

## RESEARCH ARTICLE

# Knowledge Attitude and Practice of Colorectal Cancer among School Teachers in Al-Ahsa Saudi Arabia

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### Abstract

**Background:** Colorectal cancer is the second leading cause of deaths among cancers affecting both men and women in the United States. Annually, about 140,000 Americans are diagnosed with colorectal cancer, and more than 50,000 people die from it. In Saudi Arabia, this cancer ranks first among men and third among women. Nevertheless, this type of cancer is one of the most preventable types of cancer. **Objective:** The aim of this study was to assess the level of colorectal cancer awareness among teaching staff (educators) in Al-Ahsa, Saudi Arabia. **Methodology:** The current cross-sectional study was conducted in teaching staff in Al-Ahsa, Eastern province, Saudi Arabia, from February 2017 to May 2017. A self-administered questionnaire was used for data collection and SPSS (version 24) was run for data analysis. **Result:** A total of 367 teachers (165 males and 202 females) were recruited for the present investigation. The participants aged from 25 to 55 years and most of them were married (87%). The majority had inadequate knowledge about risk factors of colon cancer. No significant difference was observed between people living in urban and rural areas regarding knowledge of risk factors for colorectal cancer ( $p \geq 0.05$ ). Concerning colorectal cancer screening tests, 39% of men and 42% of women were unaware; although, 12.8% of the participants reported a positive family history of colon cancer. In General, participants with higher education level had higher level of awareness on colon cancer. **Conclusions:** The findings of this study demonstrated that most of educators, including men and women are unaware of colon cancer risk factor. Furthermore, their knowledge of colon cancer signs, symptoms, and screening methods were inadequate. With respect to our findings, enhancement of colon cancer knowledge among educators is recommended using health education campaign in Al-Ahsa.

**Keywords:** Colorectal cancer- teaching staff- educators- knowledge- cancer awareness

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### Introduction

Cancer is a leading cause of death worldwide. Colorectal cancer (CRC) is the fourth most common cause of cancer related deaths worldwide. In Saudi Arabia, CRC is the first and third most common cancer in males and females, respectively. Its incidence has been increased since 2002. According to Saudi Cancer Registry, the eastern of Saudi Arabia, Al-Ahsa, has the highest incidence of CRC. Survival rates for CRC in Saudi Arabia equals 44.6% that is low in comparison to worldwide CRC survival rates. CRC is one of the preventable cancers if diagnosed in an early stage. Knowledge of CRC signs and symptoms makes patients present at an early stage. Screening also can reduce CRC incidence and mortality. There are several types of CRC screening tests, including non-invasive test such as fecal occult blood testing (FOBT) and stool DNA test and invasive ones like flexible sigmoidoscopy and colonoscopy. Several studies have reported that CRC mortality can be decreased by

screening. For instance, flexible sigmoidoscopy can reduce CRC mortality by 43% and fecal occult blood test, which is a simple non-invasive self-screening test that detects small amounts of blood in the bowel motion, can reduce CRC mortality.

By screening, we can also find and remove premalignant adenomatous polyps. Since one of the CRC risk factors is age, most of the international guidelines recommend screening for those aged above 50 years. Other CRC risk factors are family history, obesity, inflammatory bowel diseases, and smoking. Most of CRC patients in Saudi Arabia refer at an advanced stage with metastasis which make the treatment difficult and increase the mortality. Knowing the early symptoms of CRC can avoid the risk factors. Screening can also contribute to decrease CRC mortality by detecting colorectal cancer early. The prominence of teachers' role in a society cannot be ignored. Accordingly, the aim of this study was to determine the knowledge, attitude, and practice of teaching staff in Al-Ahsa, Saudi Arabia, toward the

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early awareness of CRC signs and symptoms, risk factors, screening, and preventive methods.

## Materials and Methods

### Study design

This cross-sectional study was conducted in Al-Ahssa, Kingdom of Saudi Arabia, from February 2017 to May 2017.

### Participants

Three hundred and sixty seven teaching staff aged between 25 to 55 years were selected from different area in Al-Ahssa, using simple random sampling in order to assess their knowledge, attitude and practice toward colorectal cancer.

### Data collection

Self administrator questionnaire was used for data collection. The study population was randomly selected from a number of different schools in Al-Ahssa, including both the urban and the rural regions in order to increase the generalizability of the findings. After obtaining informed consent, the questionnaire was distributed among the participants. The participants were assured that confidentiality would be maintained. The questionnaire consisted of four sections: (i) socio-demographic data, (ii) early signs and symptoms, (iii) risk factors, and (iv) screening as well as prevention of colorectal cancer. The questionnaire was pre-tested and translated into Arabic and then back-translated to English to validate the translation. The level of knowledge was assessed on 29 questions guided from bowel cancer Awareness Measure Toolkit Version 2.1. Ethical approval was obtained from the Human Ethical Committee.

### Data analysis

Data analysis was performed using SPSS (version 24). Chi-square test was run for analyzing qualitative data. P-values were considered statistically significant if P<0.05.

## Results

Three hundred sixty seven participants were included

Table 1. Knowledge of Respondents Regarding the Signs and Symptoms of CRC Cancer

Variables	yes N(%)	no N(%)	do not know N(%)
Anal bleeding	100 (27.2)	95 (25.9)	172 (46.9)
Change in bowel habit	125 (34.1)	79 (21.5)	163 (44.4)
Abdominal pain	125 (34.1)	84(22.9)	158(43.1)
Incomplete stool passage	57 (15.4)	111 (30.2)	199 (54.2)
Anal pain	48 (13.1)	138 (37.6)	181 (49.3)
Abdominal lump	54 (14.7)	151 (41.1)	162 (44.1)
Tiredness and anemia	75 (20.4)	130 (35.4)	162 (44.1)
Unexplained Weight loss	155 (42.2)	81 (22.1)	131(35.7)
Bowel piles	41 (11.2)	179 (48.8)	147 (40.1)

Table 2. Response of the Teachers Regarding Risk Factors of CRC

Variables	agree N(%)	disagree N(%)	do not know N(%)
Consuming more than one unit a day of alcohol	255 (69.5)	32 (8.7)	80 (21.8)
Eating less than five portions of fruits and vegetable	110 (30)	110 (30)	147 (40)
Eating red meat once a day or more	162 (44.2)	83 (22.6)	122 (33.2)
Having a diet low in fiber	208 (56.7)	50 (13.6)	109 (29.7)
Obesity	163 (44.4)	67 (18.3)	137 (37.3)
Age over 70 years	109 (29.7)	116 (31.6)	142 (38.7)
Close family history	158 (43)	95 (25.9)	114 (31.1)
Diabetes mellitus	55 (15)	99 (27)	213 (58)
Inflammatory bowel disease	224 (61)	15 (1.4)	128 (34.9)
Physical activity less than 30 minute a day	145 (39.5)	115 (42.3)	67 (18.3)
Colon polyps	70 (19.6)	75 (20.4)	222

in this study; all of them were teachers from Al-Ahssa which is located in the eastern of Saudi-Arabia.

### Demographic data

Out of 367 participants, 165 (45%) were male and 202 (55%) were female. Concerning marital status, 38 (10.4%) were single and 322 (87.7%) were married and 7 (1.9%) were divorced. Out of the total participants, 12.6% have a high school degree, 80.9% have a bachelor degree, 5.4% with a master degree, and 1.1% have a Ph.D. Eight percent of the participants had CRC and 12.8% had family history of CRC.

### Knowledge of CRC signs and symptoms

27.2% of the participants agreed that anal bleeding is sign CRC while 25.9% did not agree and 46.9% did not know if anal bleeding is sign of CRC or not. Positive response for a change in bowel habit was 34.1%. Regarding abdominal pain, anal pain, and feeling incomplete stool passage, the responses were as follows, respectively: 34.1% yes, 22.9% no, and 43.1% did not, 13.1% yes, 37.6% no, and 49.3% did not, and 15.5% yes, 30.2% no, and 54.2% did not. For abdominal lump it was 44.1%. Only 20.4% of the teachers responded that tiredness and anemia can be a sign of CRC. Positive response for unexplained weight loss was 42.2%. Considering bowel piles, 11.2% of the teachers responded that bowel piles is associated with CRC while 48.8% disagreed and 40.1% did not (Table 1).

Table 3. Comparison of Knowledge, Attitude, and Practice Among Gender, Age, Marital States, Level of Education, and Institute Location

Variable	chi-square	p-value	in favor of
Gender	24.7	0.47	
Age	42.7	0.047	less than 40 years
Marital states	5.8	0.18	
Level of education	20.7	0.002	Ph.D and master
Institute location	12.6	0.91	

### *Knowledge of CRC risk factors*

69.5% of the teachers responded positively that consuming more than one unit a day of alcohol can be a risk factor for CRC. 40% of participants agreed that eating less than five portions of fruits and vegetable can be a risk factor for CRC, 22.6% disagreed, and 33.2% did not know. For eating red meat once a day or more, 44.2% agreed that it is a risk factor for CRC. In terms of having a low fiber diet, it was 56.7% positive. Positive response to obesity, age over 70 years, and family history as risk factors of CRC was 44.4%, 29.7%, and 43%; respectively. Regarding diabetic and inflammatory bowel disease, positive responses were 15% and 61%, respectively. 39.5% of the participants agreed that physical activity less than 30 minutes a day increase the chance to get CRC. Only 19.1% agreed that colon polyps are risk factors for CRC, 20.4% answered no and 60.5% were not sure (Table 2).

### *Knowledge and attitude toward screening for CRC*

Only 19.1% of the participants were aware of the availability of CRC. Considering the screening program awareness in Saudi Arabia, 38.7% of the participants were not sure and 42.2% were not aware of the availability of the screening program. Regarding age for CRC occurrence, most of the participants reported 40 years old. We asked the participants if they knew the methods of screening and only 15.5% answered yes while 39% were not sure and 45.5% did not know the screening methods. The participants were also if they agreed to do the colonoscopy as a part of the screening and more than half of the participants (68.1%) agreed to do it while 15% disagreed and 16.9 were not sure.

We asked participants about the most likely age to develop colorectal cancer and most of the respondents (55.3%) answered that no specific age for CRC, 28.1% said 40 years, 14.7% said 60 years and 1.9% said 20 years. With respect to, the complication and treatment of CR, only 10.1% and 16.1% were aware, respectively. Regarding CRC prevention, 26.2% said that CRC cannot be prevented, 50.4% did not know, and 23.4% answered that CRC is a preventable disease; mostly held that exercise and healthy diet are the main methods to prevent CRC. The participants finally were asked about the bowel as cancer symptoms, only 4.9% were very confident while 24% were fairly confident and 71.1% were not confident.

## **Discussion**

CRC is the second most common cancer in Saudi Arabia. We conducted this study on teachers in Al-Ahsa, Saudi Arabia in order to primarily assess their knowledge of CRC early signs and symptoms as well as risk factors, and secondly to reflect their knowledge and attitude regarding the screening and CRC preventive methods. Most of the studies done in Saudi Arabia focused on the screening (Mosly and Alahwal, 2012; Almarshed, 2009), while we focused on the current CRC knowledge, early symptoms and risk factors as well as the screening and the preventable methods. Most of previous studies also targeted age from 50> while we targeted a very important

group range that is 25-55 years to increase the awareness of CRC and its prevention methods. We also examined a very substantial subject which is the educational staff due to their prominence role in the society.

This study showed that teaching staff have inadequate knowledge of CRC while the participants who were younger than forty years had more knowledge of CRC compared to others. Furthermore, those who taught subjects related to CRC (biology for example) had more knowledge than others. we found also that participants with a master degree or a Ph.D. have significantly more information and better attitude for screening than those with a Bachelor or a Diploma. There was no significant association between gender and knowledge of CRC in the present probe. Concerning family history, about 13% of our participants with CRC family history had much knowledge and they tended to do the screening, including colonoscopy more than others. Only 19.6% knew that colon polyps might be a risk factors for colon cancer that is significantly low compared to a study done by Sessa et al., (2008) reporting 62.9%. Nearly two third of our participants tended to do colonoscopy as a part of screening that is much higher than the percents reported by Denye et al., (17%) in 2013 and by Ng and Wong (55%) in 2013. However, our study was consistent with studies done by Emmons et al., (2008) and Janda et al., (2003) in USA and Australia. Generally, inadequate knowledge regarding CRC early sign and symptoms, risk factors and prevention methods was observed in the present study. Therefore, we recommend more public campaigns and workshops to increase the level of CRC awareness, we suggest physicians to explain and offer the screening methods to patient and teaching staff to hold lectures about cancers prevention methods.

### *Limitation of the study*

Although urban and rural areas were both targeted in this study, most of them were within the geographic region; therefore, the result of this study cannot be generalized. Larger scale study is needed to be performed in different places to obtain a diversified study population and more accurate results.

In conclusion, in this study, we found that the teaching staff in Al-Ahsa, Saudi Arabia, have inadequate knowledge of CRC and held that the enhancement of CRC awareness is vital in order to reduce the incidence of CRC.

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None.

### *Conflict of Interest*

All authors declare that they have no conflict of interest.

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