World Journal of Research and Review (WJRR)
ISSN:2455-3956, Volume-4, Issue-5, May 2017 Pages 04-07

Colon Cancer Screening: Knowledge and Attitudes in a Jamaican Population and Physicians

Michael G. Lee, Elsa F. Brown, Mike O. Mills, Christine A. Walters

Abstract— Colorectal cancer (CRC) is one of the most common cancers worldwide. Screening is effective in reducing mortality but uptake for screening has been low due to lack of awareness and other barriers. This study determined the awareness and knowledge among the public and physicians, of CRC screening in Jamaica.Members of the general public and physicians were studied regarding knowledge and attitude towards CRC, screening, barriers to screening, and physician's practices regarding screening. There were 324 general subjects and 57 physicians studied.Of the general subjects, 14% had no knowledge about CRC screening, 69% did not know enough and 17% knew about it. Also, 69% were unawareabout recommendations for screening, 31.8%were unaware of available screening tests and 77.8% of the others indicated colonoscopy. However, 60% would do screening if recommended by their family physicians.Although most physicians (98%) considered CRC screening important, screening was discussed with patients,some of the time in 58%, rarely or never in 21% and only if there are risk factors in 7%. Most physicians (95%) indicated that there were barriers to screening, the main being costin 69%, failure of doctors to advise patients,16% and availability of screening tests, 8%. In conclusion awareness and knowledge about CRC screening was lacking in the population studied. There was inadequate communication by physicians to patients regarding screening. Routine counseling on screening is needed to improve screening rates. Health authorities urgently need to develop programmes to improve public awareness and guidelines for CRC screening.

Index Terms— Cancer, Colo-rectal, Screening, Awareness

I. INTRODUCTION

Colorectal cancer was the third most common cancer worldwide in men and the second in women in 2008 and it is more prevalent in Western countries [1].In Jamaica, CRCis the third leading cause of cancer related mortality [2].The incidence of colon cancer is approximately 12 per 100,000 and increasing in males [2].There has been a notable increase in the incidences of CRC in males, but in females colorectal cancer rates have remained relatively stable. A national screening programme for CRC is urgently needed in Jamaica and more stringent mechanisms for patient follow-up are required [2].

Colon cancer screening plays a major role in reducing the incidence of colorectal cancer [3]. Screening is effective in reducing mortality only when the appropriate screening regime is followed for each individual. Most cases of colon cancer are thought to arise from benign adenomatous polyps. The goal is therefore to identify precancerous lesions and remove them at the time of diagnosis to prevent progression to frank carcinoma or to identify early stages of cancer. To this end a number of screening methods have been developed [4]. The gold standard screening tool remains colonoscopy. Other established options are fecal occult blood testing, flexible sigmoidos copy, barium enema and CT colonography. Less established methods, such as fecal DNA sampling, are not yet suitable for screening or widely recommended [4].

Individual risk for colon cancer can be described as average or high risk, depending on certain factors identified. The majority of the population is at average risk for colon cancer, in which there are no individual or family risk factors identified. The majority of newly diagnosed colon cancer arises in the average risk individual. Risk factors for colon cancer include a personal or family history of colon polyps or cancer, inflammatory bowel disease and certain genetic conditions such as familial polyposis coli and hereditary non-polyposis colon cancer [4].

The increasing incidence of colorectal cancer in males, and its relatively unchanged incidence in females, underscores the need for national organized screening protocols [3].It is not known to what extent screening takes place in Jamaica. Equally important, the knowledge and attitudes of local physicians and at- risk individuals with regards to screening methods is not known. Understanding and recognizing public awareness regarding CRC and screening may provide valuable information to incorporate the policy decision for prevention, early diagnosis and improvement of survival for CRC [5]. There are no data regarding colorectal cancer awareness in the Jamaican population.

This study determined the awareness of the public and doctors, of colorectal cancer screening and also to determine if an awareness of screening translates to adopting the practice of screening in the individual themselves or their patients.

This information can be used to directhealth promotion programmes aimed at improving awareness and compliance with screening and to decrease morbidity and mortality associated with colon cancer. It is hoped that the study will create a greater awareness among doctors and the general population about the importance of colon cancer screening.

II. SUBJECTS AND METHODS

The study design was a cross- sectional, multi-centered

M. G. Lee, Department of Medicine, The University of the West Indies, Kingston, Jamaica
E. F. Brown, Department of Medicine, The University of the West Indies, Kingston, Jamaica
M. O. Mills, Department of Medicine, The University of the West Indies, Kingston, Jamaica
C. A. Walters, Faculty of Medical Sciences,TheUniversity of the West Indies,Kingston, Jamaica

survey conducted between March to December 2015.The study population comprised of doctors and non-medical subjects in Jamaica. Persons aged18 years and over who were seeking or receiving inpatient or outpatient care at the University Hospital of the West Indies (UHWI) and Kingston Public Hospital (KPH) as well as persons visiting the blood bank as donors, also visitors of hospitalized patients were eligible. Doctors working at these hospitals were also eligible for study. In addition, members in the general public at several shopping centres and businesses in Kingston were included.

Consecutive potential eligible subjects were approached to participate in the study during their visit to the hospitals or at other sites. Exclusion criteria included individuals who have previously been diagnosed with colon cancer.

The research instrument utilized was a questionnaire with three sections and eighteen closed ended questions designed to capture knowledge and attitude towards colon cancer, risk factors, screening tests and its importance, barriers to screening, and physician practices regarding screening. In addition, demographic information including age and gender, occupation, educational level attained, family history of colon cancer and a personal history of having had a screening test was obtained.

All authors were engaged in constructing the questionnaire and pre-testing was conducted in eligible subjects at the UHWI medical clinic. Informed consent was obtained from each participant with explanation, prior to administering the questionnaire. The questionnaire was interviewer administered by one of the authors, and took approximately 10 minutes to be completed.

With a confidence level of 95%, margin of error 5% and 50% level of awareness, the sample size was calculated to be 383total respondents. Statistical analysis was performed by using SPSS 17.O.In addition to generating descriptive univariate statistics, Student t- tests and Pearson's Chi-square tests for bivariate assessment was employed as appropriate.

Subjects were assigned a study unique identification number (ID number) based on the order in which they are seen at the various centers. This ID number was entered on all data collection forms. Data was viewed only by persons directly related to the research. This ensured strict confidentiality of person's identity at all times.

The study was approved by the Ethics committee of the University of the West Indies and the KPH.

III. RESULTS

There were 324 general subjects and 57 physicians included in the study. Of the general subjects, there were 107(33%) malesand 217 (67%) females and for the physicians there were 26 males (45.6%) and 31females (54.4%). The majority of subjects in the general group were between 20 – 49 years accounting for 55.9% of the total and in the physicians group,79% were below 49 years.

The majority of the general subjects were from St Andrew (53.8%), followed by Kingston (17.5%) and St Catherine (14.5%). For the physicians group, 49.1% were from Kingston and 36.8% from St Andrew.

The majority of physicians were working in general medicine (59.7%), other areas included general surgery (14%), surgery sub-specialties (10.7%) and general practice (5.3%). The occupation of the general group comprised, retired (11.1%), students (9.3%), house wife (3.4%), clerk, accountant, teacher, cashier, driver and others. There were 12.3% unemployed in the group.

Regarding knowledge about colon cancer screening, 14% of the general subjects had never heard of CRC screening, 69% did not know enough about it and only 17% knew enough. Also, 69% of the general subjects did not know about recommendations for colon CRC screening, although, 29% personally know someone who has been diagnosed with colon cancer (Table).One hundred and three (31.8%) respondents did not know of any of the tests used for CRC screening. Of the remaining 221, the most commonly indicated test was colonoscopy in 172 (77.8%). Other tests indicated were, faecal occult blood (FOB), 88 (39.8%), sigmoidoscopy, 71 (32.1%), barium enema, 60 (27.1%) andCT colonography, 61 (27.6%). Sixty percent (60 %) of the general subjects would do screening if recommended by their family physicians and 28% if recommended by a specialist. Regarding risk factor(s) for colon cancer,92 (28.4%) of the 324 respondents did not know any. Of the remaining 232, 99 (42.7%) indicated that all the items listed were risk factors and 12 (5.2%) indicated that none of the items listed were risk factors. The number (%) of persons identifying the items listed as risk factors were: high fat diet, 39 (16.8%), low fibre diet, 37 (15.9%), history of colon polyps, 68 (29.3%), family history of colon cancer, 96 (41.4%) and smoking, 20 (8.6%).

Only one physician in the study had CRC screening performed and none of the general subjects. The majority of physicians (98%) in the study considered that CRC screening was important in their patients. Colon cancer screening was discussed with patients by physicians; only some of the time in 58%, rarely or never in 21% and only if there are risk factors in 7%.Mostphysicians (89.5%)agreed that Jamaica should have a national program for screening of colon cancer. The majority of physicians (74%) indicated that screening for colon cancer in average risk individuals begins at age 45 years and 82 % of the physicians usually recommend barium enema for colon cancer screening, this was followed by colonoscopy (9%). However, 72% of the physicians would choose faecaloccult blood testing and sigmoidoscopy for themselves. Physicians (95%) indicated that there were barriers to CRC screening in Jamaica, the main barrier being cost of screening tests reported in 69%, failure of doctors to advise patients in 16% and availability of screening tests in 8%.

IV. DISCUSSION

Colorectal cancer deaths worldwide accounts for 8% of all cancer deaths, making it the fourth most common cause of death from cancer. Mortality rates are lower in women than in men, except in the Caribbean [1].Overall age standardized deaths from cancer in the United States (US) have been decreasing from 2001 to 2006, with cancer mortality decreasing over 1.5% per year. This decrease is in part due to a decrease in colorectal cancer, which results from screening

[6]. Overall cancer incidence has also decreased, by an average of 0.7% per year from 1999 to 2006 [7].These declines have been attributed to risk reduction strategies, early detection of disease, and improvement in treatment strategies. In the US the burden of colorectal cancer has diminished substantially in recent decades. About half of the reductions in incidence and mortality have been attributed to expanded use of effective screening tests to identify and treat high-risk adenomas and early-stage cancers[7]. More than 70% of all cancer deaths occurred in low and middle-income countries and deaths from cancer worldwide are projected to continue rising, with an estimated 12 million deaths in 2030.

The age at which screening begins is determined by the risk assigned to each individual. Average risk individuals should be offered screening beginning at age 50 years in Caucasians and 45years in African Americans[4],[8].Owing to its potential for a high level of effectiveness in CRC prevention and study of outcomes associated with its use, quality colonoscopy every 10 years beginning at age50 years remains the preferred CRC screening strategy [4].

The uptake for CRC screening have been low [9]. The low prevalence of screening appears to be due to lack of awareness and inadequate provider counseling as well as poor patient acceptance for screening. In the present study, 14% of the general subjects had never heard of CRC screening before and 69% did not know enough about it. These results are similar to that found in other studies [5,10].Systematic counseling about CRC screening will likely improve screening rates and reduce disparities by race/ethnicity and education [9].

A study in Thailand found patient ignorance (66.1%), unavailability of screening test (64.6%), unawareness of physicians (57.9%), and financial problems (41.1%) were determined as barriers for colorectal cancer screening. Improvement in academic support services and standard clinical practice guideline were recommended to improve overall morbidity and mortality of colorectal cancer [10]. In Malaysia, awareness and screening practices for cancer were low in rural areas and in some states, where the rural community faced difficulty in accessing health care facilities, however, respondents with higher education level and income in this study, had a higher level of awareness of CRC [5].The knowledge and awareness of colorectal cancer among University students in Saudi Arabia were variable but overall were low [11].It has been indicated that individuals with the lowest educational attainment and income levels, among whom the colorectal cancer burden is the highest, have the lowest colorectal cancer screening rates, even among insured populations. Personal barriers to screening include fear and embarrassment[12].Apprehension about the bowel preparation, being unaware or lack of knowledge, pain, and concerns about insurance and cost were barriers cited in one study [13]. In another study, low screening proportions was attributed mainly to patient factors including embarrassment, fear of pain, lack of insurance and lack of symptoms [14].In the present study, the cost for screening was perceived by physicians to be the main barrier to CRC screening, also, failure of physicians to advise patients was thought to be an important factor.

In the US, compared to the overall 50 years and older population, screening prevalence was lower among adults younger than 65 and among those who are non-white, have fewer than 13 years of education, lack health insurance, and were recent immigrants. These are also the groups that are least likely to be aware of the need for colorectal screening. Also, women are slightly less likely than men to be current for screening [12].Although in North America, most physicians (58% to 92%) report recommending CRC screening to average-risk patients, inadequate communication by health care providers about the importance of screening is a major factor in screening underutilization [14],[15].In this study, CRC screening was discussed with patients by physicians in only some of the time in 58% and rarely or never in 21%, although 98% of physicians in the study considered that CRC screening was important to their patients.

It is estimated in Canada, that 23% of the screen-eligible population has ever been screened and that 53%of physicians have undergone CRC screening. These rates are comparable to rates for theCRC screen-eligible population in the US, which range between 38% and 54% [15]. A population-based study showed low utilization of CRC screening in Canadians, with 58% of the study population having never received either FOBT or endoscopy [15]. In New York City, a concerted campaign to promote colonoscopy through public education, improved tracking systems, and broad use of patient navigators has been associated with rapidly increased screening rates among adults aged 50 years and older, from 40% in 2003 to more than 60% in 2007. Most notably, racial and ethnic disparities in the use of colonoscopy were eliminated over this 4-year period as rates for black adults rose from 35% to 64%. Such local success in promoting colorectal cancer screening and eliminating racial disparities should be extended to other areas [8].

There were limitations to the present study. The study population is biased towards the younger age group and a relatively small number of physicians were sampled. Also, the majority of subjects were chosen from a limited geographical area and may reflect the educational level of a largely urban sample. It is likely however that a more rural sampling will reveal less levels of awareness. Despite these limitations the results probably give a fair indication of the status of the knowledge and attitude of the Jamaican population and doctors toward CRC screening,

In conclusion, awareness and knowledge about CRC screening was deficient in the population studied. There was inadequate communication by physicians to patients regarding the importance of screening as well as other barriers. Routine counseling on CRC screening is needed to improve screening rates. . Health authorities urgently need to develop programmes to improve public awareness and guidelines for CRC screening.

CONFLICT OF INTEREST

The authors declare no conflict of interest with this work.

REFERENCES

[1] American Cancer Society, Surveillance and Health Policy Research, Cancer Facts & Figures. 2009

[2] Gibson TN, Blake G, Hanchard B, Waugh N, McNaughton D. Age-specific incidence of cancer in Kingston and St. Andrew, Jamaica, 1988-2002, West Indian Med J 2008;57:81-89.

[3] Lee MG, Colon cancer screening. West Indian Med J 2006; 55: 365–7.

[4] Rex DK , Johnson DA, Anderson JC, Schoenfeld PS, Burke, Inadomi, JA.American College of Gastroenterology Guidelines for Colon cancer screening 2008. Amer JGastroenterol 2009;104:739-750.

[5] Su1 TT, Goh JY, Tan J, Muhaimah AR, PigeneswareY, Khairun NS et al. Level of colorectal cancer awareness: a crosssectional exploratory study among multi-ethnic rural population in Malaysia. BMC Cancer 2013;13:376http://www.biomedcentral.com/1471-2407/13/376

[6] Jemal A, Siegel R, Ward E, Hao Y, Xu J, Thun MJ. Cancer statistics, 2009, CA Cancer J Clin 2009; 59:225-249.

[7] Edwards BK, Ward E, Kohler BA, Eheman C, Zauber AG, Anderson RN et al.Annual report to the nation on the status of cancer, 1975-2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening, and treatment) to reduce future rates. Cancer 2010;116:544-573.

[8] Ayanian JY. Racial disparities in outcomes of colorectal cancer screening: Biology or barriers to optimal care? JNat Cancer Inst 2010;102:511-13.

[9] Wee CC, McCarthy EP, Phillips RS. Factors associated with colon cancer screening: the role of patient factors and physician counseling. Prev Med 2004;41:23-9.

[10] Thanapirom K, Treeprasertsuk S, Rerknimitr R. Awareness of colorectal cancer screening in primary care physicians.J Med Assoc Thai. 2012;95:859-65.

[11] Sayedalamin Z, Alandijani A, AlmutairiM, Alreheli A, Alnawwar M, Lamfon M et al.Assessment of the knowledge and awareness of colorectal cancer among undergraduate students in Saudi Arabia: a survey based study.Amer J Research Comm 2016:4:141-155.

[12] American Cancer Society.Colorectal Cancer Facts &Figures 2014-2016. 2016

[13] Jones RM, Devers KJ, Kuzel AJ, Woolf SH. Patient reported barriers to colorectal cancer screening a mixed method analysis. Am J Prev Med. 2010;38: 508–516.

[14] Hoffman RM, Rhyne RL, Helitzer DL, Stone SN, Sussman AL, Bruggeman EE et al. Barriers tocolorectal cancer screening: Physician and general population perspectives, New Mexico, 2006 and general population perspectives, New Mexico, 2006. Prev Chronic Dis 2011;8: A35. http://www.cdc.gov/pcd/issues/2011/mar/10_0081.htm.

[15] Sewitch J, Fournier C, Ciampi A, Dyachenko A.Adherence to colon cancer screening guidelines in Canada. BMC Gastroenterol2007;7:39 doi:10.1186/1471-230X-7-392007.