RESEARCH COMMUNICATION

Knowledge and Attitude of Colorectal Cancer Screening Among Moderate Risk Patients in West Malaysia

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Abstract

Colorectal cancer is the commonest cancer among males and the third commonest cancer among women in Malaysia. However, almost 80% of patients sought treatment for cancer only when they were already in late stage due to lack of awareness. Hence, the objectives of this study were to determine the knowledge and attitude of colorectal cancer screening among moderate risk patients. A cross-sectional study was conducted between August 2009 till April 2010 in 44 health clinics with Family Medicine Specialists in West Malaysia. Stratified multistage random sampling was applied and a validated Malay version of the questionnaire with the Cronbach' alpha of 0.65 to 0.82 was used. Data were entered using SPSS 12.0 and analysed with STATA 8.0. A total of 1,905 (93.8%) patients responded. The mean (SD) knowledge and attitude score among moderate risk patients were 69.5 (6.11)% and 66.5 (7.07)%, whereas, the percentages forgood knowledge and attitude were 4.1% and 3.3% respectively. Less than 1% had undergone colorectal cancer screening and the main reasons were not bothered, busy and embarrassment. The majority of patients who had moderate risk for colorectal cancer had extremely low knowledge and attitude towards colorectal cancer screening. As a result, the majority did not undergo any form of colorectal cancer screening.

Keywords: Colorectal cancer screening - knowledge - attitude - Malaysia

Asian Pacific J Cancer Prev, **12**, 1957-1960

Introduction

Colorectal cancer is increasing trend and is expected to become the first cause of death in Asia (Pignone et al., 2002). In Peninsular Malaysia, colorectal cancer is the first among male and the second most common among female after breast cancer. In 2006, there were 2866 cases of colorectal cancer which represents 13.2% of all cases registered with National Cancer Registry. The incidence was highest among Chinese with age-standardized rates was 21.4/100000 population and were lower in Indian and Malay where the age-standardized rate were 11.3/100000 and 9.5/100000 respectively (Ministry of Health, 2006).

There is a strong evidence that population screening and early treatment reduces colorectal cancer mortality (Pignone, 2002). Reports from the American Cancer Society, where colorectal cancer screening program have been implemented, showed that the incidence has decreased in two straight years and this has been largely attributed to the remarkable success of screening programs for colonic polyps and colorectal cancer in the United State. The screening increased from 38% in year 2000 to 53% in year 2008 (Ahmedin et al., 2008). A recent meta-analysis of studies evaluating screening using fecal occult blood tests (FOBT) estimated the mortality reduction to be 15% to 33% (Hewitson et al., 2011). The UK Flexible Sigmoidoscopy Trial studied the efficacy of a single Flexible Sigmoidoscopy screening offered to asymptomatic individuals aged 55 to 64 years showed 43% reduction of mortality and confers a substantial and long lasting benefit (Atkin et al., 2010).

The population age of more than 50 years is the only risk factor considered to be of "average risk," whereas those with other risk factors such as personal or family history of colorectal cancer, adenomas or inflammatory bowel disease are considered to be at "high risk". Approximately 70 to 80% of CRC arises among population at the average risk (U.S.Preventive Services Task Force, 2008). The US Preventive Services Task Force recommends colon cancer screening for all persons at average risk who are older than 50 years with any of the following tests: fecal occult blood test (FOBT) annually, flexible sigmoidoscopy every 5 years, double-contrast barium enema (DCBE) every 5 years, flexible sigmoidoscopy every 5 years plus FOBT annually, or colonoscopy every 10 years (Pignone, 2002). Despite similar guidelines from the American Gastroenterological Association and the American Cancer Society, the rates of screening in the population at average risk remain low (Ko et al., 2002).

Many studies showed that the obstacles for implementing colorectal cancer screening programme were limited by knowledge on colorectal cancer, inconvenient and embarrassing nature of the test and lack

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of physician recommendation. Hence, the objectives of this study were to determine the knowledge and attitude of colorectal cancer screening among and moderate risk patients in West Malaysia.

Materials and Methods

Study design

A cross sectional study was conducted in 44 health clinics with Family Medicine Specialist (FMS) in West Malaysia from August 2009 till April 2010.

Methods

Adults aged 50 years and above and asymptomatic for colorectal cancer were included in the study. Those who were known case of colorectal cancer, first degree family of colorectal cancer, history of familial adenosis polyposis or gardner's syndrome or turcot's syndrome or non-polyposis colon cancer syndromes or chronic inflammatory bowel disease were excluded. Stratified multistage random sampling was done. The states in West Malaysia were divided into four regions i.e. northern region (Perlis, Kedah, Pulau Pinang and Perak), middle region (Selangor, Wilayah Persekutuan and Negeri Sembilan), southern region (Melaka and Johor) and eastern region (Kelantan, Terengganu and Pahang). A list of health clinics with FMS was obtained from Unit Sumber Manusia, Jabatan Perkhidmatan Awam. There were 130 health clinics and a total of 44 health clinics were randomly selected i.e 11 from each region (disproportionate sampling). Systematic random sampling in the ratio of 1:2 based on attendance at outpatient department was applied in selection of patients. Sample size using single mean formula was calculated (Daniel, 1999). The standard deviation of mean attitude score taken from pilot study was 11.87 and precision was 0.8. After considering design effect of 2, the minimum required sample size was 1691. However, after considering non-response rate of 20%, the calculated sample size was 2030.

Research tools

Guided self-administered questionnaire was used. The number of items for knowledge and attitude were 29 and 10 respectively. A Likert scale of 5 (strongly agree / agree / neutral / disagree / strongly disagree) were used for knowledge and attitude items. Scores of '5', '4', '3', '2' and '1' were used for correct or positive items and were reversed for the incorrect or negative items. Summation of the total score was calculated for each domain and transformed into percent score. The Cronbach' alpha for knowledge domain was 0.65 and attitude domain was 0.82. For each domain of the knowledge and attitude level, researchers decided that respondents should get least 80% of the knowledge and attitude in order to determine that their KA level was good. Those who scored less than these cut-off points, were considered to have poor knowledge and attitude.

Statistical analysis

Data were entered using Statistical Program for Social Sciences (SPSS) version 12.0 (SPSS Inc., 2003) and analysed using Stata Intercooled version 8.0 (Stata Corp., 2003). Data checking and cleaning were performed before descriptive analysis for all the objectives.

Table 1. Regional, Socio-demographic and Clinical Profile of Moderate Risk Patients

Characteristics		Number	(%)
Age (years)		58+11[b]	
BMI (kg/m^2)		26.4	(4.52)
Region	Northern	516	(27.1)
	Middle	509	(26.7)
	Southern	498	(26.1)
	Eastern	382	(20.0)
Sex	Male	1022	(53.7)
	Female	883	(46.3)
Race	Malay	1,516	(85.8)
	Chinese	156	(8.8)
	Indian	86	(4.9)
	Others	9	(0.5)
Education	College / University	130	(6.9)
	Secondary school	813	(43.0)
	Primary school	781	(41.3)
	No formal education	168	(8.9)
Occupation	Professional	175	(9.3)
	Clerk	110	(5.9)
	Factory	95	(5.1)
	Farmer	135	(7.2)
	Pensioner	329	(17.5)
	Housewife	428	(22.8)
	Self-employed	276	(14.7)
	Unemployed	329	(17.5)
Medical illness	Hypertension	1044	(80.7)
	Diabetes Mellitus	230	(17.8)
	Ischaemic Disease	8	(0.6)
	Peptic Ulcer	5	(0.4)
	Cancer	7	(0.5)
Smoking status	Smoker	324	(17.4)
	Non-smoker	1308	(70.1)
	Ex-smoker	234	(12.5)
Correct answer risk factors	Sharing food	254	(13.3)
	Piles	729	(38.3)
	Infection	1191	(62.5)
	Smoked food	973	(51.1)
	Family history	943	(49.5)
	Growth in the intestine	1258	(66.0)
	Touching those with colorectal cancer	184	(9.70)
Correct answer symptoms	Piles 938	(49.2)	
	Abdominal mass	1417	(74.4)
	Lost of weight	1234	(64.8)
	Lost of appetite	1209	(63.5)
	Bleeding	1369	(71.9)
	Constipation	1018	(53.4)
	Difficult swallowing	674	(35.4)
	Incomplete evacuation of feces	1272	(66.8)
	Epigastric pain	1285	(67.5)
Contributing factors for screening	Health problem	10	(83.3)
	Routine health check-up	3	(25.0)
	Advised by medics	11	(91.7)
	Peer influence	3	(30.0)
	Relative influence	3	(30.0)
	Self concern	6	(60.0)
	Signs and symptoms	7	(70.0)

[a]Standard Deviation; [b]Median (Inter Quartile Range). Skewed to the right

Results

A total of 1905 moderate risk patients responded from 44 health clinics in West Malaysia making a response rate 93.8%. The response rates according to region were 99.8%, 98.4%, 96.3% and 73.9% for northern, middle, southern and eastern region respectively. The percentage of incomplete knowledge and attitude data for moderate risk patients ranged between 2.2% to 40.0% and data imputation were done for 6.7% (127) of the subjects.

Table 1 shows the regional profile andthe socio-demographic and clinical characteristics of 1905 moderate risk patients. From the seven patients with cancer, three were with breast cancer, two with prostate cancer and two with uterine cancer. Among the smokers, the mean (SD) number of cigarettes smoked were 13.3 (6.43) cigarettes per day and the mean (SD) duration of smoking were 28.8 (11.66) years.

The knowledge score was normally distributed ranging from 33.1% to 97.2% with the mean(SD) of 69.5 (6.11)% and the percentage of good knowledge was 4.1% (78). Only 7.0% (133) of patients knew regarding FOBT and they considered it as embarrassing (61.5%), causing side effects (54.6%), troublesome (54.6%), causing fear if they knew the result (54.3%) expensive (53.1%), painful (51.5%), uncomfortable (51.9%) and time consuming (45.7%). Only 7.0% (132) of patients knew regarding colonoscopy and they considered it as embarrassing (67.7%), causing side effects (48.8%), expensive (35.4%), time consuming (34.7%), painful (46.5%) and uncomfortable (29.1%). Correctly answer frequency of the risk factors and symptoms for colorectal cancer were shown in Table 3 and Table 4 respectively. A total of 1500 (87.1%) patients agreed that colorectal cancer could be treated if diagnoased early. More that half (61%) agreed on the availability of the screening test in health clinics, however, 30% were not aware on the presence of such service.

The attitude score was normally distributed ranging from 32.0% to 90.0% with the mean (SD) of 66.5 (7.07)% and the percentage of good attitude was 3.3% (63). About 0.7% (13) of patients had undergone colorectal cancer screening i.e. eight undergone FOBT, three undergone colonoscopy and two undergone perectal examination. Factors that contribute for these patients to undergo colorectal cancer screening were as shown in Table 1. Only 4.7% of the patients received the information from their physicians and 11.0% from public media (television, radio and newspapers). The reasons for majority of patients are also listed in Table 1).

Discussion

Our study revealed deficit in knowledge and attitude on colorectal cancer and screening among the respondents. Only 4.1% have good knowledge on colorectal cancer and screening. Another survey done in Singapore involving 2000 randomly selected subjects also had similar finding. This showed that knowledge of colorectal cancer was poor despite high incidence of the disease (Wong et al., 2002). Low level of knowledge was also reported in a British study involving 1637 respondents (McCaffery et al., 2003). Even in United States, the lack of understanding regarding colorectal cancer was found in a large proportion of respondents, especially among minority (Shokar et al., 2005).

The possible reasons that might contribute to poor knowledge on colorectal cancer screening in our society are poor health education and poor screening promotional activities. Lack of information from physician also contributed to the poor knowledge where only around 5% of the respondents received the information from their physicians. A part from that, lack of information and promotion from the public media campaigns also lead to poor knowledge since there are higher priorities given to other cancer diseases.

Knowledge on risk factors for colorectal cancer was considerably poor. The proportion of those correctly answered questions on risk factors ranged from 9.7% to 66.0%. Though it was clear that cancers are not contagious, it was alarming that majority of respondents agreed that colorectal cancer can be transmitted through touching and sharing food. Knowledge on symptoms for colorectal cancer was slightly higher with the proportion of correct answer ranged from 35.4% to 74.4%

As far as screening methods for colorectal cancer are concerned, majority of respondents were unaware of screening modalities for early detection of colorectal cancer. Although more that half of respondents agreed on the availability of the screening tool in health clinics, a high percentage of the respondents (93.0%) did not know about FOBT and colonoscopy as a screening tool for colorectal cancer. A study among Chinese population in Singapore showed about 70% of the respondents have not heard or did not know what a colonoscopy is (Wong, 2002). A study done in Indonesia identified colonoscopy as the most common screening test (28%) followed by FOBT (19%) (Murdani et al., 2009), while in Hong Kong, colonoscopy was the most mentioned colorectal screening test(33%), followed by sigmoidoscopy (6.3%) and FOBT (5.9%)(Wong et al., 2006).

Although regular screening can decrease morbidity and mortality from colorectal cancer, screening rate nationwide is suboptimal. The success of a screening programme depends very much on the attitude and the willingness to participate. Present study showed that the general attitude of Malaysian population towards colorectal cancer screening was poor where about 97% had poor attitude towards CRC screening. Another study on attitude towards colorectal cancer screening in the primary care population found that 14% of the study population had negative attitude (Taskila et al., 2009). The reason for such a poor attitude could be accounted by the deficiency of knowledge about colorectal cancer.

The lack of knowledge built the perception about colorectal cancer screening test. Further finding showed that, most of the respondents who knew regarding FOBT, regard the test as embarrassing and troublesome. Even, some of the participants agreed that the test is painful and cause complication, which further reflect the lack of knowledge on the test itself. Similarly to colonoscopy, majority of the participants also claimed that the test was

embarrassing, causing side effects and expensive. In this study, the percentage of respondents who had undergone screening was extremely low. The commonest reason given by the respondents were they were not bothered, busy and it is an embarrassing procedure. They did not comprehend the purpose of screening for cancer, were not able to distinguish screening test from any other kind of test, and did not realize that screening is performed on healthy person. These further reflect the lack of knowledge about colorectal cancer screening among Malaysians.

As a result of extremely low knowledge and attitude towards colorectal cancer screening, less than 1% had undergone the screening. Various studies have shown that the extent of colorectal cancer screening is low. Rabeneck and Paszat (2004) showed that, in Ontario, <20.5% of men and women 50 to 59 years old who were eligible for screening were screened for colorectal cancer during a 6-year follow-up period (Rabeneck and Paszat, 2004). Compliance with colorectal cancer screening is higher in the United States: in 2001, nearly one-quarter (23.5%) of the eligible population had a fecal occult blood test in the previous year, and 43% had undergone sigmoidoscopy or colonoscopy within the previous 10 years (Centers for Disease Control and Prevention, 2003). Given the current low proportion of screening in Malaysia, increasing awareness about colorectal cancer is appealing. Potential barriers to screening for patients are their low level of knowledge and attitude about colorectal cancer, about screening tests; and inaccurate perceptions about individual risk of cancer.

The main limitation of this study was the cross-sectional design of this study. The validity of study results was compromised by factors such as the single time point measurements and difficulties in ascertaining the causal relationship.

Policy initiatives are necessary to increase the awareness of colorectal cancer screening. Programme including structured government and community-endorsed messages to the general public about the significance and impact of colorectal cancer, invitations to participate in screening, access to endoscopic and non-endoscopic screening, and timely follow-up for those with positive screening tests should be designed to improve the knowledge of the public on colorectal cancer screening.

In conclusion, the majority of the respondents who had moderate risk for colorectal cancer had extremely low knowledge and poor attitude towards colorectal cancer screening. As a result, majority did not undergo any form of colorectal cancer screening.

Acknowledgements

We thank the Research University grant USM and Ministry of Health, Malaysia for their assistance and cooperation.

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