



Public Knowledge and Awareness of Risk Factors and Symptoms of Colorectal Cancer among Saudi General Population: A Population-Based Survey

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ABSTRACT

Introduction: In Saudi Arabia, CRC is the most common type of cancer among men and the third most common type among women. The highest rates of CRC were found to be in the regions of Dammam, followed by Riyadh, Makah, Qassim, and Tabuk. **Objective:** This study aimed to assess the level of colorectal cancer awareness among the general population in Saudi Arabia. **Methodology:** This was a community-based cross-sectional study conducted from April to May 2020. An online administered questionnaire was used for data collection and SPSS (version 24) was used for data analysis. **Result:** A total of 1612 respondents (819 males and 793 females) were recruited for the study. The participants aged from 18 to 65 years and most of them were married (71.5%). The majority had inadequate knowledge about colorectal cancer. Among our respondents, half of them (52.1%) had heard the term "CRC". The majority of them (85.5%) had not been diagnosed with CRC and about two-thirds of the participants (63.5%) did not know anyone with CRC. Less than half (40.9%) of the respondents don't know whether CRC is contagious or not, and about thirds reveal that it is not contagious. Around two-thirds (61.8%) of the participants revealed no idea about the preventable nature of CRC and only (14.2%) believe that colorectal cancer is preventable and half of them (49.4%) believe that it is treatable and 35.3% revealed that CRC could be fatal. **Conclusion:** In conclusion, there are low levels of knowledge of CRC, about awareness of its symptoms and risk factors. There is a necessity for educational creativities and awareness campaigns to increase the general public's awareness of CRC symptoms and risk factors in Saudi Arabia.

Keywords: Colorectal cancer, Saudi Arabia, Awareness, Risk factors

INTRODUCTION

Colorectal Cancer (CRC) represents a high disease problem globally, and it has been estimated to extra increase by 60% by the year 2030, ranked as the third most common cancer among men and the second most among women worldwide [1,2]. In Saudi Arabia, CRC is the most common type of cancer among men and the third most common type among women [3-8]. The highest rates of CRC were found to be in the regions of Dammam, followed by Riyadh, Makah, Qassim, and Tabuk [7].

According to the SEER Cancer Statistics Review (CSR) 1975-2014, about two-thirds of Saudi male and female CRC cases are detected at a late stage (stage 3 or 4) thus leading to an amplified risk of cancer death [8,9]. The disease incidence increases with age; which is often seen in people aged 50 and older, late presentation is related to low cancer awareness and misconceptions about cancer. Individual's knowledge and awareness about disease affect the self-care practices towards their illness; the more they know about their illness, the more they would have self-management skills. Raising awareness about CRC risk factors might give clue to the general population to be further involved in screening as a result of improved knowledge about the disease [10,11]. Several studies revealed that the awareness of CRC symptoms and risk factors is related to the acceptance of CRC screening [12-14].

Collaborators from the University of Albaha, Faculty of Medicine and the Ministry of Health Saudi Arabia (MoH) planned and carry out the Colorectal Cancer Awareness Month Campaign on March 1st to 31st, 2020, aimed at promoting colorectal cancer early detection and prevention awareness, raising awareness about the risk factors of colorectal cancer and supporting patients with colorectal cancer, those improved from it, and their families.

According to the literature the level of knowledge and awareness among the general public regarding CRC in some of the Saudi regions and Albaha, in particular, was unsatisfactory, so we aimed by this study to measure the level of knowledge among the Saudi population regarding the general awareness, risk factors and symptoms of CRC

MATERIALS AND METHODS

Study Design

This was a community-based cross-sectional study through an online self-administered questionnaire study that was distributed using Google Docs to measure awareness regarding CRC among the Saudi general public conducted from 1 April to 30 May 2020.

Questionnaire Development and Validation

The survey was designed by the principal author and to develop the questionnaire a thorough searching of the previously validated published studies that were conducted on public and healthcare awareness of CRC using the following keywords: CRC, public awareness, opinion, and attitudes. From the findings, questions were adapted to fit the objectives of our study. The final version of the questionnaire was translated into the Arabic language to make it easy and understandable for the general public to answer the questions properly. A pilot test was done among 40 random general Saudi adults to validate the survey questionnaire which consisted of the following parts (demographic data of the respondents, general knowledge and awareness about CRC, its risk factors, and symptoms).

Data Analysis

Data gathered through the online investigation from the Google Docs were downloaded as an SPSS file and were checked for completeness. Inadequate and empty replies were omitted from the analysis. The possibility of duplication among participants was addressed by checking the IP number together with the timestamps, the exact similarity of the data, and responses by doing data sorting on Microsoft Excel (MS Excel) 2013, version 3, (Jones, Chicago, Illinois, USA). Data were encoded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 24 (IBM, SPSS Inc., Armonk, NY, USA). Frequencies and percentages were created for categorical variables, while mean and standard deviation were calculated for quantitative variables. Pearson's correlation was done to determine correlations between variables. An independent t-test was done for continuous variables to determine the significance between two groups, and for categorical variables, a Chi-square test was used. $p < 0.05$ was considered statistically significant.

RESULTS

One thousand six hundred and twelve Saudi adults voluntarily respond to the questionnaires that were disseminated among the Saudi general population in our community-based study.

The sample consists of an almost equal distribution of males and females (50.8% vs. 49.2%) with a mean age of 28.8 (18-45) years and 70% were married. Most of the participants were educated (93%) as shown in Table 1 with 67.9% had university education especially males (81%) who had attained higher levels of education comparable to females.

Table 1 The demographic data of the study participants, n=1612

Patterns	Frequency/Percentage (n/%)	p-value
Age		
<18	44 (2.7)	0.000
18-45	1314 (81.5)	
>45	254 (15.8)	
Sex		

Male	819 (50.8)	0.517
Female	793 (49.2)	
Nationality		
Saudi	1533 (95.1)	0.000
Non-Saudi	79 (4.9)	
Residence		
Al Baha	1011 (62.7)	0.000
Others	601 (37.3)	
Education level		
Primary	8 (0.5)	0.000
Secondary	28 (1.7)	
Higher	278 (17.2)	
Bachelor and Post	1298 (80.5)	
Marital Status		
Married	1152 (71.5)	-
Single	460 (28.5)	
p<0.05: Statistically significant, p>0.05: Statistically insignificant		

Knowledge and Awareness Regarding Colorectal Cancer (CRC)

Table 2 below show the responses of our study population regarding knowledge and awareness concerning CRC. Among our respondents, half of them (52.1%) had heard the term “CRC”. Half of those who heard about CRC, reveal that their source of information about CRC was from social media through the internet (online resources) as the majority of them (85.5%) had not been diagnosed with CRC and about two-thirds of the participants (63.5%) did not know anyone with CRC.

Less than half (40.9%) of the respondents don't know whether CRC is contagious or not, and about thirds reveal that it is not contagious. Around half of respondents (49.4%) believe that CRC is treatable and 35.3% revealed that CRC could be fatal.

Table 2 General knowledge items regarding CRC among the study participants, n=1612

General knowledge items	(%)
Have you ever heard about CRC	
Yes	52.1%
No	41.40%
Don't know	6.5%
Have you been diagnosed with CRC	
Yes	14.5%
No	85.5%
Do you know anyone who has CRC	
Family member	11.0%
Relative	16.5%
Friends	9.5%
Don't know	63.0%
CRC is contagious	
Yes	19.5%
No	37.8%
Don't know	40.9%
CRC can be treated	
Yes	49.4%
No	27.3%
Don't know	23.3%
Is CRC fatal?	

Yes	35.3%
No	21.2%
Don't know	43.5%
Do you know there are risk factors for CRC	
Yes	61.2%
No	36.1%
Don't know	12.7%

Source of Information about Colorectal Cancer (CRC)

Regarding the source of information about CRC, among the respondents who were aware of CRC the most reported source of information was found to be from the internet (50.3%; p=0.033); academic education (22.9%; p=0.011); journals, and newspapers (media) (14.8%; p=0.398) and other resources (12% p=0.015) such as family members and friends including cancer awareness campaigns and physicians as shown in Figure 1.

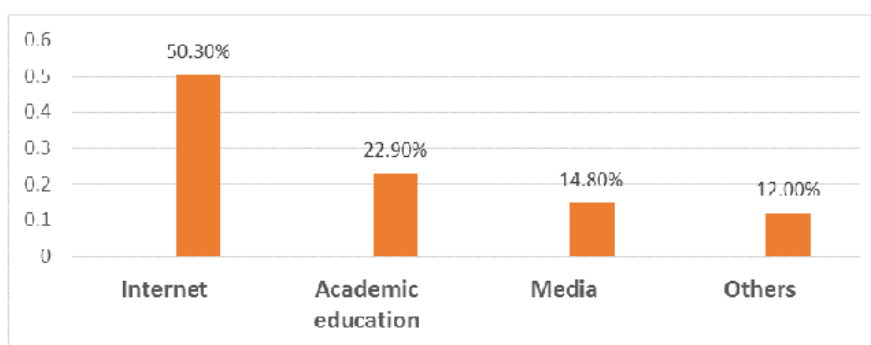


Figure 1 Respondent’s rate according to the Source of Information about CRC (n=1612)

Knowledge of Colorectal Cancer Risk Factors among the Study Population

Questioning about the risk factors leading to CRC among our respondents, as shown in Table 2 above the overall awareness regarding CRC risk factors was found to be 61.2%. Smoking was the most commonly identified risk factor (88.3%; p<0.001, followed by family history (80.2%; p<0.001), colonic polyp (62%; p=0.368). However, about 23.5% of the respondents their response was “there are no identified causes of CRC,” (p=0.509) as shown in Figure 2 below.

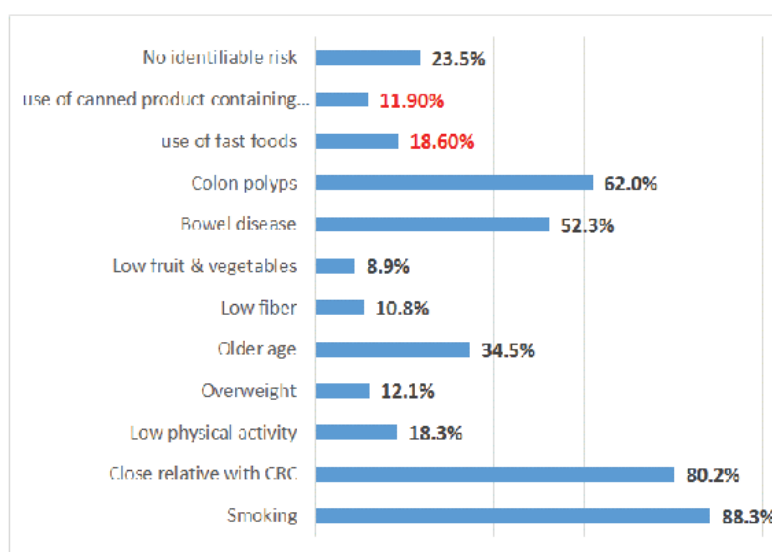


Figure 2 Respondent’s rate according to the Risk Factor leading to CRC (n=1612)

Knowledge of Colorectal Cancer symptoms among the Study Population

Of the 1612 respondents Figure 3 Showed that among our respondents the importance of these symptoms included: change in bowel habits such as constipation, and diarrhea (58.7%; $p<0.001$) blood in the stool (50%; $p<0.001$), abdominal pain (38.5%; $p=0.129$), and weight loss (33.3%; $p=0.426$).

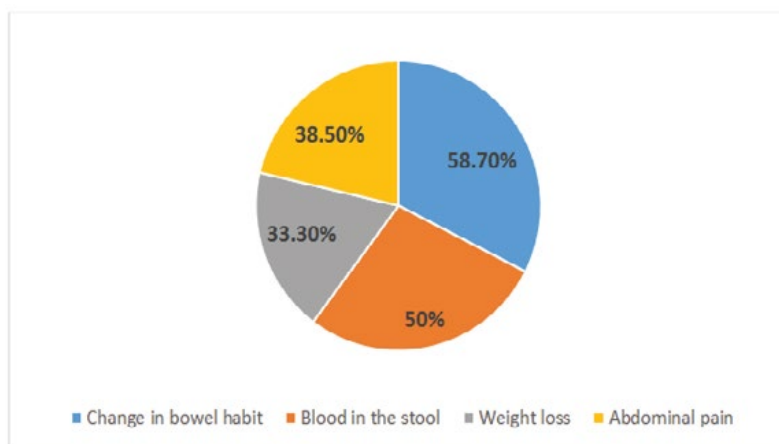


Figure 3 Respondent's rate according to symptoms due to CRC (n=1612)

DISCUSSION

To construct an effective national colorectal cancer learning program to the aware general population about the disease, it is crucial to have a clear picture of what do public knows about this disease and their level of awareness towards the program. It is well recognized that lack of colorectal cancer awareness among the population can have destructive effects on time to presentation and, of course consequently, on general wellbeing [15-18]. Thus the bulk of cases and deaths from this disease can be stopped by applying obtainable awareness about cancer prevention [19]. Our study aimed to evaluate the level of knowledge and awareness among the Saudi general public regarding the symptoms and risk factors for Colorectal Cancer (CRC) and from this study, awareness among the studied population on colorectal cancer was found to be unsatisfactory. This is based on a high percentage of respondents among our respondents (47.9%) who had not heard the term "CRC". This may be due to the finding that the main sources of information among our respondents were the internet including social media while academic sources and awareness campaigns despite their importance they represent only 22% and 12% respectively as a source of information related to CRC. Again two thirds (61.8%) of the participants revealed no idea about the preventable nature of CRC and only (14.2%) believe that colorectal cancer is preventable and half of them (49.4%) believe that it is treatable and 35.3% revealed that CRC could be fatal. In addition, overall awareness regarding CRC risk factors was found to be 61.2% including the low level of colorectal presenting symptoms.

Similar to our study, several previous studies in many countries revealed low levels of knowledge of CRC, about awareness of its symptoms and risk factors such as in Iran, Malaysia, Hong Kong, American Indians, and Australia [20-24].

CONCLUSION

In conclusion, our present study focused only on the knowledge regarding symptoms and risk factors of CRC. However, it is enthusiastic to further search through additional investigation the barriers, initiators, and the readiness to share in CRC screening among the population. To define the actual barriers and initiators will permit for the development of strategies that will report to a range of professional healthcare workers of ways to stimulate individuals at risk to share in a screening program.

Furthermore, our findings from this study characterize a firm base for the policymakers and educators to direct their determinations decisively toward the setting up of preventive practices and disease early detection strategies. Finally,

there is a necessity for educational creativities and awareness campaigns to increase the general public's awareness of CRC symptoms and risk factors in Saudi Arabia.

DECLARATIONS

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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