Gender preference and implications for screening colonoscopy: Impact of endoscopy nurses

Vui Heng Chong

Vui Heng Chong, Division of Gastroenterology and Hepatology, Department of Medicine, Raja Isteri Pengiran Anak Saleha Hospital, Bandar Seri Begawan, BA 1710, Brunei Darussalam

Author contributions: Chong VH conceived and designed the study, analysed the data and wrote the manuscript.

Correspondence to: Vui Heng Chong, Division of Gastroenterology and Hepatology, Department of Medicine, Raja Isteri Pengiran Anak Saleha Hospital, Bandar Seri Begawan, BA 1710, Brunei Darussalam. chongvuih@yahoo.co.uk

Telephone: +67-3-887218  Fax: +67-3-2242690

Received: January 14, 2012  Revised: March 27, 2012

Accepted: March 29, 2012

Published online: July 21, 2012

Abstract

AIM: To assess the gender preferences, specifically the gender of the nursing staff (endoscopy assistants) and the impact on acceptance for screening colonoscopy (SC).

METHODS: Patients or relatives attending the clinics or health care workers working in a tertiary center were invited to participate in this questionnaire study. The questionnaire enquired on the general demographics (1) age, gender, ethnicity, education level, and employment status, previous history of colonoscopy, family or personal history of colonic pathologies, personal and family history of any cancers; (2) subjects were asked if they would go for an SC if they had appropriate indications (age over 50 years, family history of colorectal cancer (CRC), fecal occult blood positive, anemia especially iron deficiency anemia, bleeding per rectum with or without loss of appetite, weight loss and abdominal pain) with and without symptoms attributable to CRC; and (3) preferences for the gender of the endoscopists and assistants and whether they would still undergo SC even if their preferences were not met.

RESULTS: Eighty-four point seven percent (470/550) completed questionnaire were analysed. More female subjects expressed gender preferences for the endoscopists [overall 70%; female (67.7%) and male (2.3%)] compared to male subjects [overall 62.8%; male (56%) and female (6.8%), P = 0.102]. Similarly, more female subjects expressed gender preferences for the assistants [overall 74.5%; female (73.4%) and male (1.1%)] compared to male subjects [overall 58%, male (49.3%) and female (8.7%), P < 0.001]. Overall, a third would decline an SC, despite having appropriate indications, if their preferences were not met. On univariate analysis, male gender, non-Malay ethnicity (Chinese and others) and previous colonoscopy experience were more likely to undergo an SC, even if their preferences were not met (all P < 0.05). Gender and previous experience [odds ratio (OR) 1.68, 95% confidence interval (CI) 1.00-2.82, P < 0.05] with colonoscopy (OR 4.70, 95% CI 1.41-15.66, P < 0.05) remained significant on multivariate analysis.

CONCLUSION: Genders preference for the endoscopy nurses/assistants is more common than for the endoscopist among women and has implications for the success of a screening colonoscopy program.

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Key words: Colorectal cancer; Screening colonoscopy; Gender preference; Patient satisfaction; Endoscopy

Peer reviewers: A Ibrahim Amin, MD, Department of Surgery, Queen Margaret Hospital, Dunfermline, Fife KY12 0SU, United Kingdom; Luis Bujanda, PhD, Professor, Department of Gastroenterology, Centro de Investigacion Biomedica en Red de Enfermedades Hepaticas y Digestivas, University of Country Basque, Donostia Hospital, Paseo Dr. Beguiristain s/n, 20014 San Sebastián, Spain

Chong VH. Gender preference and implications for screening colonoscopy: Impact of endoscopy nurses. World J Gastroenterol 2012; 18(27): 3590-3594  Available from: URL: http://www.wjgnet.com/1007-9327/full/v18/i27/3590.htm DOI: http://dx.doi.org/10.3748/wjg.v18.i27.3590
INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer in both men and women and remains an important cause of morbidity and mortality.[1,2] The incidence rates are reported to be increasing, especially in the developing nations, but are stable or are leveling off in the more developed nations, such as the United States and Canada.[3,4]

Currently, colonoscopy is the recommended procedure of choice for CRC screening.[3,5] Despite the effectiveness of CRC screening programs, with reduction in subsequent development of CRC and related mortality,[6,7], the uptake rates are still low. Ethnicity, socioeconomic status, public knowledge of CRC and availability of services are some of the factors that can affect the uptake of screening programs. Gender disparities among health care providers are evident in certain specialties[8-10]. A similar situation exists in the gastroenterology fraternity[11-14]. Several studies have shown that women prefer women endoscopists[15-20]. However, none of these studies have looked at the gender of the endoscopists’ assistants. This study assesses preferences with regard to the genders of the endoscopists and the assistants and their implications for screening colonoscopy (SC) uptake.

MATERIALS AND METHODS

Setting

This study was conducted (March to June 2008) in a referral center (RIPAS Hospital) in a country with a predominant Malay population. The study was conducted in accordance with the standard set out in the Declaration of the Helsinki and ethics approval was obtained from the Institutional Medical Health and Research Ethic Committee of the Hospital, Ministry of Health.

Subjects

Subjects included patients attending the various clinics or accompanying relatives and health care workers working in the center. Subjects were randomly approached and invited to participate in this self-administered questionnaire study. Verbal and detailed written explanations were given prior to handing out the questionnaires. Consents were also obtained. Only subjects 18 years old or above were included in the study.

Questionnaire

Development: The questionnaire was provided in two versions, English and Malay. The initial questionnaire was developed in English and forward translations to Malay were carried out by two persons fluent in both languages. Inconsistencies were amended based on consensus. This process was repeated until the two versions were consistent. The questionnaire was tested (n = 20) to assess for any problem before starting the survey.

Data collection: The questionnaire consisted of three parts; (1) demographic data (gender, age, ethnic group, education level, and employment status, previous colonoscopy, family or personal history of colonic pathologies (polyps and cancer), personal and family history of any cancers (specifically CRC, other gastrointestinal cancers, pulmonary, obstetric and gynecology and breast cancers); (2) in the second section, subjects were asked if they would go for an SC assuming they had appropriate indications (age over 50 years, family history of CRC, fecal occult blood positive, anemia especially iron deficiency anemia, bleeding per rectum with or without loss of appetite, weight loss and abdominal pain);[3,8]. They were also asked if they would go for an SC if they had appropriate indications but without any gastrointestinal symptoms attributable to a CRC. All these questions required only a “yes” or “no” response; and (3) subjects’ were asked for their preferences for the gender of the endoscopists and assistants (nursing staff involved with the procedure). These two questions required one out of three responses (same gender, opposite gender or no preferences). The final question inquired if they would still go for an SC if they had definite indications, but without their preferences being met. Subjects were informed that colonoscopies are carried out following the practice of the unit using conscious sedation (titrated intravenous midazolam and fentanyl).

Statistical analysis

The data were entered into the Statistical Program for the Social Sciences (SPSS, Version 10.0, Chicago IL, United States) for analysis. Univariate analysis (χ² test) was used to compare the categorical variables and only those variables that were found to be significant (P < 0.10) were entered into multivariate analysis. The level of significance was set at P < 0.05.

RESULTS

There were 470 completed questionnaire out of total 550 distributed, giving a response rate of 84.5%. The mean age of the sample was 39.4 ± 12.8 years old, with a male to female ratio of 44:56. Family history of any cancer was reported at 19.8% and of these, 7.4% were CRC. The demographic data is shown in Table 1.

In the presence of appropriate indications, including symptoms attributable to CRC, 90.9% would agree to undergo an SC. However, in the absence of any symptoms, only 59.4% would agree to undergo SC (P < 0.05).

With regard to the genders of the endoscopists, more female subjects expressed a gender preference (overall 70%; 67.7% for a female endoscopist and 2.3% for a male endoscopist), with 30% having no gender preference, compared to male subjects, of whom 62.8% (P = 0.102) expressed a gender preference, (56% for male endoscopists and 6.8% for female endoscopists) and 37.2% had no preference.

With regard to the gender of the assistants, significantly more female subjects expressed a gender preference (overall 74.5%; female (73.4%), male (1.1%) and no
preferences (25.5%) compared to male subjects [overall 58%, male (49.3%), female (8.7%) and no preference (42%) (P < 0.001).

Overall, a third would decline an SC if their preferences were not met (for either or both endoscopists and assistants), even if there were indications for an SC. Factors that were associated with likelihood of agreeing to undergo SC even when their preferences were not met included male gender, non-Malay ethnicity and previous experience of colonoscopy. Education level, marital status, employment status and family history of cancers, including CRC, were not predictive (Table 2).

On multivariate analysis, male gender and previous experience of colonoscopy remained significant predictive factors for agreeing to undergo an SC, despite preferences not being met (Table 3).

**DISCUSSION**

To date, there have been several studies that had looked at gender preferences during colonoscopy[15-21]. However, they only assessed the preference for the gender of the endoscopists and not that of the endoscopy nurses or assistants.

Of these studies, most looked at mainly Caucasian populations[15-18,20] and one study from the States concentrated on a Hispanic population[19]. To date, there is only one study from the East, which assessed the preferences of Korean women[14]. Two studies specifically looked at female subjects[17,18]. Most of the studies recruited subjects from clinics[17-20] and two studies looked at patients who were scheduled for colonoscopy[15,16]. All these studies showed similar findings, with women expressing more preferences for female endoscopists, even among healthcare professionals[21]. The present study showed the highest preference rates reported for both women (70%) and men (62.8%). The findings of these studies are summarized in Table 4.

Generally, when patients express a preference, they usually prefer an endoscopist of the same gender. Several factors have been reported to be important and not just for endoscopic procedures[22]. Factors reported to be important include ethnicity, female gender, younger age, low income, history of abuse (either physical or emotional), being cared for by a female primary care physician, being employed, and being single[17-21]. However, not all the studies reported consistently similar findings. One of the reasons that may account for the finding in the current study is cultural differences. Asian populations are gener-

### Table 1 Demographic and previous medical history of subjects

| Demographic data | n (%) |
|------------------|-------|
| Gender           |       |
| Male             | 207 (44) |
| Female           | 263 (56) |
| Race             |       |
| Malays           | 370 (78.7) |
| Chinese          | 75 (16.0) |
| Others           | 25 (5.3) |
| Educations levels|       |
| Higher           | 169 (36.0) |
| Lower/none       | 301 (64.0) |
| Employments status|     |
| Working          | 356 (75.7) |
| Not working      | 114 (24.3) |
| Marital status   |       |
| Married          | 325 (69.1) |
| Single           | 129 (27.4) |
| Others           | 16 (3.4) |
| Previous colonoscopy | 65 (13.8) |
| Family history of cancer | 93 (19.8) |
| Gastric          | 15 (3.2) |
| Colorectal       | 35 (7.4) |
| Breast           | 17 (3.6) |
| Obstetric and gynecology | 8 (1.7) |
| Pulmonary        | 12 (2.6) |

| Race |       |
|------|-------|
| Malays | 370 (78.7) |
| Chinese | 75 (16.0) |
| Others  | 25 (5.3) |

| Educations levels |       |
|------------------|-------|
| Higher           | 169 (36.0) |
| Lower/none       | 301 (64.0) |

| Employments status |       |
|-------------------|-------|
| Working           | 356 (75.7) |
| Not working       | 114 (24.3) |

| Marital status    |       |
|------------------|-------|
| Married          | 325 (69.1) |
| Single           | 129 (27.4) |
| Others           | 16 (3.4) |

| Previous colonoscopy |       |
|---------------------|-------|
| Yes                 | 28 (80.0) |
| No                  | 361 (83.0) |

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### Table 2 Factors associated with likelihood for subjects to agree to undergo screening colonoscopy despite their preferences not being met

| Parameters | Will undergo SC | P value |
|------------|----------------|---------|
| Recommended age | Yes | 102 (86.4) | 0.222 |
| | No  | 28 (81.5) | |
| Gender | Male | 100 (87.0) | 0.033 |
| | Female | 209 (79.5) | |
| Race | Malays | 308 (81.1) | 0.043 |
| | Non-malays | 81 (90.0) | |
| Education | Higher | 134 (79.3) | 0.135 |
| | Lower/none | 255 (84.7) | |

| Marital status |       |
|----------------|-------|
| Single          | 102 (79.1) |
| Married/widowed | 287 (84.2) |

| Employment | Yes | 294 (82.6) | 0.854 |
| | No  | 95 (83.3) | |

| Previous colonoscopy |       |
|---------------------|-------|
| Yes                 | 62 (95.4) | 0.004 |
| No                  | 327 (80.7) | |

| Family history of cancer |       |
|-------------------------|-------|
| Yes                     | 76 (81.7) | 0.766 |
| No                      | 313 (83.0) | |

| Family history of CRC |       |
|----------------------|-------|
| Yes                  | 28 (80.0) | 0.652 |
| No                   | 361 (83.0) | |

SC: Screening colonoscopy; CRC: Colorectal cancer.

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### Table 3 Multivariate analysis showing willingness to undergo screening colonoscopy despite preferences not being met

| Variables | OR   | 95% CI       | P value |
|-----------|------|--------------|---------|
| Gender    |      |              |         |
| Male vs female | 1.68 | 1.00-2.82 | 0.049 |
| Race      |      |              |         |
| Malays vs non-malays | 1.94 | 0.91-4.130 | 0.086 |
| Previous colonoscopy | Yes vs no | 4.70 | 1.41-15.66 | 0.012 |

OR: Odd ratio; CI: Confidence interval.
ally more reserved, especially women, and are more likely to prefer to deal with health care providers of the same gender.

When the preference for the gender of the assistants was assessed, similar findings were seen. However, the preference rate for women subjects was higher compared to the rate expressed for the endoscopist. In contrast, it was slightly lower for men. This indicates that, the gender of the assistants is more important for female patients than for male patients. The reasons for this are probably similar to those found in studies looking at gender preferences among endoscopists\[15-21\]. Colonoscopy can be considered as invasive, uncomfortable, and embarrassing and patients usually have more interactions with the endoscopists’ assistants or nurses. For women, embarrassment, feeling at ease talking to, and being examined by, female health care providers are some of the important factors. Most were willing to wait or pay extra for their preferences to be met.

When subjects’ preferences were not a problem, the uptake of SC was good in the presence of symptoms attributable to colonic pathology, but not in the absence of symptoms. However, when their preferences were not met, a third would decline an SC even if an SC was indicated. On univariate analysis, male gender, non-Malay ethnicity and previous experience of colonoscopy were significant predictive factors for agreeing to undergo an SC, but also of the endoscopists’ assistants is important to improve the uptake rate of any SC programs.

There are several limitations with the present study. First, it was a single center study and the result may not be generalizable to other populations. However, the findings are consistent with findings of previous studies. Second, the mean age of the studied population was much younger than the other studies and the recommended screening age. However, as with all screening programs, all subjects are potential screening subjects and all will eventually become eligible with time.

In conclusion, the gender of the endoscopy nurse or assistant is more important than the gender of the endoscopist among female subjects. Importantly, a third of the subjects, particularly women, would decline an SC if their preferences were not met. Male gender and previous experience of colonoscopy were predictive factors for agreeing to undergo an SC, even when their preferences were not met. Therefore, addressing the gender disparities of health care providers, not just of the endoscopists, but also of the endoscopists’ assistants is important to improve the uptake rate of any SC programs.

ACKNOWLEDGMENTS

I would like to thank all the endoscopy unit staff who helped this questionnaire study (Suriawati Bakar, Wasnati Bahrom, Saiful Ramli and Dyana Mahali).

COMMENTS

Background

Colorectal cancer (CRC) is the third most common cancer and remains an important cause of cancer related mortality. Screening colonoscopy (SC) has been shown to reduce the incidence of CRC and prevent CRC related death. However, uptake of SC remains low for various reasons, including both patient and non-patient factors. Gender preference for the healthcare service providers is common and may impact on uptake rate of service delivery.

Research frontiers

Several studies based on patients scheduled for lower gastrointestinal endoscopy and clinics have shown that gender preference for a same gender en-
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doscopy is more common among women than men. This is true even among health care professionals. Most of those who expressed a gender preference were willing to wait or pay for their preferences to be met.

**Innovations and breakthroughs**

Previous studies have only assessed subjects’ preferences for the gender of the endoscopist. This study also assessed the subjects’ preferences for the gender of the assistants and their impact on uptake of SC.

**Applications**

This study showed that the gender of the endoscopist’s assistants or staff nurse involved with the procedure is also important. It also showed that not meeting the preference of patients, especially women, would affect the uptake SC if indicated. In this study of a Southeast Asian population, a third of subject would decline an SC if their preferences were not met.

**Terminology**

CRC is a malignant neoplasm of the colon and rectum and commonly develop through the adenoma-dysplasia-carcinoma sequence, which usually takes many years. SC is now the recommended screening procedure of choice for CRC, as it allows detection and removal of early neoplasms (adenoma with or without carcinoma in situ).

**Peer review**

This study shows that gender is not just the endoscopist but also of the endoscopy nurse or assistants need to be considered in the delivery of colonoscopy and that this may impact on the uptake rate of an SC program.

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