RESEARCH COMMUNICATION

Knowledge of Colorectal Cancer among Patients Presenting with Rectal Bleeding and its Association with Delay in Seeking Medical Advice

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Abstract

  Background: Knowledge is believed to be a driving factor for patients' early presentation for healthcare. This study was conducted to assess knowledge of colorectal cancer among subjects presenting with rectal bleeding and to determine its association with late presentation. Methods: A cross-sectional study of 80 patients with rectal bleeding, aged 40 and above, was conducted between December 2008 and June 2009 in the endoscopy unit, University Kebangsaan Malaysia Medical Centre. The research instruments used in this study was a self-administered questionnaire including data on duration of rectal bleeding, first medical consultation and knowledge of colorectal cancer. Results: Sixty percent of subjects with rectal bleeding delayed seeking medical advice. Subjects were more aware of symptoms of non-colorectal cancers compared to symptoms of colorectal cancer. The majority of subjects (63.8%) correctly identified rectal bleeding as a symptom but were not aware of the best screening method to detect colorectal cancer. Half of the subjects knew increasing age and genetic background to be risk factors for colorectal carcinoma. However, knowledge of colorectal cancer was not found to be significantly associated with delay in seeking help. Conclusion: Findings indicate poor awareness of colorectal cancer among the subjects. Although public education of colorectal cancer is important for early presentation on rectal bleeding, further studies are advocated to evaluate other factors influencing patients' help seeking behavior other than knowledge.

Keywords: Rectal bleeding - delay in seeking help - knowledge - colorectal cancer - Malaysia

Introduction

Cancer has become one of the leading causes of death in the world and colorectal cancer is one of the most common cancers in Asian and Western countries (Bray et al., 2002). In Malaysia, colorectal cancer (CRC) ranks as the third commonest cause of cancer death and it is commonest in Chinese compared with other races (National Cancer Registry 2004; Rashid et al., 2009). Its incidence rises significantly for those above 40 years old. The key prognostic factor for survival in colorectal cancer is the stage of tumor at the time of presentation (Roncoroni et al., 1999) and therefore, early identification of the disease is crucial for improving survival. The most common and important symptom of colorectal cancer is rectal bleeding (Majmudar et al., 1999). It has the highest positive predictive value for colorectal cancer than other symptoms (Ferraris et al., 2004).

Despite considerable advancement in the diagnostic methods, a delay in the diagnosis of colorectal cancer is still common (Roncoroni et al.,1999; Langebach et al., 2003). Among the reasons for such delay are late presentation of patients to healthcare, a delay in diagnosis and late delivery of appropriate treatment. Patient's late presentation to medical practitioner was noted to be the longest delay (Langebach et al., 2003; Rashid et al., 2009). In a study by Dent et al among 93 patients with rectal bleeding, 29% of them delayed in seeking medical help (Dent et al., 1990).

One main factor influencing patient's own delay is knowledge, which is believed to be a pre requisite for a change in behavior as it would influence the interpretation of symptoms (Nooijer et al., 2001). Furthermore, a previous report mentioned that knowledge of cancer determines cancer related help seeking behavior (Sheikh and Ogden, 1998). In other words, a person with sufficient knowledge of cancer would identify her or his symptom correctly and seek medical help earlier. In spite of the fact that knowledge plays an important role in help seeking behavior, poor awareness of colorectal cancer is clearly demonstrated through many population studies all over the world (Breslow et al., 1997; Yardley et al., 2000;

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Keighley et al., 2004). The present study aimed to assess the knowledge of colorectal cancer among Malaysian patients presented with rectal bleeding and its association with delay in seeking medical advice.

Materials and Methods

Sampling

A cross sectional study was performed at the endoscopy unit of Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from December 2008 until June 2009. The current study involved patients aged 40 and above with new onset of rectal bleeding and who had agreed for colonoscopy. The cutoff point of 40 years old was taken based on the local evidence that there is a high incidence of colorectal cancer above 40 years old (Rashid et al., 2009). It is also recommended that any patients aged 40 and above presented with rectal bleeding should be thoroughly investigated to exclude colorectal carcinoma (Norrelund and Norrelund, 1996). The exclusion criteria in the study were patients i) who had had colonoscopy before ii) had a diagnosis made for their rectal bleeding iii) patients with poor mental state or dementia and iv) patients with life threatening lower gastrointestinal hemorrhage. The methodology of this study has also been described in a previous report (Hashim et al., 2010).

The delay in the presentation of rectal bleeding was defined as patient's presentation to medical practitioner later than 2 weeks after the onset of rectal bleeding (Dent et al., 1990). The sample size calculation was determined by using One Sample Situations formula recommended by WHO manual ((Lwanga and Lameshaw: Sample size Determination in Health Studies- A practical Manual. WHO Geneva 1991). The percentage of delay in the presentation of rectal bleeding was estimated as 29% (Dent et al., 1990). The sample size of 79 was obtained with the d= absolute precision of 10%.

Study Instrument

The study involved a self administered questionnaire in multiple languages, English, Malay and Mandarin to assess their duration of rectal bleeding, the first medical consultation and knowledge of colorectal cancer. The items in questionnaires were developed based on literature review and then face validated by a panel of experts consisting of a colorectal surgeon and primary care physicians. It was developed in English first and then translated forward and backward to Malay and Mandarin versions by linguistic experts. The questionnaire was then pre tested and appropriate amendments were made.

The questionnaires asked for the knowledge on the symptoms, risk factors, best screening method and the highest age group at risk for colorectal cancer. Each of the sections on symptoms and risk factors consisted of five correct and five incorrect answers. For the purpose of analysis, each correct answer was given one score and none for incorrect answer/don't know. A total knowledge score was computed by counting all the correct answers. The maximum total score for these two sections were 10 and the minimum score was 0. The total score was further categorized into low score (0 to 4) and high score (5 to

10).

In this study, subjects were also asked about the highest age group at risk and best screening method for colorectal cancer. They were given multiple choice answers and were asked to identify the correct ones. The answers for these sections were dichotomized to correct and incorrect/don't know. At the end of questionnaire, subjects were asked whether they were aware of the colonoscopy before the first medical consultation.

Study Implementation

The recruitment of subjects was done at the endoscopy unit. All patients who fulfilled the study criteria were invited. They were given a participant information sheet and concerns were clarified before a written consent was obtained. The subjects were then given the self administered questionnaire and any incomplete questionnaire was clarified with the subjects.

Data Analysis

Data analysis was done by using a statistical software program, SPSS version 12.0. Chi squared test was used to examine the differences and associations between categorical variables. The p value of less than 0.05 was taken as significance. This study was approved by the Research Ethics Committee of University Kebangsaan Malaysia in July 2008 (Code number: FF-151-2008).

Results

Subjects

Eighty three patients with new onset of rectal bleeding were invited to participate in this study after fulfilling the study criteria. However, three patients refused to participate hence there were only 80 patients in the study. The mean age of the subjects involved was 61.1 years old. The youngest subject was 41 years and the oldest was 86 years old. Majority of the subjects were male, Chinese, received some level of education and did not report any family history of colorectal cancer. In this study, 60% (n=48) delayed in their presentation to medical practitioners (sought help from medical practitioner after 2 weeks of the onset of rectal bleeding).

Knowledge of colorectal cancer

In the knowledge of symptoms of CRC, most of the subjects correctly answered rectal bleeding. However, the majority of subjects were unable to identify other symptoms of colorectal cancer. More subjects correctly identified symptoms that do not relate to CRC compared to the true symptoms of CRC (Table 1). Slightly more than half of the subjects (58.7%) scored a total of 5 to 10 on knowledge of symptoms of colorectal cancer (CRC). More than half did not know the highest age group at risk for colorectal cancer and the best test to screen for colorectal cancer. The most correct risk factors identified by the subjects were increased in age and genetic. The majority did not know other risk factors for colorectal cancer (Table 1), 61.3% scoring totals of 0 to 4. A substantial proportion of subjects (58.8%) were not aware of colonoscopy before consulting the doctor.

Table 1. The Number of Subjects Giving Correct Answers for Knowledge Items in the Questionnaire

Items		Freq	(%)
CRC symptoms	Rectal bleeding	51	(63.8)
	Abdominal pain	31	(38.8)
	Loss of weight	32	(40.0)
	Diarrhoea	29	(36.2)
	Constipation	32	(40.0)
Non CRC symptoms	Lump at anus	23	(28.7)
	Chest pain	46	(57.5)
	Breathlessness	42	(52.5)
	Fever	36	(45.0)
	Headache	36	(45.0)
Highest risk group	>50 years old	34	(42.5)
Best screening method	FOBT and Col	36	(45.0)
CRC risk factors	Increasing age	41	(51.2)
	Family/genetic	44	(55.0)
	High fat diet	34	(42.5)
	Polyp	30	(37.5)
	IBD	6	(7.5)
Non CRC risk factors			
	Stress	23	(28.7)
	Hemorrhoid	16	(20.0)
	Environment	22	(27.5)
	High sugar diet	24	(30.0)
	Sharing food with CRC patients	37	(46.2)

FOBTand Col, fecal occult blood and colonoscopy; IBD, inflammatory bowel disease

Table 2. Association between Delay in Presentation and Knowledge Items in the Questionnaire

Variable	Delay Freq (%)	Non delay Freq (%)	P value
Knowledge of rectal bleeding as a symptom of colorectal cancer			
Correct Answer	31 (60.8)	20 (39.2)	0.849[a]
Wrong/ Don't know	17 (58.6)	12 (41.4)	
Knowledge of CRC and non CRC symptoms			
Total score 0-4	22 (66.7)	11 (33.3)	0.308[a]
Total score 5-10	26 (55.3)	21 (44.7)	
Knowledge of highest age group at risk			
Correct answer	19 (55.9)	15 (44.1)	0.518[a]
Wrong/don't know	29 (63.0)	17 (37.0)	
Knowledge of CRC and non CRC risk factors			
Total score 0-4	29 (59.2)	20 (40.8)	0.851[a]
Total score 5-10	19 (61.3)	12 (38.7)	

[a]Chi-square test for independence

Association between delay in the presentation of rectal bleeding and knowledge of CRC.

There was no significant difference in delay in seeking medical advice between those patients who knew rectal bleeding as a symptom of colorectal cancer and those who did not know. There was also no association between the delay and other knowledge of CRC (Table 2).

Discussion

Detecting cancer during the early stage contributes to improve chances for successful treatment and thus for survival (Roncoroni et al., 1999). The purpose of this study was to evaluate whether knowledge is a contributing factor to delay in seeking medical advice. This information is fundamental in targeting education about rectal bleeding and colorectal cancer to categories of people at risk.

The results confirmed poor knowledge of colorectal cancer among the subjects. Nevertheless, most of the subjects correctly identified rectal bleeding as a symptom of CRC, which then proved to us that they were aware of the link between rectal bleeding and colorectal cancer. We also observed that subjects were more aware of symptoms that do not relate to CRC compared to the true symptoms of CRC. These findings were similarly reported by other studies on knowledge of colorectal cancer (Cockburn et al., 2003; McCaffery et al., 2003; Shokar et al., 2005; Wong et al., 2006). In addition, majority was not aware of the best screening method to detect CRC and this is also consistent with other studies (Wong et al., 2002; 2006; Shokar et al., 2005).

In assessing knowledge on risk factor of colorectal cancer, most of the subjects were able to recognize increasing age and genetic factor. Despite the fact that half of the patients knew age as a risk factor, only 42% correctly reported that adults over 50 years are at greatest risk. This phenomenon was similarly observed in another population based study. Wong et al., 2006. In this study, the percentage of subjects who knew genetic as a risk factor for CRC was higher compared the 16% respondents in other similar studies (McCaffery et al., 2003; Wong et al., 2002). Findings from our study indicate to us that the subjects knew colorectal cancer could be inherited. In the current study, most of the subjects failed to identify high fat diet and polyp as risk factors for colorectal cancer and this supported the results from many Asian and Western studies (Breslow et al., 1997; Wong et al., 2002; McCaffery et al., 2003; Shokar et al., 2005).

The findings from this study had alarmed us that the knowledge of colorectal cancer among patients at risk of CRC is poor. These people did not receive adequate information on symptoms, risk factors and best screening method for colorectal cancer. Furthermore, it was an unexpected finding that majority of subjects had never heard of colonoscopy before consulting the doctor. It is of great concern that the subjects included in the study were all those who are symptomatic and at risk of colorectal cancer.

Comparing to findings from studies on patient's delay in presentation of symptoms of cancer (Sheikh and Ogden 1998; Nooijer et al., 2001; Macleod et al.,2009; Burgess-Saldana and Infante-Castaneda 2008), this study did not find any association between knowledge of cancer and delay in the presentation of rectal bleeding. Moreover, there was no difference in the rate of delay phenomenon between who knew rectal bleeding as a symptom of colorectal cancer and those who did not. These two phenomenons were similarly observed in two other studies which reported that the expected behavior was still low despite high level of awareness among the subjects (Van Den Kerkhof et al., 2003; Guidie and Nicholson 2004).

The results from this study had pointed us that there is a gap between knowledge and help seeking behavior (i.e early seeking medical advice). Even when people recognized a potential symptom of cancer, this did not automatically mean that they were willing to seek medical advice. There were other factors influencing them before

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they ultimately decided to seek help. According to several psychology models including the Health Belief Model, the theory of reasoned action and planned behavior, help seeking behavior can be predicted by behavioral determinants like attitudes, social influences, self-efficacy, perceived threat, perceived benefits and perceived barriers (Van De Kar et al., 1992; Nooijer et al., 2002). If a person perceives the outcome from performing a behavior is positive (i.e. early detection of cancer) and accepted by the society, he or she will have a positive attitude towards the behavior. The help seeking behavior is also more likely to occur if a person perceives the symptom as a threat and convinces that the behavior will bring greater advantage to him/her. He or she would then overcome any barriers of seeking help (Van De Kar et al.,1992; Burgess et al., 2001; Nooijer et al., 2002). Although these generic psychological models can provide understanding of help seeking behavior, its application in the behavior of early presentation to medical advice for symptom of colorectal cancer has not been explored.

Martin Fishbein reported that although many behavior-change interventions focus on providing adequate knowledge, these interventions often do not work. The problem is either the people do not have the necessary skills or there are barriers preventing them from performing a desired behavior (Fishbein, 2008).

Realizing that other factors play an important role in help seeking behavior besides knowledge, two studies had hypothesized that the gap might be caused by various factors, for example, a negative attitude towards early detection of cancer, fear of cancer or belief that one is unable to make any health related change (Sheikh and Ogden 1998; Nooijer et al., 2002). Fear of being told that the diagnosis might be cancer could result in denying the symptoms and leading to ignorance. In other published report, the delay in seeking medical advice for a potential symptom of cancer were attributed by the degree of concern, seeking someone advice and taking self treatment (Hashim et al., 2010). Those who were delayed, were among those who were not concerned of their symptoms, not seeking anyone advice and had self treated themselves prior to seeking medical advice.

Despite important information obtained from this study, some limitations need to be considered. The data was collected in one clinical setting thus cannot be generalized to others. Another possible limitation is subjects were asked to recognize specific items in the knowledge of colorectal cancer from a written list. This could overestimate rather than underestimates knowledge of colorectal cancer. Although an open interview may yield more accurate estimation of patient knowledge, it will be more difficult to quantify the findings.

In conclusion, this is the first local study to survey knowledge of colorectal cancer among patients presented with rectal bleeding. These preliminary findings had highlighted us that there is a deficiency in the knowledge of colorectal cancer among our symptomatic patients and suggest a need for improved public education about CRC. The public education should be targeted at people at risk for colorectal cancer. The current study also emphasized on other important factors contributing to appropriate help seeking behavior other than knowledge. Further research is advocated to explore these factors in order to change people's behavior as these will lead to early detection of cancer.

Acknowledgements

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