

Knowledge of Colorectal Cancer Screening among men in AlAhsa, Saudi Arabia.

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Abstract—

BACKGROUND AND OBJECTIVE: Colorectal cancer (CRC) incidence is constantly rising in Saudi Arabia. It is the most common cancer among men and the third among women, accounting for 53.1% and 46.9% of all males and females diagnosed with cancer. Although its incidence is increasing, public awareness remains low, therefore, the aim of this study was to evaluate the knowledge of CRC among Saudi males in AlAhsa region and their awareness regarding its risk factors, symptoms, screening and screening methods according to various demographic characteristics.

SUBJECTS AND METHODS: The study was conducted among AlAhsa Saudi residents, Eastern Province, Saudi Arabia. Participants were randomly selected and responded to a self-administered questionnaire to obtain information regarding their socio-demographic characteristics and knowledge about CRC and its screening and prevention.

RESULTS: In total, 694 participants responded to the survey and completed the questionnaire. A total of 488 (70.3%) respondents have heard about CRC, however, only 200 (28.8%) of them heard about its screening methods. Older respondents and highly educated ones were more aware of CRC and its screening methods ($p < 0.05$).

CONCLUSION: Knowledge of CRC and its screening and preventive measures among AlAhsa male residents is suboptimal. Therefore, a national education and screening program is required to enhance public awareness, since it's one of the commonest malignancies in Saudi Arabia.

Index Terms— Colorectal cancer, risk factors, screening, awareness, Saudi Arabia.

INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer and the third most common cause of cancer-related death in 2015 accounting for 774 000 deaths globally [1].

Even though 55% of CRC cases occur in high income developed countries, more deaths (52%) occur in low and middle income developing countries, which reflect poorer prognosis in these countries [2]. It is estimated that 2.4 million new cases of CRC will be diagnosed annually worldwide by the year 2035, signaling an ever-increasing burden over the next decades [3].

Based on 2013 Saudi Cancer Registry (SCR) report, CRC is the second most common malignancy after breast cancer accounting for 11.9% of all newly diagnosed cases in the kingdom. It is number one malignancy among males and the third among females constituting 53.1% and 46.9%, respectively. It

showed that the incidence of CRC among Saudi population has been increasing steadily over the past few years, being most prevalent in Eastern province, Riyadh and Asir and least prevalent in Jazan and Baha [4, 5]. It has been shown that CRC present at a younger age group among Saudi patients and at a more advanced stage of the disease compared to developed countries [5 - 7].

The increasing incidence of CRC and the fact that most patients are initially asymptomatic and young and have distant metastasis at the time of presentation emphasizes the importance of preventive screening program; early diagnosis of CRC by screening programs is associated with reduced incidence and mortality of the disease [8 - 10]. However, despite the availability of resources for diagnosis in Saudi Arabia, there is no organized screening programs on the national level, and

CRC screening uptake by the population is lower than that of other screening-amenable tumors, such as breast and cervical cancer, due to lack of knowledge [11]. Therefore, the aim of this study is to evaluate the knowledge of CRC among Saudi males in AlAhsa region and their awareness regarding its risk factors, symptoms, screening and screening methods according to various demographic characteristics.

SUBJECTS AND METHODS

2.1 Study design

A cross-sectional study was carried out among Saudi males in AlAhsa region, Saudi Arabia, and an ethical approval was taken from College of Medicine, King Faisal University.

2.2 Participants' characteristics

Participants were recruited randomly and informed consent was taken before filling the questionnaire, which consisted of two parts, i.e. demographic data, such as age, gender, and educational level as well as questions regarding knowledge, perception and dealing with colon cancer, particularly preventive and early screening that consisted of 10 closed-ended questions in Arabic Language.

The sample size was calculated assuming that 5% is the margin of error at 95% confidence interval, number of population according to the latest statistics available of AlAhsa population, with adding 15% for missing data to be 385 subjects required for the study.

2.3 statistical analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS, version 23, SPSS, Chicago, IL, U.S.A.). Descriptive statistics, i.e. mean and standard deviation were used for continuous variables while frequency and percentage were applied for categorical variables. Chi-square test was used to explore the association between socio-demographic data and knowledge items, and a p value <0.05 was considered statistically significant.

RESULTS

A total of 694 men from AlAhsa responded to the questionnaire. The participants were within the age range of 20 - 60 years with a mean of 2.3 and standard deviation of 0.75. The majority (66.6%) of the participants were between 20 - 40 years, more than half of them were highly educated, i.e. university degree or more (63.5%) and non-smokers (67%). Base-

line characteristic presented in **Table1**.

It has been shown that more than two-third of the participants (70.3%) have heard about CRC and only 7.9% were screened before. Almost half of them (49.3%) identified obesity and cigarette smoking as risk factors for CRC, however, 59.8% had no idea about its symptoms.

More than two third of the respondents (79.1%) were willing to screen for CRC even before symptoms appear, indicating positive attitude toward screening tests. The most frequent known screening method were colonoscopy (30.1%) followed by fecal occult blood test (8.5%).

Table 2 showed that older individuals (p= 0.00) and highly educated people (p= 0.034) are more aware of CRC and its screening methods.

Responses to questions of awareness and knowledge assessment questionnaire indicated that the majority of participants have insufficient information about colorectal cancer and its screening as shown in the figures that provided for analysis of items that answered by the targeted population. (**figure1**)

Furthermore, a significant correlation between socio-demographic characteristic and knowledge had been identified in the analysis shown in (**Table2**). The age showed presence of association with awareness about colorectal cancer screening as older age groups have more knowledge than young population. But the education showed moderately significant association with two items (i.e. heard about this type of cancer and underwent previous screening) as the higher the education level is, the higher the awareness among participants.

(Table 1.) Baseline characteristic of participants.

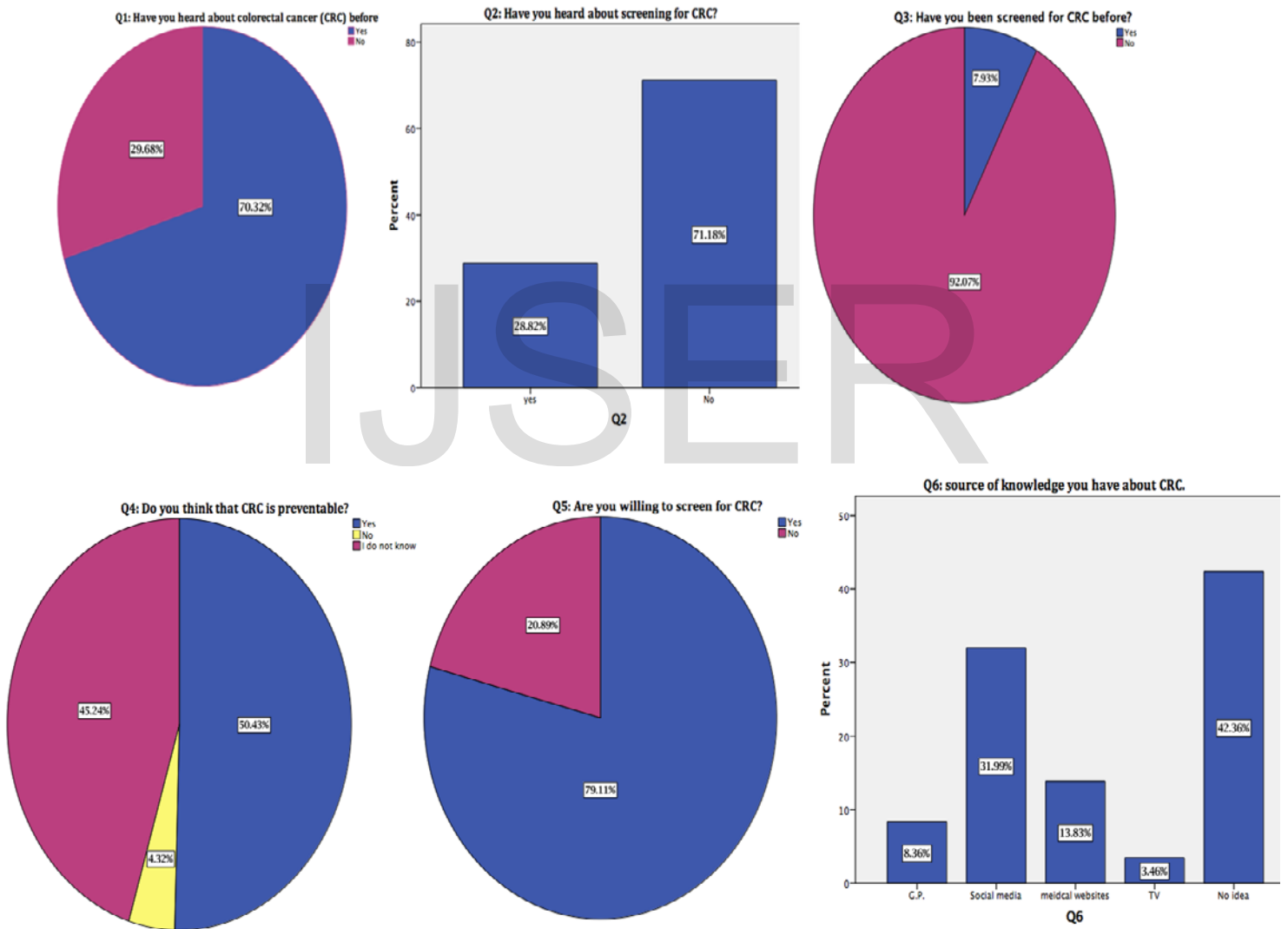
Number of participants		(n)	Percentage (%)
	Male	694	100%
Age (years)			
	<20	39	5.6%
	20-40	462	66.6%
	40-50	114	16.4%
	>50	79	11.4%
Level of Education			
	Primary	18	2.6%
	Intermediate	43	6.2%
	Secondary	192	27.7%
	Higher	441	63.5%
Smoking			
	Smoker	229	33%
	Non-smoker	465	67%

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(Table2) correlation between baseline characteristic and knowledge.

	Heard of colon cancer?	Heard about screening?	Previous screening?
Age	.000	.000	.000
Level of education	.034	.341	.034

(Figure1)



Q7: When should you visit family physician to screen for CRC?

	Frequency (n)	Percentage (%)
having symptoms	150	21.6
At age of 20s	112	16.1
At age of 50s	149	21.5
At age of 70s	5	.7
I do not know	278	40.1
Total	694	100.0

Q8: Abdominal pain, blood on stool are symptoms to suspect

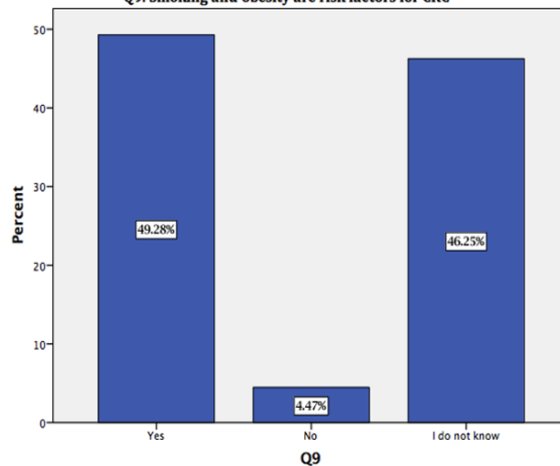
CRC in elderly.

	Frequency (n)	Percentage (%)
Yes	247	35.6
No	32	4.6
I do not know	415	59.8
Total	694	100.0

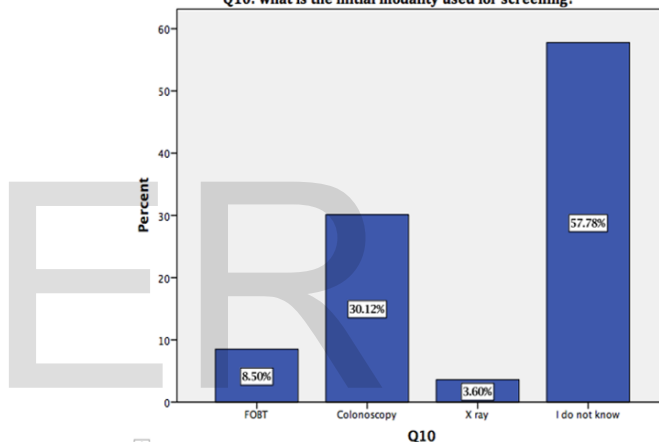
DISCUSSION

This study is designed to explore the level of knowledge about colorectal cancer screening in males as they are at risk of developing colon cancer. The analysis that performed of data demonstrated that respondents who answered the questionnaire had been heard about the CRC as 70% of highly educated respondents have been heard about it while 30% of them they have not heard about the CRC. Although more than 70% of them did not hear about the screening of the CRC, Fifty percent of the respondents they think that the CRC is preventable. On the other hand, the other 50% they don't know whether is it preventable or not. Most of the respondents have no idea about the age of screening and when they should visit a family physician to screen for the CRC. Also, more than 90 percent of respondents have not previously done the screening of this disease which is indicating that the population needs more

Q9: Smoking and obesity are risk factors for CRC



Q10: what is the initial modality used for screening?



awareness of the CRC. Further, most of the respondents have no idea about their knowledge of the source of the CRC, although some of them they got their knowledge from different sources. The study refers that 32% of them they get their knowledge from social media, 13% depends on medical websites, 8% from G.P, and 3% from TV.

In the current study, 59 % of the respondents have no idea about major symptoms of the CRC such as abdominal pain and blood in stools. However, 35% of them they are aware of the symptoms of this disease. More than fifty percent of the respondents have no idea about the initial modality of screening. A thirty percent of them choose colonoscopy as an initial modality to screen the CRC, eight percent of them choose fecal occult blood test, and less than four percent chose X-ray. A forty-nine percent of the respondents have known about the risk factors of CRC such as obesity and smoking as well. In contrast, the other forty-six percent they do not know about the risk factor. Educate the people is important to reduce or prevent the risk of disease especially who have a higher risk to get the CRC.

Even with less knowledge about the screening in the population, most of them are ready to do it, which is developing a positive attitude toward screening test.

Similarly, low levels of knowledge about CRC have been reported by other studies [12-14]. A study conducted in Al Ahsa among older Saudi male attending health centers found poor knowledge level [12-14]. Another study conducted in Saudi Arabia, a general lack of knowledge has been identified about CRC risk factors and screening tools [15]. Further, educated males between the age of 50-59 years had significantly higher level of knowledge and prior screening done as they are aware about risk factors [16].

CONCLUSION

Our study demonstrated that level of Knowledge about CRC symptoms, risk factors and its screening modalities was insufficient among AlAhsa male residents. Such findings reflect reasonable justification regardless unfollowing guidelines of screening for early detection of a CRC. Therefore, the importance of implementing of effective ways that can enhance and encourage the preventive measures such as an organized national screening program and educational campaigns for public awareness about colorectal cancer disease, its risk factors, screening modalities is necessary.

CONFLICT OF INTERESTS: No conflict of interests declared by authors to publish this study.

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