RESEARCH COMMUNICATION

Factors Influencing Late Consultation Among Patients with Rectal Bleeding in University Kebangsaan Malaysia Medical Centre

Syahnaz Mohd Hashim[1], Khairani Omar[1], Tong Seng Fah[1], Radzniwan Abdul Rashid[1], Tuti Iryani Daud[2], Shamsul Azhar Shah[3], Ismail Sagap[4]

Abstract

Background: Patients' delay in the presentation with rectal bleeding had been identified as a factor for late diagnosis of colorectal cancer. This study was conducted to determine the prevalence of delay in consulting a medical practitioner and identifying associated factors. **Materials and 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 self-administered questionnaire included data on sociodemographic, concern of rectal bleeding, whether patients sought initial advice, any self treatment prior to medical consultation and patients' opinion on causes of their own rectal bleeding. **Results**: The prevalence of delay in the presentation of rectal bleeding was 60%. Patients who were less worried (OR 9.6; 95% CI 3.3-27.5), who did not seek anyone's advice (OR 11.8; 95% CI 3.8-36.8) and took some treatment before seeking medical consultation (OR 5.0; 95% CI 1.0-24.1) were significantly more likely to delay. Multiple logistic regression revealed that less worry of rectal bleeding and not seeking anyone's advice were important predictors (p < 0.05). The majority of patients attributed their bleeding to benign causes. **Conclusion**: A high proportion of patients with rectal bleeding in the high risk group delayed in seeking medical advice. Public education needs to focus on interventions to reduce the delay in presenting and diagnosis of colorectal carcinoma.

Keywords: Rectal bleeding - cancer symptom - presentation - colorectal cancer diagnosis - Malaysia

Introduction

Colorectal cancer (CRC) has been described as the disease of the western populations (Bray et al., 2002) but recent report indicates that it is the fastest emerging gastrointestinal tract cancer in Asia Pacific (Sung et al., 2005). In most developing countries, colorectal screening programs are not yet available and the majority of colorectal cancers are diagnosed through investigations of symptomatic patients (Majmudar et al., 1999). The common symptoms of colorectal cancer are rectal bleeding (58%), abdominal pain (52%) and altered bowel habits (51%) (Majmudar et al., 1999; Bjerregaard et al., 2007).

In Malaysia, the incidence of CRC has risen significantly among those above 40 years of age (National Cancer Registry 2004; Goh et al., 2005; Rashid et al., 2009). The majority of colorectal cancers in the local setting are left sided tumours (Goh et al., 2005; Rashid et al., 2009) and 80% of these tumors present with rectal bleeding (Ristvedt et al., 2005; Rashid et al., 2009). Evidence has shown that rectal bleeding has the highest positive predictive value and the most important predictor for colorectal cancer (Tan et al., 2002; Ferraris et al.,

2004; Lawrenson et al., 2005; Bjerregaard et al., 2007). The prognosis of colorectal cancer depends on the stage of the cancer at the time of diagnosis and early detection is essential in order to have better outcome from cancer treatment (Roncoroni et al., 1999). Unfortunately, the process of diagnosis is often prolonged in Malaysia (Goh et al., 2005). This delay could be attributed to several factors, which are patients' own delay in consulting the doctor, inefficient referral processes, inadequate diagnostic resources and malfunctions in the actual health system organization (Roncoroni et al., 1999; Langebach et al., 2003; Rashid et al., 2009)

Of these factors, patient's own delay was found to be the most significant (Young et al., 2000; Langebach et al., 2003; Rashid et al., 2009). A delay of more than 2 weeks in the presentation to the healthcare after the first episode of rectal bleeding was deemed inappropriate (Dent et al., 1990). In addition, the Association of Coloproctology of the Great Britain and Ireland (2002) and the United Kingdom Department of Health's Referral Guidelines (2000) recommend that all patients with suspected cancer should be referred within two weeks to specialists to prevent delay in treatment.

[1]*Department of Family Medicine,* [2]*Department of Psychiatry,* [3]*Department of Community Health,* [4]*Department of Surgery, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia* *For correspondence : drisagap@ppukm.ukm.my*

At present, there is no published study on the delay in the presentation of per rectal bleeding to health care providers. The aims of this study were to determine the proportions of patients with per rectal bleeding who were delayed in seeking medical advice in University Kebangsaan Malaysia Medical Centre (UKMMC) and to examine factors associated with the delay.

Materials and Methods

Sampling

This is a cross sectional study conducted in the endoscopy unit of UKMMC from December 2008 until June 2009. This tertiary referral center covers 1 million city population and all new patients age 40 and above with per rectal bleeding undergoing colonoscopic examination was invited to participate. In this study, the point of 40 years old for recruiting participants was taken based on the local evidence that the incidence of colorectal cancer increases from 40 years old (National Cancer Registry 2004; Rashid et al., 2009). Furthermore, many studies had advocated that patients aged 40 and above who present with rectal bleeding should be thoroughly investigated to exclude colorectal carcinoma (Metcalf et al., 1996; Norrelund and Norrelund 1996).

The exclusion criteria include patients who had colonoscopy before, those who had a previous diagnosis for their rectal bleeding, those with poor mental state and dementia and patients with life threatening lower gastrointestinal haemorrhage.

The sample size calculation was determined by using One Sample Situations formula recommended by WHO manual ((Lwanga SK and Lameshaw S. Sample size Determination in Health Studies- A practical Manual. WHO Geneva, 1991). The percentage of late or delay in the presentation of rectal bleeding was estimated as 29% (from Dent's study). The sample size of 79 was obtained with the d= absolute precision of 10%.

Study Instrument

A self-administered questionnaire in multiple languages, English, Malay and Mandarin were used in the study. The questionnaires were developed based on literature review, focus group discussion and were validated by a panel of experts consisting of a colorectal surgeon, primary care physicians and a psychiatrist. It was initially developed in English and then translated forward and backward to Malay and Mandarin versions by linguistic experts.

The questionnaire determined the patients' sociodemographic characteristics, duration and concern of rectal bleeding. Patients' initial actions were also obtained which included whether an advice was sought, any self treatment before the first medical consultation and the type of self-treatment taken. In this study, patients were also asked about their thought of possible causes for their rectal bleeding. The questionnaires were pre-tested in 6 subjects for face validation and appropriate amendments were made to improve the comprehension of the questionnaire.

Study Implementation

Table 1. Sociodemographic Characteristics

Variables (N=80)		Delay n (%)	Non delay n (%)	p value
Age group (years)	40-55	13 (50.0)	13 (50.0)	0.205 [a]
	>55	35 (64.8)	19 (35.2)	
Gender	Male	25 (55.6)	20 (44.4)	0.358 [a]
	Female	23 (65.7)	12 (34.3)	
Ethnic group	Chinese	36 (66.7)	18 (33.3)	0.079 [a]
	Others	12 (46.2)	14 (53.8)	
Married	Yes	31 (62.0)	19 (38.0)	0.637 [a]
	No	17 (56.7)	13 (43.3)	
Household income	<RM 740	13 (76.5)	4 (23.5)	0.118 [a]
	>RM 740	35 (55.6)	28 (44.4)	
Family History[*]	Yes	9 (75.0)	3 (25.0)	0.35 [b]
	No	35 (55.6)	28 (44.0)	

[a]Pearson Chi square; [b]Continuity Correction; [*]N=75 (5 patients who did not know their family history were excluded)

The recruitment of patients was done at the endoscopy unit. All patients who fulfilled the study criteria were invited. They were given a participant information sheet and doubts were clarified before a written consent was obtained. The patients were then given the self administered questionnaire. Any incomplete questionnaire was referred back to the patients to be completed.

Data Analysis

Data analysis was done by using a statistical software program, the Statistical Package for Social Science (SPSS) version 12.0. Normality of continuous data was checked. Chi squared test was used to examine the differences between categorical variables. The p value of less than 0.05 was taken as significance. Association of delay in the consultation with the independent variables was quoted as the prevalence odds ratio (POR) and presented with a 95% confidence interval (CI). Multiple logistic regression was performed to examine the ability of the variables (concern of rectal bleeding, sought advice from someone and self treatment taken) to predict the likelihood of delay.

This study was approved by the Research Ethics Committee of Un iversity Kebangsaan Malaysia in July 2008.

Results

A total of 83 patients with new onset of rectal bleeding were selected after fulfilling the inclusion and exclusion criteria. However, three patients refused to give consent, thus only 80 patients were included in the final study.

Patients' profile

a) Prevalence of delay/late presentation of rectal bleeding. Among the 80 patients presented with rectal bleeding, 60% had delayed in consulting the medical practitioners (sought help from medical practitioner after 2 weeks of the onset of rectal bleeding). Among them, the duration of rectal bleeding ranged between over 2 weeks to 10 years.

b) Sociodemographic characteristics. The age of the patients involved ranged from 41 to 86 years old with a mean of 61.1 years old. The majority of the participating patients were male, Chinese, married, not poor and did

Table 2. Patients' Concerns and Initial Actions

Variables (N=80)		Delay	Non delay	Prevalence Odds Ratio	Adjusted Odds Ratio
		n (%)	n (%)	95% CI	95% CI
Concern of rectal bleeding	Not & little worried	35 (83.3%)	7 (16.7%)	9.6	4.773
	Worried & very worried	13 (34.2%)	25 (65.8%)	3.35-27.54	1.36-16.7
Sought advice	No one	33 (86.8%)	5 (13.2%)	11.9	6.08
	Someone	15 (35.7%)	27 (64.3%)	3.83-36.87	1.70-21.7
Self treatment	Yes	12 (85.7%)	2 (14.3%)	5.0	5.016
(non prescriptive/ traditional/ healing water/ homeopathy)	No	36 (54.5%)	30 (45.5%)	1.037-24.11	0.791-31.8

not report any family history of colorectal cancer (Table 1). There was no significant association found between delay in the presentation of rectal bleeding and socio-demographic factors (Table 1).

c) *Patients' concern and initial actions.* A great majority of the participants expressed some degree of concern over what could be the underlying cause of their bleeding. More than half of the patients sought advice from someone when they had the rectal bleeding and did not attempt self-treatment (Table 2). Bivariate analysis showed that those who were not and little worried of rectal bleeding, did not seek anyone's advice and those who took some treatment before the first medical consultation were more likely to delay in consulting the doctor for rectal bleeding (Table 2).

Multivariate analysis showed that not and little concern of rectal bleeding (Adjusted Odds ratio 4.7; 95% CI 1.36 -16.71) and did not seek anyone's advice (Adjusted Odds Ratio 6.0; 95% CI 1.70- 21.71) were the predictors for delay in the consultation (Table 2).

d) *Causes of rectal bleeding according to patients opinion.* Many patients did not know the cause for their own rectal bleeding. A quarter of the patients thought it was caused by hemorrhoid and only 2 patients mentioned cancer as the possible cause (Table 3).

Discussion

The results of this study depicted the enormous extent of the problem, by which 60% of the patients with per rectal bleeding were delayed in presenting to the doctor. This prevalence is comparable to many population studies around the world that between 59%-86% of respondents with rectal bleeding did not seek medical advice (Crossland and Jones 1995; Talley et al., 1998; Thompson et al., 2000). However, Dent et al., (1990) from Australia documented a low prevalence of 29% of patients with rectal bleeding delayed in their presentation to primary care doctors. This difference could be attributed to better

Table 2. Causes of Rectal Bleeding According to Patients Opinion

Causes	n (%)
Hemorrhoids	21 (26.3%)
Dietary factors	11 (13.8%)
Constipation	9 (11.3%)
Cancer	2 (2.5%)
Ulcer	2 (2.5%)
Overwork	1 (1.2%)
Medication	1 (1.2%)
Don't know	33 (41.2%)

accessibility to health care compared to Malaysia.

Our finding did not show a significant association between socio-demographic characteristics and delay in the presentation of rectal bleeding and hence could not explain such delay. This finding is similar to the studies by Arndt et al., (2001), Mitchell et al., (2008) and Nosarti et al., (2000) on delay in presenting symptoms of colorectal and breast cancer indicating that the socio-demographic factors were not significantly related to the delay.

We also found that the perceived threat as measured by degree of concern of the cause for rectal bleeding, predicted the delay of seeking medical attention. Our study showed that those who were not or had little worried of rectal bleeding was nearly 5 times more likely to delay in seeking help from health care providers. This fact had been shown by others that a concern of symptom is the most important factor in patients' decision making in relation to seeking medical advice (Dent et al., 1990; Crossland and Jones 1995; Cockburn et al., 2003). The lesser the concern placed on rectal bleeding, the higher the incidence of delay in seeking help as explained by the theory of Health Belief Model (Van De Kar et al., 1992; Simsekoglu and Lajunan 2008). When a patient evaluates his symptom as a potential threat, a decision would be made on how to respond to it and eventually leads to a help seeking behavior (Van De Kar et al., 1992; Delaney 1998; Gascoigne et al., 1999; Burgess et al., 2001).

In this study, we disclosed that only half of the patients told their symptom to someone when they had the first episode of rectal bleeding. Those who did not disclose their symptoms to anyone were likely to delay in seeking medical consultation than those who did. This phenomenon was similarly observed in many studies on patients' delay in presenting rectal bleeding and symptoms of cancer (Crossland and Jones 1995; Gascoigne et al., 1999; Nooijer et al., 2001; Bish et al., 2005; Smith et al., 2005; Sunny 2008). The observation in our study had brought us strong evidence that disclosing symptom to another person would facilitate the recognition of the potential seriousness and the decision to seek medical advice. This is in conjunction with one of the important elements in Health Belief Model whereby an individual requires 'a cue to action' as a factor that prompts him or her to consult a medical practitioner (Van De Kar et al., 1992).

Among our study population, nearly 17.5% of the patients had self-treated themselves before seeking medical advice and they were found to be delay. This figure was close to the 12% of patients in a study by Dent et al., (1990). For most of our studied patients, symptom of rectal bleeding is attributed to benign illness such as

hemorrhoid or even to their diet and this had also been reported in many studies (Dent et al.,1990; Crossland and Jones 1995; Kocher and Saunders 1999; Young et al., 2000; Ristvedt et al., 2005; Mitchell et al., 2008). When patients had wrongly self diagnosed themselves, this subsequently led them for self-treatment and hence, contributed to the delay in seeking medical help.

In this study, the logistic regression model variables were estimated to predict approximately 55% of the variance in the delay as was shown by Nagelkerke R^2=0.555. This suggested that there are other important factors influence the delay such as psychological factors (Kettel et al., 1992).

Our study had several limitations. Firstly, it was over presented by Chinese race and this did not reflect the actual racial distribution of Malaysia. It is due to the Chinese populated area surrounding the hospital. A nationwide survey is recommended to further detail the attitude towards alarming symptoms among different races. Secondly, the information obtained is based on self-report on circumstances that had previously occurred. There is a possibility that recall of the events as well as reasons in deciding to seek help might have differed over time. However, Lynch et al., (2008) had assessed the reliability and validity of self-reported testing for acute symptoms such as rectal bleeding and found that such questionnaire method, have good reliability and moderate validity.

In conclusion, the finding of our study has raised concern that the majority of patients with per rectal bleeding in our setting delayed in seeking professional help. This phenomenon was evidenced among patients who had little concern of rectal bleeding and those who did not seek initial advice. Therefore, we need to educate the public on the significance of per rectal bleeding as a potential symptom of cancer. We as healthcare providers play an important role to change the people's perception and need to encourage high risk group people to seek medical advice earlier. This is essential in order to deliver prompt medical treatment and improve the outcome of patients with colorectal cancer.

Acknowledgments

References

Arndt V, Sturmer T, Stegmaier C, et al (2001). Socio-demographic factors, health behavior and late stage diagnosis of breast cancer in Germany: a population based study. *J Clin Epidemiol*, **54**, 719-27.

Association of Coloproctology of Great Britain and Ireland (2002). Referral guideline for colorectal cancer. *Colorectal Dis*, **4**, 287-97.

Bish A, Ramirez A, Burgess C, et al (2005). Understanding why women delay in seeking help for breast cancer symptoms. *J Psychosomatic Res*, **58**, 321-6.

Bjerregaard NC, Tettrup A, Serensen HT, et al (2007). Diagnostic value of self-reported symptoms in Danish outpatients referred with symptoms consistent with colorectal cancer. *Colorectal Dis*, 1-9.

Bray F, Sankilla R, Ferlay J, et al (2002). Estimates of cancer incidence and mortality in Europe in 1995. *Eur J Cancer*, **38**, 99-166.

Burgess C, Hunter MS, Ramirez AJ (2001). A qualitative study of delay among women reporting symptoms of breast cancer. *Br J General Pract*, **51**, 967-71.

Cockburn J, Paul C, Tzelepis F, et al (2003). Delay in seeking advice for symptoms that potentially indicate bowel cancer. *Am J Hlth Behavior*, **27**, 401-7.

Crossland A, Jones R (1995). Rectal bleeding: prevalence and consultation behaviour. *Br Med J*, **311**, 486-8.

Delaney BC (1998). Why do dyspeptic patients over the age of 50 consult their general practitioner? A qualitative investigation of health beliefs relating to dyspepsia. *Br J General Pract*, **42**, 1481-5.

Dent OF, Goulston KJ, Tennant CC, et al (1990). Rectal bleeding. Patient delay in presentation. *Dis Colon Rectum*, **33**, 851-7.

Department of Health, United Kingdom 2000. Referral guideline for suspected cancer. http://www.doh.gov.uk/coinh.htm (1st July 2009).

Ferraris R, Senore C, Fracchia M, et al (2004). Predictive value of rectal bleeding for distal colonic neoplastic lesions in a screened population. *Eur J Cancer*, **40**, 245-52.

Gascoigne P, Mason MD, Roberts E (1999). Factors affecting presentation and delay in patients with testicular cancer: results of a qualitative study. *Psychooncology*, **8**, 144-54.

Goh KL, Quek KF, Yeo TS, et al (2005). Colorectal cancer in Asians: a demographic and anatomic survey in Malaysian patients undergoing colonoscopy. *Aliment Pharmacol Ther*, **22**, 859-64.

Kettel J, Jones R, Lydeard S (1992). Reasons for consultation in irritable bowel syndrome: symptoms and patient characteristics. *Br J General Pract*, **42**, 459-61.

Langebach MR, Schmidt J, Neumann J, et al (2003). Delay in treatment of colorectal cancer : multifactorial problem. *World J Surg*, **27**, 304-8.

Lawrenson R, Logie J, Marks C (2005). Risk of colorectal cancer in general practice patients presenting with rectal bleeding, change in bowel habit or anaemia. *Eur J Cancer Care*, **15**, 267-1.

Lim GCC, Halimah Y (2004). Second report of the national cancer registry. *National Cancer Registry Kuala Lumpur*.

Lynch BM, Youlden D, Newman B, et al (2008). Self-reported information on the diagnosis of colorectal cancer was reliable but not necessarily valid. *J Clin Epidemiol*, **61**, 498-504.

Majmudar SR, Fletcher RH, Evans AT (1999). How does colorectal cancer present? Symptoms, duration and clues to location. *Am J Gastroenterology*, **10**, 3039-45.

Metcalf JV, Smith J, Jones R, et al (1996). Incidence and causes of rectal bleeding in general practice as detected by colonoscopy. *Br J General Pract*, **46**, 161-4.

Ministry of Finance of Malaysia. 2007. Poverty Line Income.

Mitchell E, Macdonald S, Campbell NC, et al (2008). Influences on pre-hospital delay in the diagnosis of colorectal cancer: a systematic review. *Br J Cancer*, **98**, 60-70.

Nooijer JD, Lechner L, Vries HD (2001). A qualitative study on detecting cancer symptoms and seeking medical help; an application of Andersen's model of total patient delay. *Patient Educ Couns*, **42**, 145-7.

Norrelund N, Norrelund H (1996). Colorectal cancer and polyps in patients aged 40 years and over who consult a GP with rectal bleeding. *Fam Pract*, **13**, 160-5.

Nosarti C, Crayford T, Roberts JV, et al (2000). Delay in the presentation of symptomatic referrals to a breast clinic:

patient and system factors. *Br J Cancer*, **82**, 742-8.

Rashid MR, Aziz AF, Ahmad S, et al (2009). Colorectal cancer patients in a tertiary referral centre in Malaysia: a five year follow up. *Asian Pac J Cancer Prev*, **10**, 1163-6.

Ristvedt SL, Birnbaum EH, Dietz DW, et al (2005). Delayed treatment for rectal cancer. *Dis Colon Rectum*, **48**, 1736-41.

Roncoroni L, Pietra N, Sarli L, et al (1999). Delay in the diagnosis and outcome of colorectal cancer: a prospective study. *Eur J Surg Oncol*, **25**, 173-8.

Shokar NK, Vernon SW, Weller SC (2005). Cancer and Colorectal Cancer: Knowledge, Beliefs and Screening Preferences of a Diverse Patient Population. *Fam Med*, **37**, 341-7.

Simsekoglu O, Lajunan T (2008). Social psychology of sealt belt use: a comparison of theory of planned behavior and health belief model. *Transportation res*, **11**, 181-91.

Smith LK, Pope C, Botha JL, (2005). Patients' help-seeking experiences and delay in cancer presentations: a qualitative synthesis. Lancet 366: 825-831.

Sung JY, Lau YW, Goh KL, et al (2005). Increasing incidence of colorectal cancer in Asia: implications for screening. *Lancet Oncol*, **6**, 871-6.

Sunny L, Hopgarten T, Adolfsson J, et al (2008). Predictors for the symptomatic prostate cancer patient's delay in seeking care. *Eur J Cancer*, **44**, 733-9.

Talley NJ, Jones M (1998). Self-reported rectal bleeding in a United States community: prevalence, risk factors and health care seeking. *Am J Gastroenterol*, **93**, 2179-83.

Thompson JA, Pond CL, Ellis BG, et al (2000). Rectal bleeding in general and hospital practice; 'the tip of the iceberg'. *Colorectal Dis*, **2**, 288-93.

Van De Kar A, Knottnerus A, Meertens R, et al (1992). Why do patients consult their general practitioner? Determinants of their decisions. *Br J General Pract*, **42**, 313-6.

Young CJ, Sweeney JL, Hunter A (2000). Implications of delayed diagnosis in colorectal cancer. *Aust N Z J Surg*, **70**, 635-8.