we hope to help in increasing participation in a future screening program through identifying weak points of awareness.

Despite in Saudi Arabia, resources for diagnostic procedures for CRC screening are available, there is no organized screening program for CRC. In the current study, only 39% of the population was aware of the CRC screening. Interestingly, USA Arab immigrants were also had a low rate of screening.[8]

In accordance with other studies,[5,6] age and sex of the individuals were not significantly associated with CRC screening awareness, however, educational levels had an influence on the awareness of this subject. However, in a recent similar study carried out in Riyadh,[10] age was significantly associated with the degree of awareness, being highest in the age group 20-29 years, however, gender and educational level were not significantly associated with the degree of awareness.

In the current survey, self-screening was reported by 22.5% of the participants and the known screening methods were colonoscopy (31%), Sigmoidoscopy/fecal occult blood testing (29%) and CT scan of the abdomen (27.5%). Qumseya et al., reported that low educational level was associated with a lower probability of accepting colonoscopy as a screening method and increased age was associated with decreased probability of accepting FOBT as a screening tool.[5]

In the present study, less than one-third of the respondents were aware of the preventive measures of CRC. In another study conducted in Riyadh, most of the participants knew that food habit and family history are important risk factors for CRC.[10]

Several approaches to increase CRC awareness among general public have been suggested, including using health fairs to promote CRC screening practices.[11] Workplace screening has also been reported to increase CRC awareness and promote screening effectively. These two approaches could be applied in Saudi Arabia.[12] Based on the widespread lack of knowledge of CRC in Saudi Arabia, a national screening program should be considered.

This study has some limitations including sample bias as it included CRC patients instead of general public. Therefore, future studies should include more precise sample of general population. Also, its cross-sectional design does not permit causality between studied variables

Conclusively, awareness of CRC screening and preventive measures in Saudi Arabia is suboptimal. Education is an important indicator for better awareness. Therefore, education and screening programs should target all population of Saudi Arabia.

REFERENCES

1. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. International Journal of Cancer 2010;. 127(12): 2893–2917.
2. Mosli MH, Al-Ahwal MS. Colorectal Cancer in the Kingdom of Saudi Arabia: Need for Screening. APJCP 2012; 13(8):3809-13.
3. Al-Eid HS, Bazarbashi S, Al-Zahrani A. Cancer Incidence Report Saudi Arabia 2005. Saudi Cancer Registry Web site. Available at: http://www.scr. org.sa/ reports/Assessed on October 29, 2011
4. Ibrahim EM, Zeeneldin AA, El-Khodary TR, Al-Gahmi AM, Bin Sadiq BM. Past, present and future of colorectal cancer in the Kingdom of Saudi Arabia. Saudi J Gastroenterol. 2008; 14 (4):178–182.
5. Khayyat YM, Ibrahim EM. Public awareness of colon cancer screening among the general population: A study from the Western Region of Saudi Arabia. Qatar Med. Journal. 2014;3:17-24.
6. Qumseya BJ, Tayem YI, Dasa OY, Nahhal KW, Abu-Limon IM, Hmidat AM, et al. Barriers to colorectal cancer screening in palestine: a national study in a medically underserved population. Clin Gastroenterol Hepatol. 2014;12(3):463–469.
7. Al-Ahwal MS, Shafik YH, Al-Ahwal HM. First national survival data for colorectal cancer among Saudis between 1994 and 2004: What's next? BMC Public Health. 2013;13:73.
8. Klabunde CN, Lanier D, Breslau ES, Zapka JG, Fletcher RH, Ransohoff DF, et al. Improving colorectal cancer screening in primary care practice: Innovative strategies and future directions. J Gen Intern Med. 2007;22:1195-205.
9. Koo JH, Leong RW, Ching J, Yeoh KG, Wu DC, Murdani A, et al. Knowledge of, attitudes toward, and barriers to participation of colorectal cancer screening tests in the Asia-Pacific region: A multicenter study. Gastrointest Endosc. 2012;76:126-35.
10. Zubaidi AM, AlSubaie NM, AlHumaid AA, Shaik SA, AlKhayal KA, AlObeed OA. Public Awareness of Colorectal Cancer in Saudi Arabia: A Survey of 1070 Participants in Riyadh. Saudi J Gastroenterol. 2015 Mar-Apr; 21(2): 78-83.
11. Greenwald B. Health fairs: An avenue for colon health promotion in the community. Gastroenterol Nurs. 2003;26:191-4. [PubMed]
12. Bagai A, Parsons K, Malone B, Fantino J, Paszat L, Rabeneck L. Workplace colorectal cancer-screening awareness programs: An adjunct to primary care practice? J Community Health. 2007; 32:157-67.

Source of Support: Nil. **Conflict of Interest:** None Declared.

Cite this article as: Mona Awad Al Othmani, Salwa Masad ALenzi, Farah Abdullah AL Atawi, Waad Atiah AL Omairi, Muna Ali AL Shehri, Tarig H Merghani, Fisal Najm K Alatawi. Awareness of Colorectal Cancer in Tabuk City, Saudi Arabia. Int J Med Res Prof. 2017; 3(1):112-15. DOI: 10.21276/ijmrp.2017.3.1.021