

Hospital-based Survey on Knowledge and Attitude toward Colorectal Cancer Screening among Indonesian Population

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ABSTRACT

Background: Several western countries have recommended colorectal cancer (CRC) screening, however the yield of CRC screening is still low. The acceptability of CRC screening is influenced by people's knowledge and attitude. This study was conducted to evaluate the knowledge and attitude of Indonesian people toward CRC screening.

Method: Adult Indonesian population aged 19–65 years was recruited in this hospital-based survey. Knowledge and attitude toward CRC screening were assessed by using structured questionnaires consisting of nine chapters.

Result: There were 614 respondents recruited in this study. Most respondents (36.2%) incorrectly pointed out abdominal pain or pain around anus as the symptom of bowel cancer. Regarding CRC risk factors, eating fruits or vegetables rarely was the most frequent answer (28.5%) encountered. Only one-third (28%) of respondents mentioned colonoscopy as the method for CRC screening. There were 38.1% of respondents who believed that CRC screening test might be harmful to the body. Up to 70.8% of the respondents agreed and strongly agreed that CRC screening test might cause physical discomfort. Two fifth (41.5%) of respondents believed that CRC screening test was embarrassing. More than half (58.8%) of respondents were afraid of having the CRC screening test. The test was too expensive according to 79.5% of respondents.

Conclusion: The knowledge on CRC symptoms, risk factors, and screening tests is still low among Indonesian population. Our study result indicates that the lack of knowledge and the discouraging attitude among Indonesian population will be the major barriers to implement CRC screening in Indonesia.

Keywords: colorectal cancer, screening, knowledge, attitude

INTRODUCTION

Colorectal cancer (CRC) ranks the fourth most common malignant neoplasm and the second leading cause of death in the United States and other Western countries.¹ During the last decades, there is an

increasing of CRC incidence in Asia that needs serious attention.² Moreover, approximately 70%-80% of CRCs arises among population at average risk.³

The American Cancer Society has recommended people aged 50 years or more to undergo CRC screening as most of sporadic CRCs in developed countries occur in patients above 50 years old.⁴ CRC screening test enables early detection and cure of early-stage disease cost-effectively. Individuals who undergo regular fecal occult blood test (FOBT) are showed to have a significant reduction in CRC mortality.⁵ Further

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reduction can be achieved by performing sigmoidoscopy and colonoscopy followed by colonoscopic polypectomy.^{6,7} The obstacles for implementing CRC screening program are the inconvenient and embarrassing nature of the tests, the fatalistic cancer beliefs, the lack of physician recommendation, and the limited knowledge on CRC.

Study on the knowledge and attitude toward CRC and CRC screening has not been done in Indonesia. This is the first study to evaluate the knowledge and attitude toward CRC and CRC screening on Indonesian population. The study result will provide significant information for implementing CRC screening program in Indonesia.

METHOD

Selection of Subjects

Hospital-based survey was conducted from May to June 2007 at Cipto Mangunkusumo hospital. Respondents were recruited by consecutive sampling from outpatients. Outpatients were eligible to participate in the study if they were aged 19-65 years and had no obvious mental or cognitive impairment. Outpatients were excluded if they were gastro-intestinal clinic outpatients, had received a FOBT within one year, had received a flexible sigmoidoscopy or colonoscopy within five years, had a personal or family history of colorectal cancer or polyps, and had a personal history of inflammatory bowel disease. This study was reviewed and approved by the ethics committee of Faculty of Medicine University of Indonesia, who approved the protocol.

Data Collection

An anonymous, self-administered, structured questionnaire was developed to evaluate respondents' knowledge and attitude toward CRC and CRC screening. Trained research assistants approached eligible respondents and distributed the questionnaires as they waited for their scheduled outpatient visit. The respondents were assured of the confidentiality of the survey and were asked to provide informed consent.

RESULTS

There were 614 respondents recruited in this study. About 35.8% of the respondents had accomplished tertiary level of education. Most of the respondents (91.4%) were married. There were 38.1% of the respondents who have full time job. The personal and family incomes were mostly between IDR one to five million per month; 38.4% and 49.3%, respectively (table 1).

Table 1. Characteristic of subjects

| Characteristic | n | % |
|----------------------------|-----|------|
| Sex | | |
| Male | 329 | 53.6 |
| Age group (years) | | |
| < 39 | 222 | 36.2 |
| 40-49 | 188 | 30.6 |
| 50-65 | 204 | 33.2 |
| Education | | |
| Primary school or less | 204 | 33.3 |
| Secondary school | 190 | 30.9 |
| Tertiary school/university | 220 | 35.8 |
| Marriage status | | |
| Married | 561 | 91.4 |
| Others | 53 | 8.6 |
| Employment | | |
| Full time job | 234 | 38.1 |
| Part time job | 239 | 38.9 |
| Unemployed | 44 | 7.2 |
| Others | 97 | 15.8 |
| Personal income per month | | |
| < IDR 500,000 | 175 | 28.5 |
| IDR 500,000 –1,000,000 | 122 | 19.9 |
| IDR 1,000,000–5,000,000 | 236 | 38.4 |
| IDR 5,000,000 | 28 | 4.6 |
| Decline to answer | 53 | 8.6 |
| Family income per month | | |
| < IDR 500,000 | 86 | 14 |
| IDR 500,000 –1,000,000 | 131 | 21.3 |
| IDR 1,000,000 –5,000,000 | 303 | 49.3 |
| IDR 5,000,000 | 50 | 8.1 |
| Decline to answer | 44 | 7.2 |

Table 2. Respondents who correctly answer the symptoms of colorectal cancer

| Symptom | n | % |
|----------------------------------|-----|------|
| Blood in stool | 103 | 16.8 |
| Mucus in stool | 40 | 6.5 |
| Change in bowel habit | 59 | 9.6 |
| Diarrhea or constipation | 135 | 22.0 |
| Abdominal pain, pain around anus | 222 | 36.2 |
| Vomits | 48 | 7.8 |
| Anemia | 17 | 2.8 |
| Weight loss | 96 | 15.6 |
| Malaise | 36 | 5.9 |
| Others | 117 | 19.1 |

Table 3. Respondents who correctly identified risk factors of colorectal cancer

| Risk factor | n | % |
|---|-----|------|
| Old age | 48 | 7.8 |
| Male | 7 | 1.1 |
| Female | 19 | 3.1 |
| Family history | 61 | 9.9 |
| Seldom have fruit or vegetables | 175 | 28.5 |
| Eat too much fatty food | 138 | 22.5 |
| Eat too much meat | 58 | 9.4 |
| Eat too much deep fried and barbeque food | 126 | 20.5 |
| Lack of exercise | 56 | 9.1 |
| Overweight | 28 | 4.6 |
| Smoking | 80 | 13.0 |
| Have other bowel disease | 40 | 6.5 |
| Others | 269 | 43.8 |
| Don't know | 157 | 25.6 |

Table 4. Respondents who correctly answer the screening test of colorectal cancer

| Screening test | n | % |
|--------------------------------------|-----|------|
| Fecal occult blood test | 117 | 19.1 |
| Fecal DNA test | 53 | 8.6 |
| Colonoscopy | 172 | 28.0 |
| Virtual colonoscopy | 41 | 6.7 |
| Flexible sigmoidoscopy | 54 | 8.8 |
| The need of screening above 50 years | | |
| Great need | 99 | 16.1 |
| Some need | 357 | 58.1 |
| Little need | 46 | 7.5 |
| No need | 90 | 14.7 |
| Not sure | 22 | 3.6 |

Approximately 90% of the respondents agreed and strongly agreed that they would be very anxious, their family would be very upset, and they would be a burden of their family financially if they had bowel cancer. Two third (65.6%) of respondents perceived that they could still live normal if they had bowel cancer (table 5).

Table 5. Perceptions about CRC

| Do you agree with the following statements? | n | % |
|---|-----|------|
| If I know I have had bowel cancer | | |
| I will be very anxious | | |
| Strongly agree | 136 | 22.1 |
| Agree | 401 | 65.4 |
| Disagree | 73 | 11.9 |
| Strongly disagree | 2 | 0.3 |
| Don't know | 2 | 0.3 |
| My family will be very upset | | |
| Strongly agree | 126 | 20.5 |
| Agree | 429 | 69.8 |
| Disagree | 55 | 9.0 |
| Strongly disagree | 1 | 0.2 |
| Don't know | 3 | 0.5 |
| I will be a burden of my family financially | | |
| Strongly agree | 114 | 18.6 |
| Agree | 427 | 69.5 |
| Disagree | 69 | 11.2 |
| Strongly disagree | 0 | 0 |
| Don't know | 4 | 0.7 |
| I can still live a normal life | | |
| Strongly agree | 43 | 7.0 |
| Agree | 360 | 58.6 |
| Disagree | 168 | 27.4 |
| Strongly disagree | 14 | 2.3 |
| Don't know | 29 | 4.7 |
| I will become pessimistic | | |
| Strongly agree | 19 | 3.1 |
| Agree | 219 | 35.7 |
| Disagree | 323 | 52.6 |
| Strongly disagree | 45 | 7.3 |
| Don't know | 8 | 1.3 |
| My family will not be able to take care of me | | |
| Strongly agree | 4 | 0.7 |
| Agree | 169 | 27.5 |
| Disagree | 402 | 65.4 |
| Strongly disagree | 27 | 4.4 |
| Don't know | 12 | 2.0 |
| I will be a burden for my family | | |
| Strongly agree | 74 | 12.1 |
| Agree | 434 | 70.6 |
| Disagree | 95 | 15.5 |
| Strongly disagree | 4 | 0.7 |
| Don't know | 7 | 1.1 |

More than half (58.8%) of respondents were afraid of having CRC screening test. As much as 79.5% of the respondents perceived that CRC screening test was too expensive. Two fifth (41.5%) of respondents believed that CRC screening test was embarrassing. Up to 70.8% of the respondents agreed and strongly agreed that CRC screening test might cause physical discomfort. When confronted with the statement "I don't do much to prevent bowel cancer", 64.8% of respondents disagreed and 7.3% strongly disagreed (table 6).

Table 6. Perceptions about CRC screening

| Do you agree with the following statements? | n | % |
|---|-----|------|
| Bowel cancer screening test | | |
| Might be harmful to the body | | |
| Strongly agree | 25 | 4.1 |
| Agree | 234 | 38.1 |
| Disagree | 312 | 50.8 |
| Strongly disagree | 43 | 7.0 |
| Might cause physical discomfort | | |
| Strongly agree | 37 | 6.0 |
| Agree | 398 | 64.8 |
| Disagree | 168 | 27.4 |
| Strongly disagree | 11 | 1.8 |
| Is embarrassing | | |
| Strongly agree | 21 | 3.4 |
| Agree | 234 | 38.1 |
| Disagree | 330 | 53.8 |
| Strongly disagree | 29 | 4.7 |
| I'm afraid of having a test | | |
| Strongly agree | 38 | 6.2 |
| Agree | 323 | 52.6 |
| Disagree | 227 | 37.0 |
| Strongly disagree | 26 | 4.2 |
| Is too expensive | | |
| Strongly agree | 104 | 16.9 |
| Agree | 384 | 62.6 |
| Disagree | 123 | 20.0 |
| Strongly disagree | 3 | 0.5 |
| I have no time to go for a test | | |
| Strongly agree | 13 | 2.1 |
| Agree | 243 | 39.6 |
| Disagree | 346 | 56.3 |
| Strongly disagree | 12 | 2.0 |
| I don't know where to go for a test | | |
| Strongly agree | 18 | 2.9 |
| Agree | 386 | 62.9 |
| Disagree | 201 | 32.7 |
| Strongly disagree | 9 | 1.5 |
| I don't do much to prevent bowel cancer | | |
| Strongly agree | 9 | 1.5 |
| Agree | 160 | 26.1 |
| Disagree | 400 | 65.1 |
| Strongly disagree | 45 | 7.3 |

Almost all (98.7%) of respondents had never gone through CRC screening test. There were more respondents that agreed to have a CRC screening test if it was free than otherwise; 77.6% vs 22.4%, respectively (table 7).

More than half (52.4%) of respondents stated that they would consult with the same doctor when they were sick. Seventy eight percent of the respondents had never received information on CRC screening test

from television/newspaper/magazine. There were 87% of respondents that had never been recommended to do CRC screening test (table 8). Most of respondents (82.9%) did not have any relative, friend, or anyone known to have CRC.

Table 7. Behavior/inclination to CRC screening

| Have you gone through any test for bowel cancer before? | n | % |
|--|-----|------|
| Yes | 8 | 1.3 |
| If yes | | |
| FOBT and colonoscopy | 6 | 1 |
| Flexible sigmoidoscopy | 2 | 0.3 |
| Will you have a bowel cancer screening test if it is free? | 476 | 77.6 |

Table 8. Health behavior

| Question | n | % |
|--|-----|------|
| Would you usually consult the same doctor when you are sick? | 322 | 52.4 |
| Do you have medical insurance covering cancer treatment? | 352 | 57.3 |
| Have you ever received information on bowel cancer screening test from television/newspaper/magazines? | 135 | 22.0 |
| Have any medical professionals recommended you to test for bowel cancer? | 64 | 10.4 |
| Do you have any relative, friends or anyone you know that was diagnosed to have bowel cancer? | 105 | 17.1 |
| If yes, who is she/ he? | | |
| First-degree relatives | 11 | 1.8 |
| Other relatives | 18 | 2.9 |
| Friends | 41 | 6.7 |
| Others | 35 | 5.7 |

DISCUSSION

An overall evaluation of the respondents' answers revealed a relatively poor level of knowledge on symptoms of CRC, risk factors of CRC, and CRC screening. The symptoms of CRC were largely unknown by the majority of respondents. Less than one fifth (16.8%) of respondents could correctly point out blood in stool as the symptoms of CRC. In addition, other main symptoms of CRC including mucus in stool and anemia were correctly identified by less than ten percent of respondents; 6.5% and 2.8% respectively.

Less than ten percent of respondents in our study identified old age, family history, lack of exercise, and overweight as the risk factors of CRC. In population-based study on Italian adults, 53.9% and 24% of the respondents could point out family history and low physical activity as the risk factors of CRC.⁸ Low level knowledge was also reported in a British study involving 1,637 respondents. In that study, 58% of the respondents could not list CRC risk factors and 24% of the respondents were unable to identify warning signs for CRC.⁹ Even in the United States, the lack of understanding regarding CRC was found in

a large proportion of respondents, especially among minority groups.¹⁰ Overall, there was less Indonesian population who acknowledged the CRC risk factors.

Regarding the knowledge on CRC screening test, most of respondents did not know any of them. Colonoscopy was the most commonly found answer (28%) followed by FOBT (19%). A study in Hong-Kong also found that colonoscopy was the most common mentioned CRC screening test (33%), followed by sigmoidoscopy (6.3%), fecal occult blood test (5.9%), double contrast barium enema (4.4%), and digital examination (1.2%).¹¹ In the United States, a study on 104 patients aged ≥ 50 years from medical clinics, 69.2% and 49% of respondents identified colonoscopy and FOBT as the main screening tests for the prevention of CRC.¹² Another population-based study of 105 white males 50-79 years of age in the United States showed that 75% of respondents had heard of colonoscopy.¹³ Those findings indicated that Indonesian population had lower level of knowledge on CRC screening.

Eight (1.3%) respondents in our study had undergone colonoscopy test. The low proportion of screening was also reported in a study involving the Korean Americans that showed only 12% and 10% of respondents had undergone digital rectal examination (DRE) and FOBT test. In addition, less than 6% of them ever had DRE and FOBT for screening purposes. The most common reason for not having a DRE and FOBT was "not having symptoms and health problems", thus they did not see the need for screening test.¹⁴

More than 75% of our respondents indicated that they would have a CRC screening test if it was free. That result was dissimilar with the study in Hong Kong that showed only 29.5% of the respondents agreed to join CRC screening test program if it was free.¹¹

The lack of knowledge built the perception about CRC screening test that it could be harmful to the body (40%), might cause physical discomfort (70%), was too expensive (77%), and was embarrassing (40%). These answers are more likely to be applied for endoscopic-based method of screening and might show that most people do not think of FOBT when they were asked about CRC screening. Fear of having a test was perceived by 58.5% of respondents.

Seventy eight percent of the respondents had never received information on CRC screening test from television/newspaper/magazine. Moreover, there were 87% of the respondents that had never been recommended to do CRC screening test. Those facts indicated that the role of general practitioner might still inadequate in promoting preventive practices for CRC.

Our study has several strengths. This is the first study in Indonesia to evaluate the knowledge and

attitude toward CRC screening on Indonesian population. We also differ in that we included younger population in our study. The limitation of our study is that we did not analyze association between the different variables and CRC. Our study result indicates that the lack of knowledge and the discouraging attitude among Indonesian population will be the major barriers to implement CRC screening in Indonesia.

CONCLUSION

The knowledge on CRC symptoms, risk factors, and screening tests is still low among Indonesian population. Our study result indicates that the lack of knowledge and the discouraging attitude among Indonesian population will be the major barriers to implement CRC screening in Indonesia.

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