

Assessment of the knowledge and awareness of colorectal cancer among general population of Makkah: a survey based study

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Abstract

Introduction: Cancer mortality statistics in Saudi Arabia have been significantly elevated in recent years. The Saudi Cancer Registry reported that colorectal cancer ranked among first in the male population and among third in the female population. The aim of the study is to assess the level of knowledge and awareness of colorectal cancer among the general population of Makkah residents.

Materials and Methods: A cross-sectional study was conducted among residents of Makkah City, Saudi Arabia, in August 2016. The data were analyzed by SPSS v23.

Results: A total of 385 Makkah residents answered the questionnaire. The participants' ages ranged from 15-60 years. The majority of the participants (85.7%) had heard of colorectal cancer. However, nearly half (49.1%) of the participants had received information regarding colorectal cancer as part of their school curriculum. More than half of the students (53.5%) recognized that colorectal cancer can start without any obvious symptoms. More than one-third (37.9%) of participants believed that men are more likely than women to suffer from colorectal cancer, while almost one-third (29.4%) said they knew nothing about the symptoms, and 21.8% thought that men and women have an equal chance of contracting colorectal cancer. Regarding screening, nearly all participants (92.2%) had never had an early screening for tumors of the colon and rectum. Only 3.6% answered that they had undergone such screening.

Conclusion: The findings of this study revealed the knowledge and awareness of colorectal cancer's symptoms, influential factors, and screening among residents of Makkah City, Saudi Arabia. The results were variable, but overall knowledge was low. More efforts are needed to increase knowledge of one of the most common cancers in Saudi Arabia.

Keywords: colorectal cancer, awareness, Makkah, Saudi Arabia

Introduction

The mortality statistics of cancer in Saudi Arabia have been significantly elevated in the few recent years. According to the Saudi Cancer Registry (SCR), colorectal cancer ranked first among male population and third most common cancer among female population since 2002 in Saudi Arabia, a study has been conducted and 1109 cases of cancer were diagnosed and registered, about half of the population were males 617 (55.6%) and 492 (44.4%) females. At diagnosis 56 years was the median age for females and 60 years for males [1]. Colorectal cancer is also considered as one of the leading causes of death worldwide, in United State, colorectal cancer ranked second leading cause of death. According to the national statistics, in U.S 2013, it is approximate that there will be 142,820 new cases diagnosed and 50,830 deaths due to this disease [2].

The community also falls to them a crucial role in increasing the awareness and knowledge of the risk factors and warning signs of common diseases such as colorectal cancer. This process will add sufficient knowledge about the disease and may lead the general population to involve in the cancer

screening [3]. Colorectal cancer can be prevented, and there are many different ways of the prevention such as lifestyle modification and cancer screening regularly and these ways have proved to reduce the incidence of colorectal cancer [4].

Most of the risk factors that are correlated with colorectal cancer are avoidable, such as, sedentary lifestyles (absence of physical activity, obesity, excessive smoking and alcohol consumption), nutrition deficiency (low dietary fibre, high saturated fat intake) and infections [5]. Other important risk factors that correlated with colorectal cancer but cannot be modified such as family history and age [6].

One symptom or more of the following can be associated with colorectal cancer such as chronic change in bowel habits, chronic abdominal pain, rectal bleeding, fever and unexplained weight loss, weakness and fatigue. also, there are some conditions that may relate to colorectal cancer such as inflammatory bowel disease, irritable bowel syndrome, infection or haemorrhoids [7].

In spite of the increasing in the incidence of colorectal cancer, health education about colorectal cancer is not point up by Ministry of Health in compare with other cancers such as breast and lung cancer. Ministry of Health did not Approved screening program for colorectal cancer, therefore, it's influential to enhance the level of awareness and knowledge of colorectal cancer in the Saudi Population. Hence, our aim of this study is to assess the level of the knowledge and awareness of colorectal cancer among the general population of Makkah.

Method and Materials

A cross-sectional study was conducted among Makkah city residents, Saudi Arabia during August 2016. The participants were randomly selected. During assembling the answers, consent was applied before filling the questionnaire. The participants were recruited with these inclusion criteria: 1) education level Primary-Academic; 2) Speciality whether it was medical or non-medical.

Research Instrument: The questionnaire was adapted from surveys identified in the relevant literature, containing 21 items. The survey consists of several sections; it was in the following order (General information - Symptoms - Influential factors - The screening). Data were analysed statistically using the Statistical Package for the Social Sciences version 23.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to describe continuous variables (e.g. mean and standard deviation), while frequencies and percentages present categorical variables. the mean score differences of the awareness and knowledge sections between genders were determine using independent sample t-test. Statistical significance was determined at $p < 0.05$.

Results

A total of 385 general population of Makkah residents answered the questionnaire. The participants were within the age range of 15-60 years. Majority of the participants were females (51.7%). In addition, (59.7%) of the participants were from medical college.

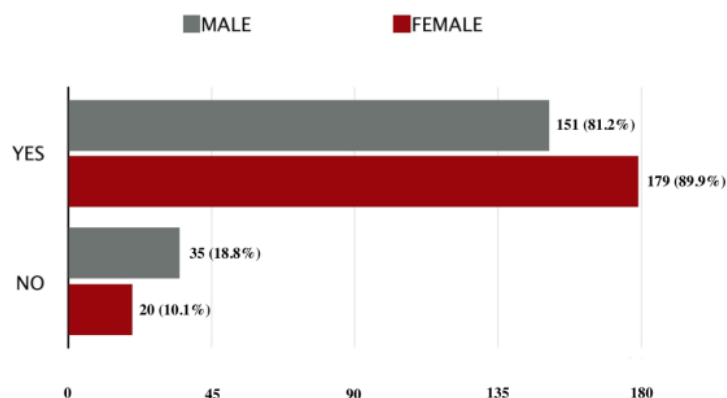
Table 1. Demographic Characteristics (n=385)

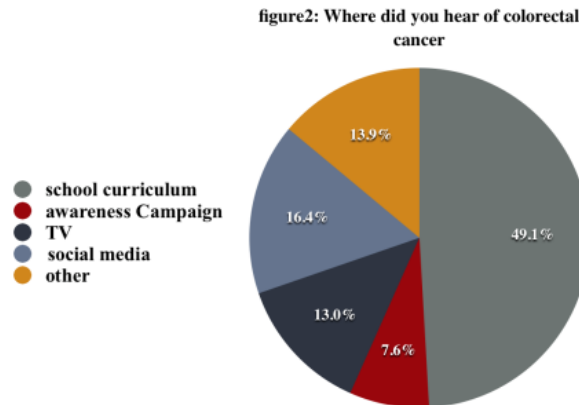
Description	N (%)
Gender	
Male	186 (48.3)
Female	199 (51.7)
Age	
15-20	117 (30.4)
21-30	216 (56.1)
31-40	35 (9.1)
41-50	12 (3.1)
51-60	5 (1.3)
Faculty	
Medical	230 (59.7)
Non-medical	155 (40.3)
Level of Education	
Primary	2 (0.5)
Intermediate	8 (2.1)
Secondary	114 (29.6)
Academic	256 (66.5)
Other	5 (1.3)

General information Sections

The General information section consisted of two items that are assessing the level of knowledge of colorectal cancer. The majority of the participants (85.7%) were heard of colorectal cancer as showed in Figure1. However, approximately (49.1%) of the participants had received information material regarding colorectal cancer within their school curriculum as presented in Figure2, followed by social media (16.4%), and nearly (34.6%) from other sources such as TV and awareness Campaign.

Figure1.

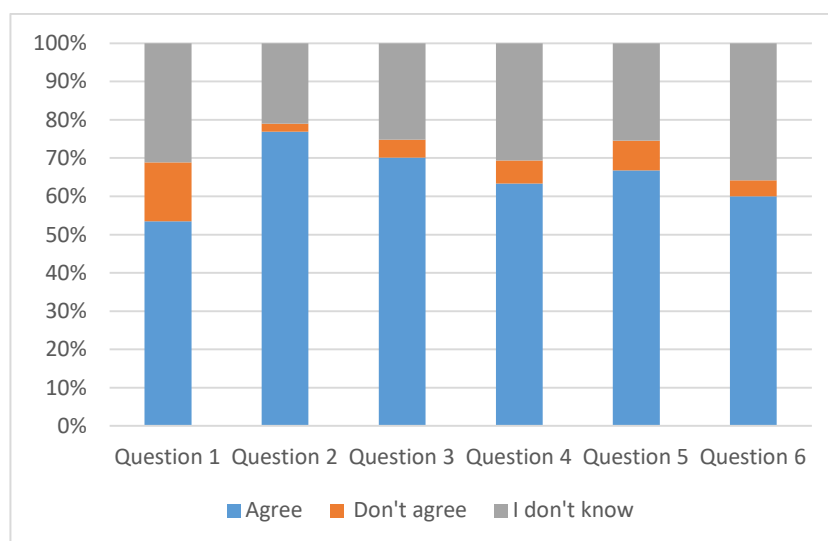




Awareness of Symptoms Sections

The awareness regarding symptoms section are shown in figure3, more than half of the students (53.5%) were recognised that colorectal cancer can possibly start without any obvious symptoms. regarding colorectal cancer may cause disturbances in the intestines constipation or diarrhoea (76.9%) agreed, While)21.0%) did not know the answer. Of all the participants (70.1%) agreed that anal bleeding can be a symptom of cancer of the colon and rectum. as for the fourth question in the symptoms section (63.4%) agreed that the presence of blood in the stool and change its colour to the dark colour is a symptom of cancer of the colon and rectum, while (30.6%) did not know the answer. (66.8%) agreed that colorectal cancer may cause cramps and abdominal pain, and only (7.8) did not agree. The last question in the symptoms section was held to assess the awareness regarding rapid descent of the weight and without cause is a symptom of cancer of the colon and rectum and (60.0%) of participant agreed, while (35.8%) did not know the answer.

Figure 3. Questions percentage of symptoms section



Awareness of Influential Factors Sections

In the Influential Factors Sections presented in table2, (37.9%) of participant believes that men are more likely to suffer from colorectal cancer, while (29.4%) have responded as they do not know the answer, (21.8%) think that men and women are having an equal chance to suffer from colorectal cancer. regarding the existence of an acquired or hereditary defect in the gene may be the causes of cancer of the colon and rectum (59.2%) of the participant agreed with this fact, while (29.6%) did not know what is the right answer. About (46.8%) believe that Jags polyps in the colon are an important factor in the incidence of colorectal cancer, while (46.2%) did not know the answer.

The fourth question of influential factors Sections was Inflamed colon are a risk factor for having colorectal cancer (53.2%) of the participant answers correctly, while (35.3%) have responded as they do not know the answer. Regarding that fact that if one of the family members are suffering from colorectal cancer, then this will increase your chance of having that same illness (48.6%) of participant have agreed, while (23.6%) did not agree with this. (54.5%) of participant have agreed that smokers are more susceptible to have colorectal cancer, while (13.8%) do not believe so. (46.8%) believe that obese people are more likely to suffer from colorectal cancer, while (41.8%) did not know the answer.

The last question in Influential Factors Sections was do you think that Cancer of the colon and rectum proportion of occurrence are larger in people over 50 years of age more than others and (58.2%) do believe so, while (9.4%) do not think that there is a relation between age and proportion of occurrence.

Table 2. Influential Factors Sections answers (n=385)

	Men (%)	Women (%)	Both equal (%)	I don't know (%)
in your opinion how is more likely to suffer from colorectal cancer	146 (37.9)	42 (10.9)	84 (21.8)	113 (29.4)
		Agree (%)	Don't agree (%)	I don't know (%)
existence of an acquired or hereditary defect in the gene may be the causes of cancer of the colon and rectum		228 (59.2)	43 (11.2)	114 (29.6)
Jags polyps in the colon is an important factor in the incidence of colorectal cancer		180 (46.8)	27 (7.0)	178 (46.2)
Inflamed colon are a risk factor for having colorectal cancer		205 (53.2)	44 (11.4)	136 (35.3)
if one of the family members are suffering from colorectal cancer, then this will increase your chance of having that same illness		187 (48.6)	91 (23.6)	107 (27.8)
smokers are more susceptible to have colorectal cancer		210 (54.5)	53 (13.8)	122 (31.7)
obese people are more likely to suffer from colorectal cancer		180 (46.8)	44 (11.4)	161 (41.8)
do you think that Cancer of the colon and rectum proportion of occurrence are larger in people over 50 years of age more than others		224 (58.2)	36 (9.4)	125 (32.5)

Awareness of The Screening Sections

Regained Screening section there was five questions assessing the level of knowledge and awareness associated with this matter. The majority of the participant had never done an early screening for tumours of the colon and rectum (92.2%), while only (3.6%) answer yes. The next question was what are the means of detecting colorectal cancer which you prefer (34.8%) of participant

prefer Colonoscopy, while (17.4%) prefer Abdominal CT scanner, (16.1%) of participant think Blood in the stool sample test is a better choice, while (10.4%) of participant prefer barium X-ray of the gastrointestinal for screening colorectal cancer, and (21.3%) of participant did not know what to answer.

The next question relied on the previous answer, (34.8%) of participant answered the previous question based on Previous knowledge of the screening, while (28.6%) have made their choice influenced by fear of Colonoscopy, (7.3%) of participant have made their choice influenced lack of conviction about the subject, and (29,4%) have made their choice randomly as they claim. The fourth equation of the screening sections was if you show any of the following symptoms will you perform the screening (pain and abdominal cramps - diarrhea or constipation - a companion blood stool) majority of the participant respond with agreement (76.1%), while (23.9%) think that they will not perform the screening test. the last question of this section was if you're one of the following categories (suffering from obesity - older than 50 years - one family member suffer from colorectal cancer - smoker), you will perform the screening even if you do not suffer from any symptoms (to check only), more than a half of the population answer yes (59.7%), while (40.3%) of the participant answer no to the question.

In table 3, good score level having at least 70% correct answers, Symptoms and Influential factors sections were presented. Based on the results, participants had Equal awareness and knowledge level regarding cancer symptom, however, only 22.7% had high knowledge levels on cancer Influential factors while 77.3% of participants obtained a poor score level in the Influential factors section.

Table 3. Score Level of Symptoms and Influential factors sections (n=385)

Sections	Score level, n (%)	
	Good	Poor
Symptoms	193 (50.3)	191 (49.4)
Influential factors	87 (22.7)	297 (77.3)

Discussion

This study investigated the knowledge and awareness regarding colorectal cancer among general population of Makkah, the overall results revealed that the majority of the population had moderate awareness and knowledge levels. As has been shown in the result of this study, gender was significantly associated with awareness of colorectal cancer; the male had significantly lower scores compared to female in the General information section and the findings of this study were in agreement with a study that have been sustained in Malaysia upon undergraduate students on the awareness and knowledge levels of colorectal cancer [8]. However, based on the findings of this study, students who were female and from medical faculties demonstrated significantly higher awareness, knowledge and attitude scores compared to males and non-medical students. These results were in agreement to the findings that we have found in this study.

The score differences between genders may be due to the fact that females are more involved in cancer detection activities, particularly because cancer prevention campaigns have focused mainly

on breast and cervical cancers which involves only females [9]. Results from the current study revealed that near half of the participants have heard about colorectal cancer through the study curriculum, while media and public health were insufficient in raising awareness of the population. There for, it is important that the Healthcare professionals should take a position to play an active role communicating the messages for colorectal cancer prevention through platform of media.

In spite of increasing in the incidence of colorectal cancer, health education regarding the CRC is not highlighted by the Ministry of Health yet, comparing to other cancers such as lung and breast cancer. In contrast, the Ministry of Health did not establish national screening program for the colorectal cancer, therefore, it's important to activate the role of health promotion and investigate the level of awareness toward colorectal cancer in the Saudi Population. The results show that half of the participants have low level of knowledge regarding symptoms of colorectal cancer. Among our study population only (50.3%) could identified the symptoms of colorectal cancer. The abdominal pain was the third common clinical presenting symptoms in colorectal cancer patients in one of the teaching hospital in Malaysia [10].

In our study, (66.8) of the participants think that abdominal pain is a signs of CRC. In addition, Females knew more colorectal cancer symptoms than males. This consist with other studies [11, 12, 13]. The education campaigns which targeting men could make an impact on the level of the knowledge between gender. Medical students showed higher knowledge of symptoms for colorectal cancer than non-medical which could reflect better knowledge of colorectal cancer from study curriculum and that's lead Ministry of Health to highlighting the role of public health and activate the campaigns of the common chronic diseases and encourage both sexes from different colleges and school levels into it. Awareness of warning signs and risk factors of colorectal cancer are associated with more positive attitude as well as the regular screening, and that's helping in reduce the incidence and mortality of colorectal cancer [14, 15].

The knowledge of colorectal Influential factors among the participants was poor. Poor knowledge was particularly regarding items related to modifiable influential factors and non-modifiable influential factors this has been found previously [11-16]. Increasing public awareness could influence healthy lifestyle practices, in turn these practices will participate in lowering cancer incidence as well as other chronic diseases [17]. The community awareness may lead to increased healthy behaviors and that's could be helping in reducing the overall burden of ill-health on the population [18]. In the current study result, there have been differences in the gender awareness of colorectal influential factors; females had higher awareness than males.

However, medical students verified highly awareness of Influential factors than non-medical students witch most probably due to their study curriculum. Medical students also had higher awareness of genetic factors, familial factors, lifestyle and infections such as inflammatory bowel disease as risk factors for colorectal cancer, which reflect that medical students demonstrated better knowledge of colorectal cancer influential factors. That's will recommend that public health should be activated to raise the awareness of the society.

Conclusions

In conclusion, awareness and knowledge of the colorectal cancer were significantly higher among medical students and females in general. However, general population need more education about colorectal cancer and general awareness of colorectal cancer need further enhancement. It worth to establish health education campaign to increase awareness of colorectal cancer as it is one of the

commonest cancers in Saudi Arabia.

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