Original Research Article

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Non-medical university students are not more knowledgeable than general population concerning serious diseases

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ABSTRACT

Background: The aim of this study was to know the level of awareness of non-medical university students of risk factors and symptoms of colorectal cancer.

Methods: This is a cross-sectional study conducted at Al Baha University among non-medical students between 1st of May and 30th of June 2017.

Results: The study comprised (n=463) students. Smoking and sedentary life as risk factors to CRC was known by (55.3%) and (51.0%) respectively. less than half (42%) knew that alcohol is a risk factor. The vast majority of our students (68.7%) had known that fruits and vegetables can decrease the incidence of CRC. The symptoms of CRC that more recognized by participants were abdominal pain (43.2%) and bleeding per rectum(45.5%).

Conclusions: We concluded that the overall knowledge of non-medical University students concerning the awareness of risk factors and symptomatology of colorectal cancer is poor and nearly similar to general population knowledge concerning this problem.

Keywords: Colorectal cancer, Non-medical, Awareness

INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer and the fourth leading cause of cancer-related death worldwide. The incidence is higher in western countries and Japan; it is low in African and Middle East countries. Although the Kingdom of Saudi Arabia (KSA) is considered a low-incidence area for CRC, the disease ranks second, after breast cancer, constituting almost nine percent of the newly diagnosed cases, ranking first and third among the male and female population, respectively.

Colorectal cancer has strong association with modifiable precipitating and aggravating risk factors. These factors are including sedentary lifestyle (lack of exercise and physical activity), obesity, smoking and alcohol

consumption, nutritional deficiencies (lack of dietary fibers).⁴ A patient survival of CRC is depending mainly on clinical presentation and grade of the tumor.⁵ The late presentation affects the survival. In Saudi Arabia the overall survival of CRC patients is 44.6%, which is significantly lower than US patients (approximately 60%).⁶ Moreover, it has been shown that knowledge of a disease is directly related to management and prevention outcome.⁷

There are a many reports which demonstrate and indicate that public awareness for CRC in Asia is generally low. They believe that educating of general population, improving access to health care resources as well as removing barriers to screening can improve outcomes. Lack of awareness regarding CRC seriousness of symptoms can lead to delayed presentation and affect the

outcome.¹⁰ So situation in KSA is more or less similar to Asia and other Middle East countries. In this study we would like to determine the awareness and knowledge of non-medical university students regarding risk factors and presentation of colorectal cancer.

METHODS

This is cross-sectional survey study. It was conducted from 1st May-30th June 2017 among non-medical university students who study at same complex at different levels of education, 1st-5th year. A total (n=463) student agreed to participate in the study. We excluded any student belongs to medicine, pharmacy, laboratory or nurse faculties. This university was established in 2008. It is governmental university. The students are from the state and other parts of KSA. Ethical approval was obtained from faculty research ethical committee.

The data were collected with self-administered questionnaire and the survey focused to determine awareness and knowledge of participants regarding colorectal cancer. Participants were asked about epidemiological knowledge of CRC and awareness of risk and precipitating factors which can lead to CRC. We asked them about the presenting symptoms of CRC.

The responses of participants were collected by three response scale. The participant should select one of the following responses Yes, No or Not sure. Data were collected and tabulated for analysis. Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 20.0 (IBM Corp., Armonk, NY). Correlation analysis was performed and Pearson's correlation coefficient was calculated to assess correlations in the study. A "p" value of less than 0.05 was considered statistically significant.

RESULTS

The total number (n=463) of students agreed to participate in the survey and filled the questionnaire correctly. Male=374 in comparison to female=89.The other students characteristic are shown in Table 1. Figure 1, showed the awareness of participants regarding the epidemiological knowledge of CRC. Ninety five (20.5%) of them said that CRC is the commonest malignancy in KSA.

Awareness of participants regarding the risk factors of CRC was shown in Figure 2. Fruits and vegetables can prevent CRC is a well-known information among 68.7% of the participants. Of participants (18%) said that CRC has family predisposition. Alcohol, smoking and sedentary life were recognized as risk factors to CRC by 42.5%, 55.3%, 51.0% respectively, of participants.

Table 1: Demographic characteristics of the participants, n=463.

Variable	Subgroup	Frequency (%)
Age	<18 years	13 (2.8)
	18-25 years	389 (84.0)
	>25 years	61 (13.2)
Sex	Male	374 (80.8)
	Female	89 (19.2)
Educational level	First year	86 (18.6)
	Second year	134 (28.9)
	Third year	65 (14.0)
	Forth year	50 (10.8)
	Fifth year	128 (27.6)

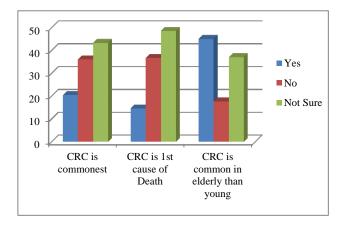


Figure 1: Epidemiological knowledge of participants regarding CRC.

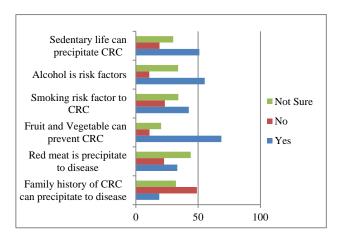


Figure 2: Participants knowledge about risk factors of CRC.

The awareness of participants concerning the alarming symptoms of CRC are shown in Figure 3. Bleeding per rectum and abdominal pain as alarming symptoms were recognized by 45.4% and 43.2% of participants respectively. The participants are aware of change in bowel habit and Wt. loss as alarming symptoms in 35.2% and 35.6% respectively.

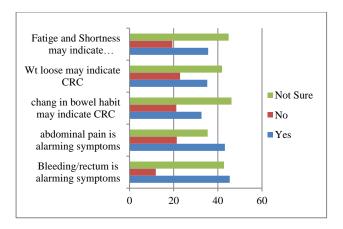


Figure 3: Awareness of participants regarding alarming symptoms of CRC.

DISCUSSION

In our study only one fifth of the respondents knew that the colorectal cancer (CRC) is common in Saudi Arabia (SA). This means the knowledge concerning this serious problem among educated population is poor. A similar research conducted at King Abdulaziz University showed (46.7%) of respondents recognized that the CRC is common in SA. This difference because the participants of Abdulaziz University included medical students who are more knowledgeable of cancer than non-medical of our study.

Regarding the non-modifiable risk factors of CRC, less than half of the students mentioned that it occurs in old patients. Similar studies included medical students showed a bit higher percentage (59.4%), (58.2%) those who knew that the colorectal cancer is a major health problem of elderly in SA. 11,12 Other studies reported 40.1%, 38%, 29.7% of the respondents agreed that CRC occurs in elderly. ¹³⁻¹⁵ Around one fifth of our participants answered that family history of CRC is a risk for CRC. This finding is consistent with that reported by Yasmine et al¹⁴, about 19% agreed that CRC may be familial. This points to that the knowledge of our students is same as elderly people whom included in Yasmine et al study. Our findings are inconsistent with other studies which reported higher percentage of those who recognized that a family history as risk factor is 52%, 48.8% and 43% respectively. 11,12,15 This can be explained by inclusion medical students in two of above studies 11,12 and school teachers who are expected to be more educated in the other study. 15 Concerning the participants' awareness and knowledge of non-modifiable risk factors, 42.5% had known that smoking is risk factor to CRC. Maghrabi showed that 54.5% of his participants agreed with smoking as risk factor which is higher than that of our study and the reason is the medical students in the population study of Ammar as we mentioned before. 12 Yasmine et al showed 61.5% of respondents who agreed and this may be explained because the participants are above 50 years old who are expected to be more aware of such problems, but Taha et al showed only (21.5%) (male 23% and female 20%) which is very low compared with other study. ^{14,16} Majority of our respondents agreed that alcohol 1 is a risk factor to CRC. This result is in agreement with that from Malaysian study. ¹³ One third of our students answered yes to the question that the red meat may be a risk to develop CRC. Yan et al reported the same result one third (32.5%) but Abdulaziz et al reported a bit higher (44.2%) in the study among school teachers and Yasmine et al and Taha et al reported (26.2%) and (12%) for male and 11% for female respectively. ¹³⁻¹⁶

Around two thirds of our study students stated that diet rich in vegetables and fruits is important for protection against CRC. Other researches considered this issue showed low percentage of respondents who agreed that diets rich in vegetable and fruits are protective. ¹³⁻¹⁶ Half (51%) agreed at sedentary life can be a risk factor to CRC. This is less than that observed by Muhammad Imran et al (66.5%) for the same cause mentioned previously. Other studies showed lower results. ^{11,13-15}

In our study concerning the alarming symptoms of colorectal cancer, the overall knowledge and awareness is poor. Less than half of the participants said that bleeding per rectum is CRC symptom. Answers to this question in other studies showed great differences among respondents. Ammar demonstrated 70.1% and Pan Yan. 13 showed 71.1% of the participants in their studies answered this question correctly. 12 In other studies only 24.8% and 27% gave the correct answer. 15,17 Abdominal pain as a symptom of colorectal cancer was recognized by 43.2% of the participants in our study. This percentage is higher than that found in some researches which showed very low percentages, 34.1%, 26.8% and 20%. 14,15,17

Change in bowel habits was known by one third of the respondents. A similar result 34.1% was concluded by Abdulaziz et al from a study among school teachers in Al Ahsa region, Saudi Arabia but is very low comparable to (76.9%) in a study done by Al Magrabi in Mekkah population which included medical students. 12,14

Also one third of the students recognized that unintentional weight loss is a symptom of colorectal cancer. This percentage is very close to that detected by Yasmine et al which was (36.3%) and higher than that found by Shatha et al (13.9%) in the study conducted in united Arab Emirates. ^{14,17}

Fatigability and shortness of breath was correctly known as an alarming symptom by approximately one third (36.6%) of the participants. Yan et al reached to a result very close to our study (35.1%). Shatha et al also showed that 39% of the respondents did know the right answer and Yasmine et al demonstrated only 23.5% of the participants knew the correct answer. 15,17

CONCLUSION

From this study, we concluded that the overall knowledge of non-medical University students concerning the awareness of risk factors and symptomatology of colorectal cancer is poor and more or less similar to general population knowledge concerning this problem. We recommend more researches to be done in other sectors of the society and more campaigns are required to increase the awareness of this major health problem.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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