RESEARCH ARTICLE

Participation and Barriers to Colorectal Cancer Screening in Malaysia

Harmy Mohamed Yusoff[1], Norwati Daud[1]*, Norhayati Mohd Noor[1], Amry Abdul Rahim[2]

Abstract

In Malaysia, colorectal cancer is the most common cancer in males and the third most common in females. Mortality due to colorectal cancer can be effectively reduced with early diagnosis. This study was designed to look into colorectal cancer screening participation and its barriers among average risk individuals in Malaysia. A cross sectional study was conducted from August 2009 till April 2010 involving average risk individuals from 44 primary care clinics in West Malaysia. Each individual was asked whether they have performed any of the colorectal cancer screening methods in the past five years. The barrier questions had three domains: patient factors, test factors and health care provider factors. Descriptive analysis was achieved using Statistical Program for Social Sciences (SPSS) version 12.0. A total of 1,905 average risk individuals responded making a response rate of 93.8%. Only 13 (0.7%) respondents had undergone any of the colorectal cancer screening methods in the past five years. The main patient and test factors for not participating were embarrassment (35.2%) and feeling uncomfortable (30.0%), respectively. There were 11.2% of respondents who never received any advice to do screening. The main reason for them to undergo screening was being advised by health care providers (84.6%). The study showed that participation in colorectal cancer screening in Malaysia is extremely low and multiple factors contribute to this situation. Given the importance of the disease, efforts should be made to increase colorectal cancer screening activities in Malaysia.

Keywords: Colorectal cancer screening – participation - barriers - colorectal cancer - uptake

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Introduction

Colorectal cancer is the fourth leading cause of cancer death worldwide (WHO, 2012). The incidence of colorectal cancer is rising in many countries (Béjar et al., 2012) as well as in the Asian region (Sung et al., 2005). In Malaysia, colorectal cancer is the most common cancer in males and the third most common in females (National Cancer Registry, 2006) with majority of patients are above 50 years old (National Cancer Patient Registry, 2010). It also contributes to the highest number of hospital discharge due to neoplasm related problems (Health Indicators, 2010).

Early diagnosis can reduce mortality due to colorectal cancer and the incidence of malignant neoplasm (Pignone et al., 2002). Screening through faecal occult blood test (FOBT), sigmoidoscopy and colonoscopy is proven to reduce mortality (Walsh and Terdiman, 2003). Therefore, many countries have produced guidelines to include screening for colorectal cancer and included colorectal cancer screening in their national screening programme (Power et al., 2009). Despite that, screening activity is still low in many countries including in the developed countries (McGregor et al., 2007, von Wagner et al., 2011).

In the Asian region, The Asia Pacific Consensus recommends screening for colorectal cancer from the age of 50 years (Sung et al., 2008). In Malaysia, guidelines on screening for colorectal cancer were introduced in 2001 (Malaysian Society of Gastroenterology & Hepatology, 2001). It recommends annual screening to individuals at average risk using FOBT. However, information on cancer screening participation in Malaysia is lacking except for cervical cancer screening and breast cancer screening. Even then, the uptake of Pap smear is only 26% and mammography is only 3.8% (Lim, 2002). Considering that cervical cancer screening is more established than colorectal cancer screening, it is expected that the uptake of colorectal cancer screening would be lower. This is probably the reason why majority of colorectal cancer patients in Malaysia presents in an advanced stage (Goh et al., 2005). Furthermore, study showed that knowledge on colorectal cancer and its screening is extremely low among Malaysian patients (Harmy et al., 2011).

There are some barriers which lead to poor screening activities among patients. Among them are lack of symptoms (Lasser et al., 2008), lack of screening

*[1]Department of Family Medicine, [2]Department of Medicine, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia *For correspondence: norwati@kb.usm.my*

recommendation by physician (Guessous et al., 2010), and lack of knowledge (O'Malley et al., 2004). Other patient factors include fear and anxiety towards the test (Greiner et al., 2004).

This study was designed to look into the colorectal cancer screening participation and its barriers among average risk individuals in Malaysia. It is hoped by knowing the barriers, some measures can be implemented to improve screening participation among individuals in Malaysia.

Materials and Methods

This was a cross sectional study done from August 2009 till April 2010 involving 1905 average risk individuals from 44 primary care clinics in West Malaysia. The clinics were selected by stratified multistage random sampling from 130 primary care clinics with Family Medicine Specialist. Systematic random sampling in the ratio of 1:2 based on at the outpatient attendance was applied in the selection of respondents. Average risk was defined as those aged 50 years and above who were not known to have personal history of colorectal cancer, inflammatory bowel disease, Gardner syndrome and Turcot syndrome or family history of familial adenosis polyposis or non-polyposis colon cancer.

Each respondent was provided with a self administered case report form which consisted of personal background, self reported medical illness, smoking status and participation in colorectal cancer screening activities. Smoker was defined as those who smoke any tobacco product regardless of the number and frequency at least for the past 6 months, non smoker was defined as those who have never smoked in their lives, while ex smoker were those who had stopped smoking at least for the past six months. Participation in colorectal screening activities is defined as undergoing any of the screening method either FOBT, digital rectal examination, sigmoidoscopy or colonoscopy in the past five years. If they have never had any of the screening method, then they were asked regarding the reasons (barriers) for not undergoing the screening test. There were 12 items of barriers that were looked into in which eight items were considered as patient factor (not bothered, busy, embarrassment, causing fear if they knew the result, time consuming, do not understand the procedure, do not know how to do the screening, no sign and symptom). Three items were considered as screening test factor (troublesome, uncomfortable, expensive) and one item was considered as health care provider factor (not being advised).

Descriptive analysis was done using Statistical Program for Social Sciences (SPSS) version 12.0 (SPSS Inc., 2003).

Results

A total of 1905 average risk individuals responded making a response rate of 93.8%. Table 1 shows the socio-demographic and clinical characteristics of the respondents.

Of 1905 respondents, only 13 (0.7%) had done any of the colorectal cancer screening method in the past five years. There were eight who had FOBT, three had colonoscopy and two had digital rectal examination. For those who did not undergo any of the screening tests, the distribution of reasons is as shown in Figure 1.

The main patient and test factor for not undergoing colorectal cancer screening were embarrassment (35.2%) and uncomfortable (30.0%) respectively. There were 11.2% of patients who never received any advice to do screening.

Table 2 shows the contributing factors for patients to undergo colorectal cancer screening. The three main

Table 1. Characteristics of Respondents

Variables	n	(%)	Median	IQR
Age (years)			58	11
Sex				
Male	1022	53.7		
Female	883	46.3		
Race[a]				
Malay	1,516	85.8		
Chinese	156	8.8		
Indian	86	4.9		
Others	9	0.5		
Education[b]				
College / University	130	6.9		
Secondary school	813	43		
Primary school	781	41.3		
No formal education	168	8.9		
Occupation[c]				
Employed	844	45		
Unemployed	276	14.7		
Pensioner	329	17.5		
Housewife	428	22.8		
Self reported medical illness				
None	611	32.1		
Hypertension	1044	54.8		
Diabetes Mellitus	230	12.1		
Ischaemic Heart Disease	8	0.4		
Peptic Ulcer	5	0.3		
Cancer	7	0.4		
Breast cancer	3			
Uterine cancer	2			
Prostate cancer	2			
Smoking status[d]				
Smoker	324	17.4		
Non-smoker	1308	70.1		
Ex-smoker	234	12.5		

[a]Missing data, 138; [b]Missing data, 14; [c]Missing data, 28; [d]Missing data, 39

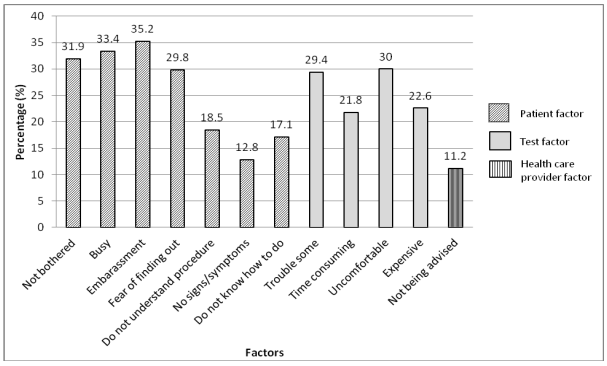

Figure 1. Distribution of Barriers for Colorectal Cancer Screening Participation

Table 2. Contributing Factors for Undergoing Colorectal Cancer Screening

Factors	*n (%)
Health problems	10 (76.9)
Routine health check-up	3 (23.1)
Being advised by health care providers	11 (84.6)
Peer influence	4 (36.4)
Relative influence	4 (36.4)
To ensure self free from colorectal cancer	6 (46.2)
Believed to have signs and symptoms	8 (61.5)

*Some patients may give more than one reason

reasons for them to undergo screening are being advised by health care providers, because of health problems and believed to have signs and symptoms.

Discussion

This is the first study in Malaysia showing the real picture of colorectal cancer screening practice among average risk individuals. It showed that the participation in colorectal cancer screening in Malaysia is extremely low. It was very much low compared to other countries although screening rate varies from country to country, from 20.5% in Korea (Kui et al., 2010) to 71% in Finland (ICSN, 2008). A study in England showed colorectal screening uptake during their period of study was 54% and the uptake increased with age (Weller et al., 2007). A study in the US showed only 42% of the respondents underwent screening tests in the recommended interval (Seeff et al., 2004). Many of the countries that showed high screening uptake have recognized the importance of colorectal cancer screening and included it in the national screening programme (Classen and Lambert, 2007)

In our study, embarrassment, being busy and not bothered are the three main barriers for colorectal cancer screening. Fear of finding out was mentioned in about 30% of the patients. Fear of finding out about a disease is a common barrier shared by many diseases when it comes to screening. About one fifth of the respondents stated that they did not know how to do the test or they did not understand the procedure. This gives the impression of that, in patients who may have the intention to do the screening, they are demotivated by not understanding the procedure. Therefore, doctors should advise their patients properly about the procedure especially taking into account the important factors to them namely embarrassment, uncomfortable and troublesome.

With regards to the test factor, our study found that about a third of the respondents found it embarrassing, troublesome and uncomfortable. Perceiving that the test would be painful, expensive, time consuming and embarrassing are among the barriers shown in other studies (James et al., 2002, Janz et al., 2003, Garcıa et al., 2011). In our study, we did not specifically asked for the barriers of each of the method of screening. Therefore, conclusion could not be made whether the reasons applied to all types of screening method. Technically, FOBT was less embarrassing, troublesome and uncomfortable compared to sigmoidoscopy and colonoscopy. There were about 22% of respondents who said the test is expensive. In Malaysia, these tests are generally provided free in government clinics and hospitals, unless the tests are done in private settings.

The number of respondents who said that they have never been advised to do screening by health care provider was lower compared to other studies. In a study by Berkowitz et al. (2008), more than three quarter of their samples said that their health care provider did not recommend for screening. Another study also showed that lack of physician recommendation is one of the main barriers for screening (Seeff et al., 2004). If we assume from this study that a large proportion of respondents did receive advice from the health care provider, then patient factor and test factor may be the main issues that need to be tackled.

Physician recommendation was found to be a strong motivator for patients to go for screening (Janz et al., 2003). This is supported by another study that showed doctor's recommendation is strongly associated with patients undergoing colorectal cancer screening (Brawarsky et al., 2004). Bedoun & Beydoun (2008) from their review also concluded that recommendation by doctors is a strong predictor for screening. This is supported by Nivens and colleagues (2001). Using Health Believe Model they studied the cues to participate in prostate cancer screening. They showed that the likelihood for participation in prostate cancer screening is higher if they have heard about the disease from their doctors. In our study, although no statistical analysis can be made due to very small number of respondents undergoing screening, being advised by the healthcare provider was the reason for majority of the respondents.

One of the motivators for screening in our study is the belief that they have signs and symptoms. Individuals who believed to be at risk for colorectal cancer are more likely to do the screening (Brawarsky et al., 2004). Another motivator is having a general health problem. General health problem will initiate them to be health conscious and probably wanting to ensure that they are free from any disease and therefore engage in screening activities. Although in our study, the detail on specific health problem was not asked, previous study showed that patients who were screened for other types of cancer has a tendency to go for screening for other cancers (Lemon et al., 2001).

Although peer and relative influence are the reasons in a small proportion of patients, it is worth to note the importance of dissemination of information through friends and relatives. As mentioned previously, discussion about colorectal cancer with health care provider is a powerful motivator. Therefore, discussion with peers and relative may have a similar effect.

Our study shows that only a small proportion of respondents do colorectal screening as routine health checkup. Since there is no data on whether in Malaysia, we routinely include colorectal cancer screening in our routine health check up, from our observation cardiovascular screening may be more practiced than cancer screening. Compared to Pap smear screening where the Ministry of Health has decided to set a certain target for screening, there is no set target for colorectal cancer screening. Even in the compulsory Malaysian government servant

health check up, colorectal cancer screening is not widely practiced. Many health campaign and outreach programme are mainly concentrating on cardiovascular screening than cancer screening especially colorectal cancer.

The limitation of this study is it was a cross-sectional study and it only measure at a single time point. Too small number of respondents who participated in the screening made it not possible to do further analysis.

In conclusion, this study showed that participation in colorectal cancer screening among average risk individuals in Malaysia is extremely low and very far behind other countries. They are many barriers that prevent patients from doing so. Many patient factors should be acknowledged mainly by stressing on the importance of colorectal cancer screening and explaining on the different methods of screening. It should be stressed that the initial screening was a simple procedure and it is free of charge in government hospitals. Health care providers should be encouraged to discuss about colorectal cancer with patients more frequently and offer screening to eligible persons. Although this study indirectly showed that a high proportion of respondents said that they are being advised by the health care provider to do screening, the uptake is however low. This shows that patients are not following the health care provider's advice. The reasons for not complying to advice need to be looked into. A study looking at the practice of offering colorectal cancer screening among the health care providers may give the answer for this issue.

Since colorectal is the most prevalent cancer in Malaysia, the Ministry of Health should put more effort in promoting its screening. It is timely that a new guideline is produced in line with better and newer evidence in colorectal cancer research which will facilitate health care providers in screening and promotional activities. Dissemination of information may be done through various ways such as mass media and health campaign. To start with, it is probably worth to start having a set target for colorectal cancer screening uptake. Hopefully, these efforts will gradually increase the participation in colorectal cancer screening.

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