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ASSESSMENT THE KNOWLEDGE AND BEHAVIOUR OF ADULT RELATED TO COLORECTAL CANCER IN WESTREN REGION OF SAUDI ARABIA. A CROSS SECTIONAL STUDY OF 819 PARTICIPANTS

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ABSTRACT

Colorectal cancer (CRC)is the third most common cancer in the world and the fourth most common cause of death. It is the second most common cancer and third cause of death from cancer in women and the third most common cancer and fourth cause of death from cancer in men worldwide but its the second most common cancer in men as well as women in Saudi Arabia. This cross – sectional study was conducted at western region of Saudi Arabia from June 2016 to October 2016to assess knowledge and behavior of the participants relevant to prevelance, symptoms and risk factors of CRCand to compare if there any variations between the overall knowledge of participants and their gender, educational level and occupation weather medicals or non mdicals.A sample of 819 subjects were selected and pretested electronic self administrated questionnaire was used as a toolfor data collection and coolecteddta was analysedusing SPSS Version 20. Main findings of this study included that 61% of participants know most symptoms of CRC while only 45% know about risk factors of developing CRC.

KEYWORDS: colorectal cancer, Saudi Arabia,, CRC symptoms and risk factors, Westren Region.

INTRODUCTION

Colorectal cancer (CRC)is the third most common cancer in the world and the fourth most common cause of death,[1,2] It is the second most common cancer and third cause of death from cancer in women and the third most common cancer and fourth cause of death from cancer in men worldwide, with 1.4 million new cases in 2012 as a consequence almost 694,000 deaths,[1,3] but in Saudi Arabia it is the second most common cancer in men as well as women,[4] In general CRC is higher in developed country with western culture,[2] the Saudi Arabia it have less incidence of CRC compared to western country however according to the Saudi Cancer Registry the CRC have been increasing tow fold from 1994 up to 2010,[4] Comparable to the World Health Organization (WHO) in the year 2030 the incidence and mortality of CRC will rise up to 77 percent and 80 percent respectively,[5] the age of development CRC in Saudi Arabia is at 55 year old in women and 60 years in men,4 The researches suggest that the incidence of CRC increase in age less than 50 years in such manner the CRC is no longer the old person disease.[6,7]

The 5year survival rate from CRC mainly depending on the stage at diagnosis time for example it is 94 percent for stage I and 6 percent for stage IV on the other hand the overall 5year survival rate from CRC for any stage is 65 percent,[8] most of CRC cases diagnosed at advanced stage which cares poor prognosis,[4] screening for CRC aim to pick up it in early stage when it sill asymptomatic, usually the screening started for regular average person at age 50 years, there are many screening tools it uses according to the risk factors, availability and personal chose colonoscopy or stool testing with it is different type still the mainly methods,[9] however there is no absolutely definitive guideline for CRC screening in Saudi Arabia.[10] It is very important for the general population to know the symptoms in order to visit doctors and diagnose CRC earlier as much as possible,[11] in one study done by Courtney C. Moreno showing that 90 percent of CRC patient having one symptom at diagnosis time,[12] symptoms which are Bleeding per rectum, blood or dark or shape change in the stool, cramping abdominal pain, an urge to have a bowel motion when there is no need to have one, new onset of alternation in bowel habit that lasts for more than a few

days and unintentional weight loss,[13,14] the new recommendation even advice to know and modified the risk factor,[6] they are heredity and medical factors like family history of CRC (specially in first degree relative, relative age 45 or less and in more than one relative) and inflammatory bowel disease (crohn disease, ulcerative colitis and diabetes) and other environmental factors such obesity, red meat consumption, poor diet from fruit and vegetables, smoking and Alcohol consumption.[5,12,15]

In the literature review there is four research assessing the lever of CRC awareness in Saudi Arabia, two of them done among Riyadh population,[16,17] and the other two in Jeddah population,18,19 consequently there is no researches checking CRC awareness except on Riyadh and Jeddah even that the last research on Jeddah general population was conducted in 2012,[18] the new in this study that it is about assessing general population awareness of colorectal cancer symptoms, risk factors and screening in all regions of Saudi Arabia and estimating health workers awareness of population background about the disease.

Research Objectives
- To assess knowledge and behavior of the participants relevant to prevelance, symptoms and risk factors of CRC.
- To compare if there are any variations between the overall knowledge of participants and their gender, educational level and occupation weather medicals or non mdicals.

MATERIALS AND METHODS
A cross sectional study was conducted in Westren Region of Saudi Arabia. Sample of 819 subjects were selected randomly within the age of 18 up to 70 years old

ans pretested well designed electronic self administrated questionnaire was filled by participants.

Inclusion Criteria
- Saudi male and female between (18-80) years old.

Exclusion Criteria
- People younger than 18 years old and older than 80 years old.
- People don't speak Arabic.

The sample size
Sample of 819 participants were selected randomly using table ofEstimating Sample Size for a Descriptive Study in Quantitative Research, with confidence 99%, marginal error 5% and population size 100,000,000.

Data collection tools
A proper self administered online questionnaire was designed containing two parts, part one included demographical and geographical variables such as age, gender, nationality, living region, city or village, monthly income, educational level and specialty) while part tow consisted of technical variable which focus study variables such as the knowledge of CRC in general and it's risks factors, symptoms and screening test.

Data analysis
Collected data was analysed using SPSS version 20 where discriptive analysis was conducted for basic or demographic data while t test was applied to calculate correlation between different dependent and independent variables.

Ethical approval
Approval for research was obtained from Institutional Research Board (IRB) before starting the study.

RESULTS
Section 1: Demographic Data
Table 1 Shows The Distribution Of Participants According To The Demographic Data

		Fr.	%
Gender	Male	294	35.9
	Female	525	64.1
Nationality	Saudi	741	90.6
	Non Saudi	78	9.4
Age Group in Years	< 20	139	17.0
	21 - 30	465	56.8
	31 - 40	102	12.5
	41 - 50	68	8.3
	> 50	45	5.5
Residence Area	City	762	93.0
	Village	57	7.0
Professional	Medical	362	44.3
	Non Medical	456	55.7
Income Level in SRs.	< 3000	89	10.8
	3000 - 5000	81	9.9
	5000 - 7000	85	10.4
	7000 - 9000	95	11.6

	9000 - 11000	92	11.2
	> 11000	377	46.0
Educational Level	Intermediate	25	3
	Secondary	162	20
	Under Graduate	618	75
	Post Graduate	14	2

* Most of participants were Saudi Nationality (91%), Female (64%), 21 - 30 years old (57%), under graduate students (75%) and from medical field (58%).

Section 2 : Assessment of Knowledge
Table 2 Shows The Distribution Of Participants According To Their Knowledge related to colorectal cancer (CRC)

Did you hear before about colorectal cancer	Fr.	%
Yes	706	86.2
No	113	13.8
Total	819	100

* Majority of participants heared before about colorectal cancer CRC.

Table 3 Shows The Distribution Of Participants According To Their source of Information related to colorectal cancer

Source of information	Fr.	%
Schools, college, friends, parents	98	12
Health campaign	177	22
TV	165	20
Social Media and internet	379	46
Total	819	100

Near to half of participants (46%) got their medical information via internet and social media.

Table 4 Shows The Distribution Of Participants According To Their opinion related to the prevalence rate of colorectal cancer

Prevalence Rate	Fr.	%
High	98	12.0
Medium	222	27.1
Didnt know	499	60.9
Total	819	100

* Majority of participants (61%) didnt know the accurate prevelance of CRC.

Table 5 Shows The Distribution Of Participants According To Their Knowledge about symptoms of colorectal cancer

	Agree		Disagree		Didn't know	
Symptoms	Fr.	%	Fr.	%	Fr.	%
colorectal cancer can start without any symptoms	405	49.5	137	16.7	277	33.8
colorectal cancer can make abdominal disruption	587	71.7	11	1.3	221	27.0
Rectum Bleeding is one of colorectal cancer symptoms	542	66.2	35	4.3	242	29.5
Stool Bleeding is one of colorectal cancer symptoms	495	60.4	44	5.4	280	34.2
colorectal cancer can make abdominal pain	493	60.2	49	6.0	277	33.8
colorectal cancer lead to sudden weight lost	479	58.5	37	4.5	303	37.0
The overall knowldge related to the symptoms	**500**	**61.0**	**57**	**7,0**	**262**	**32.0**

The overall knowldge of participants related to the symptoms of CRC was 61%.

Table 6 Shows The Distribution Of Participants According To Their Knowldge related to Most vulnerable group of colorectal cancer

Most vulnerable group	Fr.	%
Male	268	32.7
Female	79	9.6
Both sex are equal	201	24.5
Didnt know	271	33.1
Total	819	100

about 33% of participants think that male are more vulnerable from suffering CRC than female while 33% didnt know.

Table 7 Shows The Distribution Of Participants According To Their Knowledge about about risk factors of colorectal cancer

Risk factors of colorectal cancer	Agree		Disagree		Didnt know	
	Fr.	%	Fr.	%	Fr.	%
Hereditary Factor	394	48.1	106	12.9	319	38.9
Colon polyps play important role on having CRC	322	39.3	50	6.1	447	54.6
Colon inflammatory diseases are risk factors of CRC	401	49.0	90	11.0	328	40.0
Family history of CRC is a risk factor of CRC	367	44.8	187	22.8	265	32.4
Smoking is a risk factor of CRC	451	55.1	82	10.0	286	34.9
Obesity is a risk factor of CRC.	340	41.5	100	12.2	379	46.3
The overall knowldge related to risk factors	**368**	**45**	**98**	**12**	**353**	**43**

The overall knowldge of participants related to the risk factors of CRC was only 45%.

Table 8 Shows The Distribution Of Participants According To Their habits of doing screening of CRC

Did you do any screening test for CRC	Fr.	%
Yes	36	4.4
No	761	92.9
Didn't now	22	2.7
Total	819	100

Majority of participants didnt perform any screening test (93%).

Table 9 Shows The Distribution Of Participants According To Their Knowledge to differents screening test

Prefered screening test	Fr.	%
colonoscopy	211	25.8
Abdominal x rays with Buriram	75	9.2
Occult blood in school	187	22.8
Abdominal CT	153	18.7
Dont Know	193	23.6
Total	818	100

Only 26% prefered colonoscopy, 23% did not know which is suitable test

Table 10 Shows The Distribution Of Participants According To Their reasons to have or have not specific test.

Screening test you prefered was according to:	Fr.	%
Previous know with test	272	33.2
Fear from doing colonoscopy	258	31.5
Not convinced with the subject	35	4.3
Random selection	254	31.0
Total	818	100

Prefered screening test was based on their previous knowledge of the screening (33%).

Table 11 Shows The Distribution Of Participants According To Their opnion to have screen test in case they have diarrhae.

Diarrhae	Fr.	%
Yes	622	75.9
No	197	24.1
Total	819	100

Only 24% did not prefer to have screen test when they had diarrhea

Table 12 shows the distribution of participants according to their opnion to have screen test in case they have any risk factors of suffering CRC.

	Fr.	%
Yes	436	53.2
No	383	46.8
Total	819	100

Near to half of participantd 50% did not prefer to have screen test when they had **risk** factors of suffering CRC

Table 13 compare participants knowldge about symptoms of CRC according to gender using indpendent t test.

Gender	N	Mean	Std. Deviation	F	Sig
Male	294	7.3844	5.61919	89.706	0.000
Female	525	9.6971	4.26347		

* there was statistically significant relationship between gender and the level of knowldge related to symptoms of CRC, Female were more knwlgable than male, P Value less than 0.05.

Table 14 compare participants knowldge about risk factors of CRC according to gender using indpendent t test.

Gender	N	Mean	Std. Deviation	F	Sig
Male	294	6.6497	5.02856	34.900	0.000
Female	525	7.8114	4.17287		

* there was statistically significant relationship between gender and the level of knowldge related to syrisk factors

of CRC, Female were more knwlgable than male, P Value less than 0.05.

Table 15 compare Participants knowldge about symptoms of CRC According to educational level using indpendent t test.

Educational level	N	Mean	Std. Deviation	F	Sig
Seconary or below	189	6.9365	4.97079	3.899	0.000
Diploma or above	629	9.4420	4.75802		

* there was statistically significant relationship between Educational level and the level of knowldge related to symptoms of CRC, participants who had diploma or higher qualifications were more knwlgable than participants who had secondary school certificate or below, P Value less than 0.05.

Table 16 compares Participants knowldge about risk factors of CRC According To educational level using indpendent T Test.

Educational level	N	Mean	Std. Deviation	F	Sig
Seconary or below	189	6.0106	4.29496	3.899	0.000
Diploma or above	629	7.7997	4.51656		

* there was statistically significant relationship between Educational level and the level of knowldge related to risk factors of CRC, participants who had diploma or higher qualifications were more knwlgable than participants who had secondary school certificate or below, P Value less than 0.05.

Table 17 compare Participants knowldge about symptoms of CRC According To profession using indpendent T Test.

profession	N	Mean	Std. Deviation	F	Sig
Medical	360	11.5083	3.55928	104.665	0.000
Non Medical	442	6.7941	4.80841		

* there was statistically significant relationship between profession and the level of knowldge related to symptoms of CRC, participants who had medical background were more knwlgable than non medical, P Value less than 0.05.

Table 18 compare Participants knowldge about risk factors of CRC According To profession using indpendent T Test.

profession	N	Mean	Std. Deviation	F	Sig
Medical	360	9.9722	3.86604	1.499	0.000
Non Medical	442	5.3959	3.93994		

* there was statistically significant relationship between profession and the level of knowldge related to risk

factors of CRC, participants who had medical background were more knwlgable than non medical, P Value less than 0.05.

DISCUSSION
This study assessed the knowledge and behavior related to colorectal cancer CRC among participants from western region of Saudi Arabia. The main findings of this study indicated that the overall participants knowledge was moderate related to symptoms of CRC and poor related to their knowledge to the risk factors of CRC. Also this study revealed that there was big variation in level of knowledge when comparing to the gender, female we more knowledgeable than male, also the educational level had a significant effect to the overall knowledge in addition that participants who from medical field were more knowledgeable than non medical field. The result of this study was similar to one study conducted at Makkah[20]. and other one conducted at Riyadh[21].

CONCLUSIONS
In conclusion, knowledge of the colorectal cancer were moderate when compared to all participants but significantly participants who from medical fields or colleges were more knowledgeable than non medical and males. However, more health education and health promotion interventions regarding to colorectal cancer is very useful and should be within the priorities of Ministry of Health and other relevant organizations.

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