

RESEARCH ARTICLE

Colorectal Cancer Screening Practices of Primary Care Providers: Results of a National Survey in Malaysia

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Abstract

The incidence of colorectal cancer has been increasing in many Asian countries including Malaysia during the past few decades. A physician recommendation has been shown to be a major factor that motivates patients to undergo screening. The present study objectives were to describe the practice of colorectal cancer screening by primary care providers in Malaysia and to determine the barriers for not following recommendations. In this cross sectional study involving 132 primary care providers from 44 Primary Care clinics in West Malaysia, self-administered questionnaires which consisted of demographic data, qualification, background on the primary care clinic, practices on colorectal cancer screening and barriers to colorectal cancer screening were distributed. A total of 116 primary care providers responded making a response rate of 87.9%. About 21% recommended faecal occult blood test (FOBT) in more than 50% of their patients who were eligible. The most common barrier was “unavailability of the test”. The two most common patient factors are “patient in a hurry” and “poor patient awareness”. This study indicates that colorectal cancer preventive activities among primary care providers are still poor in Malaysia. This may be related to the low availability of the test in the primary care setting and poor awareness and understanding of the importance of colorectal cancer screening among patients. More awareness programmes are required for the public. In addition, primary care providers should be kept abreast with the latest recommendations and policy makers need to improve colorectal cancer screening services in health clinics.

Keywords: Colorectal cancer screening - practices - barriers - colorectal cancer - primary care - Malaysia

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Introduction

The incidence of colorectal cancer (CRC) has shown an increasing trend in many Asian countries during the past few decades (Sung et al., 2008). According to Malaysia Cancer Statistics (2007), colorectal cancer is the second most common cancer among Malaysian population. Its incidence in women has taken over cervical cancer according to the latest cancer registry report. A study in a teaching hospital in Malaysia showed that over a period of 20 years between 1987-2007, colorectal cancer has shown to have a rapid rise in incidence starting just before 2005 (Othman et al., 2008). In addition to that, more than half of patients in Malaysia present at the late stage with Duke stage C and D at diagnosis (Goh et al., 2008; Rashid et al., 2009).

Annual screening using FOBT has been shown to reduce colorectal cancer mortality (Mandel et al., 1993). According to Asia Pacific recommendation (2008), colorectal cancer screening should start at the age of 50 years and faecal occult blood test (FOBT) is the recommended first line method especially in low resource

countries (Sung et al., 2008). The guidelines suggest that studies on barriers to colorectal cancer screening, education for the public and engagement of primary care physicians should be undertaken. A recent study in Malaysia showed that only 0.7% of patients had undergone colorectal cancer screening (Harmacy et al., 2012). Physician recommendation has been shown to be a major factor that motivates patients to do screening (Feeley et al., 2012; Harmacy et al., 2012). Therefore, studying the practice of recommending colorectal cancer screening among health care providers is very important.

The practice of recommending colorectal cancer screening by health care providers varies. A national survey in the United States showed that 90-95% of physicians recommend FOBT to their average risk patients (Klabunde et al., 2007). A study in Italy on the other hand showed only 25% of general practitioners recommend screening according to guidelines (Federici et al., 2005). Among the barriers were physicians' attitude towards the test and patients' barriers such as “concern about the result” and “discomfort”.

The practice of colorectal cancer screening among

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health care providers in Malaysia is not known since there is no published data on this. Therefore, the objective of the study is to describe the practice of colorectal cancer screening by primary care providers in Malaysia and to determine the barriers for not following the recommendation.

Materials and Methods

The study was a cross sectional study which was conducted between August 2009 and April 2010. A stratified multistage random sampling was done from 144 lower case: primary care clinics with Family Physicians in West Malaysia. A total of 44 Primary Care clinics were randomly selected and for each health clinic, three primary care providers were selected by simple random sampling.

Each respondent was provided with a self-administered questionnaire which consists of demographic data, qualification, background on the Primary care clinic, their practices on colorectal cancer screening and barriers to colorectal cancer screening. The content of the practice questions were the percentage of patients whom they ask for family history of colorectal cancer and recommend FOBT. It also included the frequency of time that they follow guidelines, the most common screening test they order and which guideline they most commonly refer to. The barriers asked were provider factor which was assuming other provider will screen the patient, system factors which were lack of time, unavailability of the test and difficulty to get appointment for further test and patient factors which were troublesome, poor patient awareness, patient refusal, patient's fear of the result, patient not following instruction and patient in a hurry.

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

Results

A total of 116 primary care providers responded from 44 Primary Care clinics in West Malaysia making a response rate of 87.9%. The Socio-demographic characteristics of the primary care providers are shown

Table 1. Socio-demographic Characteristics of Primary Care Providers

Variables	n (%)
Age (years) Median (IQR*)	31 (9)**
Working experience (years) Median (IQR*)	5 (8)**
Sex	
Male	80 69.0
Female	36 31.0
Designation	
Family physician	12 10.3
Medical officer	41 35.3
Assistant medical officer	63 54.3
Average number of patients seen per day	
≤20	7 6.0
21-50	44 37.9
51-99	52 44.8
≥100	13 11.2
Ever follow-up colorectal cancer patients	
Yes	33 28.4
No	83 71.6

*Inter quartile range; **Skewed to the right

Table 2. Practice of Colorectal Cancer Screening among the Primary Care Providers

Practice	n (%)
I ask about family history of colorectal cancer in approximately _____ of my patients*	
>75%	4 3.5
>50-75%	18 15.7
>25-50%	21 18.3
<25%	48 41.7
None	24 20.9
I order FOBT in approximately _____ of my patients who are eligible	
>75%	15 12.9
>50-75%	9 7.8
>25-50%	12 10.3
<25%	39 33.6
None	41 35.3
I follow the recommended guidelines for colorectal cancer screening _____ of the time*	
>75%	6 5.2
>50-75%	17 14.8
>25-50%	21 18.3
<25%	25 21.7
None	46 40.0

*(1 missing data)

Table 3. Barriers for Not Performing FOBT

Barriers	n (%)
Unavailability of FOBT test	37 41.1
Patient in a hurry	30 33.0
Poor patient awareness	27 30.0
Patient refusal	26 28.6
Patient not following instruction	24 26.4
Difficulty to get appointment for further test	15 16.7
Patient's fear of the test result	20 22.0
Assuming other health care providers will screen patient	11 12.4
Lack of time	11 12.2
Troublesome to do (Patients' factor)	2 2.2

in Table 1.

About 19% of primary care providers asked about family history of colorectal cancer in more than 50% of their patients. About 21% recommended FOBT in more than 50% of their patients who are eligible. About 5.2% followed the recommended guidelines for colorectal cancer screening most of the time (>75%). Table 2 summarises the practice of colorectal cancer screening among the primary care providers.

The guidelines they frequently referred to are Malaysian Society of Gastroenterology Clinical Practice Guidelines (86.6%), U.S. Preventive Services Task Force (9.6%) and American Cancer Society (3.8%).

The most common barrier stated by the primary care providers was "unavailability of the test". The two most common patient factors are "patient in a hurry" and "poor patient awareness".

Discussion

In some countries such as the United States, the practice of screening for colorectal cancer is excellent, achieving 90-95% of health care providers recommending screening and the practice is getting better (Klabunde et al., 2003; 2007). A study in Israel however shows a lower percentage where only 40% of primary care physicians recommend FOBT annually to their eligible patients. Despite the good screening practice, maintaining patients up to date with their screening is difficult to achieve. The same study by Klabunde et al. (2003) showed that less

than 20% of physicians reported that three quarter of their eligible patients were up-to-date with CRC screening as recommended.

This study shows that the practice of recommending colorectal cancer screening by primary care providers in Malaysia is still below acceptable level and behind other countries. About 20% of the respondents never asked family history of colorectal cancer and about one third never recommended colorectal cancer screening. Asking family history is important since local study shows that about 10% of colorectal cancer patients have positive family history (Goh et al., 2005). Only about 20% recommended screening in more than half of their eligible patients. As concluded by Seeff et al. (2004) in her study, lack of physician recommendation is one of the most common reasons for patients not undergoing screening. Patel et al. (2004) also showed that patient-physician interaction is a motivating factor for patients to repeat screening. In this study, up to 60% of the respondents seldom used guidelines which may result in the poor screening practice among them.

Majority of patients in Malaysia will come to primary care as their first consult. Wellness clinic has been implemented in primary care clinics in Malaysia more than 10 years ago. This clinic is meant for patients to come for screening. However, the programme in the clinic is mainly targeting on screening cardiovascular risk factors such as diabetes, hypertension and hypercholesterolaemia. Little is done for cancer screening. Cervical cancer screening has the highest patient uptake (43%) because of the incorporation of Pap smear programme in maternal and child health clinic which is run in primary care facilities (Institute of Public Health, 2006)

This results of this study shows that majority of eligible patients are not being screened by the primary care providers. This supports the evidence of the very low colorectal screening uptake among patients in Malaysia (Harmy et al., 2012). Tan and colleague studied 485 consecutive patients who underwent colonoscopy over a 22-month period. About 93% were done for investigation of symptoms and surveillance of previous cancer. This shows that the use of colonoscopy as a screening tool in asymptomatic patients is underutilised (Tan et al., 2002). Among Malaysian patients, local study shows that anaemia is the most common presentation (Rashid et al., 2009). Anaemia is most probably due to occult rectal bleeding that can be detected by FOBT. Furthermore, rectal bleeding is shown to be an independent predictor of colorectal cancer (Tan et al., 2002).

The most common barrier for screening is because FOBT test is unavailable in the primary care clinic. FOBT is in fact easily available and free in Malaysian health care facilities but only few health clinics have this test. In most of the primary care health clinics, the test needs to be sent to nearest hospital laboratory and because of that it become tedious and not commonly ordered. This indicates that many of the primary care providers are not aware that the availability of FOBT in their setting. Other than lacking in screening recommendation, poor patient awareness is one of the important barriers which may lead to poor screening activities. Study by Harmy et al.

(2012) shows that the knowledge and attitude of patients in Malaysia are poor. This may lead to delay in seeking medical help even when they have symptoms (Hashim et al., 2011). Patient factors such as “patient refusal” and “patient in hurry” may be a result of poor patient awareness as they might not really understand of the benefits and risks for not doing it. Because of that, more public campaign, awareness program, health education for targeted population are required in order to improve their attitude toward colorectal cancer screening.

Since about 50% of the respondents were seeing more than 50 patients a day, it is assumed that lack of time is a major barrier. However, only 10% stated so. In a busy clinic, long patient waiting time may lead to patient in a hurry and refusal despite being recommended. It is known that the conventional Guaiac FOBT is troublesome and embarrassing for patients to do (Harmy et al., 2011). Another drawback of the test is patient has to be on certain food restriction and the test has to be repeated at least twice. Therefore, many countries have now moving towards using immunological test since it is less troublesome and better detection rate (Van Rossum et al., 2008). The new test can overcome the issues of being troublesome and embarrassing. However, this test is still not widely available in Malaysia especially in public facilities. Fear of test result is a common barrier for any test. It is especially when most people relate cancer to untreatable and fatal disease. A study by Federici et al. (2005) in Italy also showed the same finding where being concern with the test result is the most important reason of patient's noncompliance. Klabunde et al. (2007) in her article suggested a few strategies to improve colorectal cancer screening that can be implemented in primary care practices. Among those are team approach, improvement of information system and training opportunities. She also commented that although improving physicians' knowledge and attitude is thought to be able to improve their practice, this method is actually not very effective. Improvement of system is probably a better way to improve screening rate as most physician are receptive of a new system employed. The results of this study showed that colorectal cancer screening practices among health care providers are still poor. The main barrier is unavailability of the test. The general principle of screening is that the method should be acceptable to the public. The availability of whatever method of screening of choice should be made easily available and known to the health care providers. The underuse of the test may further lead to the personnel unaware of its unavailability. Guideline used in Malaysia which was the reference of the majority of the respondents is outdated and need to be revised very soon. The health care providers may not follow the recommendation as they assumed that the guidelines were too outdated to follow. A new guideline may trigger them to initiate back the screening practice and also reflect that the disease is important. Preventive activities for diseases should be taken hand in hand as many cancers are also related to lifestyles activities such as smoking and obesity. Another reason is in Malaysia, health status screening for all adults by using self-administered questionnaire has been implemented in most primary care clinics since

2008 (Ministry of Health, 2008). It is mainly focusing on cardiovascular and lifestyle risk factors and for women, an addition of gynaecological symptoms. Questions on the practice of cancer screening such as mammogram, FOBT and Pap smear were not included. Specific questions on these screening practices may be able to trigger the primary care providers to screen the eligible patients and will prevent overlooking the issues. Improvement of the current health promotion and prevention activities may help us to improve cancer screening uptake in general. Teamwork may be an area that may be focused on. Similar to Pap smear that is mainly done by the nurses as it is practised in Malaysia, training of the support staff to carry out ordering FOBT may be a feasible thing to do. This may resolve the issue of physician having no time to carry out preventive activities especially when giving instructions on how to do FOBT consumes physician's time. Giving the example of Pap smear screening where there is a certain target number that need to be achieved in a period of time, similar approach should be applied to colorectal cancer. This should be compliment with an effective recall system that will follow patients who are due for screening in the long run. Recall system has not been implemented in Malaysia leading to very small number of patients are assumed to be updated with any screening activities. Training opportunities for subspecialists should be improved, as the screening activities improved, more referral to the tertiary centres is expected. All referral centres need to be equipped with sufficient number of staff and trained personnel to manage these patients. In future, as the screening practice is established, training primary care physician to do endoscopy may be considered as practiced in the West.

The limitation of this study is it was a cross-sectional study and it only measure at a single time point. It also involves only those in the public primary care setting and excluding those in the private setting which is assumed to see almost an equal number of patients.

This study indicates that colorectal cancer preventive activities among primary health care provider is still poor in Malaysia. It may be related to the low availability of the test in Health Centres, providers not using more updated recommendation and poor awareness and understanding about the importance of colorectal cancer screening among patients. Therefore more awareness programmes are required, primary care providers should keep abreast with the latest recommendation and policy makers need to improve colorectal cancer screening services in health clinic.

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References

- Federici A, Giorgi RP, Bartolozzi F, et al (2005). Survey on colorectal cancer screening knowledge, attitudes, and practices of general practice physicians in Lazio, Italy. *Prev Med*, **41**, 30-5.
- Feeley TH, Cooper J, Foels T, et al (2009). Efficacy expectations for colorectal cancer screening in primary care: identifying barriers and facilitators for patients and clinicians. *Health Commun*, **24**, 304-15.
- Goh KL, Quek KF, Yeo GTS, et al (2005). Colorectal cancer in Asians: a demographic and anatomic survey in Malaysian patients undergoing colonoscopy. *Aliment Pharmacol Ther*, **22**, 859-64.
- Harmy MY, Norwati D, Norhayati MN, et al (2011). Knowledge and attitude of colorectal cancer screening among moderate risk patients in west Malaysia. *Asian Pac J Cancer Prev*, **12**, 1957-60.
- Harmy MY, Norwati D, Norhayati MN, et al (2012). Participation and barriers to colorectal cancer screening in Malaysia. *Asian Pac J Cancer Prev*, **13**, 3983-7.
- Hashim SM, Fah TS, Omar K, et al (2011). Knowledge of colorectal cancer among patients presenting with rectal bleeding and its association with delay in seeking medical advice. *Asian Pac J Cancer Prev*, **12**, 2007-11.
- Institute for Public Health. Ministry of Health Malaysia (2006). National Health Morbidity Survey.
- Klabunde CN, Frame PS, Meadow A, et al (2003). A national survey of primary care physicians' colorectal cancer screening recommendations and practices. *Prev Med*, **36**, 352-62.
- Klabunde CN, Lanier D, Breslau ES, et al (2007). Improving colorectal cancer screening in primary care practice: innovative strategies and future directions. *Gen Intern Med*, **22**, 1195-205.
- Mandel JS, Bond JH, Church TR, et al (1993). Reducing mortality from colorectal cancer by screening for fecal occult blood. Minnesota colon cancer control study. *N Engl J Med*, **328**, 1365-71.
- Ministry of Health (2006). National Cancer Registry, Malaysia Cancer Statistic; Data and Figure Peninsular Malaysia.
- Ministry of Health, Malaysia (2008). Sarangan Status Kesihatan (BSSK/W/1/2008). <http://fh.moh.gov.my/v3/index.php/en/component/jdownloads/viewdownload/13-reten/79-bssk-warga-emas>.
- Othman NH, Nor ZM, Biswal BM (2008). Is Kelantan joining the global cancer epidemic? – Experience from Hospital Universiti Sains Malaysia; 1987-2007. *Asian Pac J Cancer Prev*, **9**, 473-8.
- Patel P, Forjuoh SN, Avots-Avotins A, et al (2004). Identifying opportunities for improved colorectal cancer screening in primary care. *Prev Med*, **39**, 239-46.
- Rashid MR, Aziz AF, Ahmad S, et al (2009). Colorectal cancer patients in a tertiary referral centre in Malaysia: a five year follow-up review. *Asian Pac J Cancer Prev*, **10**, 1163-6.
- Seeff LC, Nadel MR, Klabunde CN, et al (2004). Patterns and predictors of colorectal cancer test use in the adult U.S. population. *Cancer*, **100**, 2093-103.
- Sung JY, Lau JYW, Young GP, et al (2008). Asia Pacific consensus recommendations for colorectal cancer screening. *Gut*, **57**, 1166-76.
- Tan YM, Rosmawati M, Ranjeev P, et al (2002). Predictive factors by multivariate analysis for colorectal cancer in Malaysian patients undergoing colonoscopy. *J Gastroenterol Hepatol*, **17**, 281-4.
- Van Rossum LG, Van Rijn AF, Laheij RJ, et al (2008). Random comparison of guaiac and immunochemical fecal occult blood tests for colorectal cancer in a screening population. *Gastroenterology*, **135**, 82-90.