

On attitudes about colorectal cancer screening among gastrointestinal specialists and general practitioners in the Netherlands

JS Terhaar sive Droste, GDN Heine, ME Craanen, H Boot, CJJ Mulder

JS Terhaar sive Droste, GDN Heine, ME Craanen, CJJ Mulder, Department of Gastroenterology and Hepatology, VU University Medical Centre, Amsterdam, The Netherlands

H Boot, Department of Gastroenterology and Hepatology, Antoni van Leeuwenhoek Hospital, Amsterdam, The Netherlands

Correspondence to: Professor Dr. CJJ Mulder, Department of Gastroenterology and Hepatology, VU University Medical Centre, PO Box 7057, 1007 MB, Amsterdam,

The Netherlands. cjmulder@vumc.nl

Telephone: +31-20-4440613 Fax: +31-20-4440554

Received: 2006-02-28 Accepted: 2006-03-27

© 2006 The WJG Press. All rights reserved.

Key words: Colorectal cancer; General practitioner; Screening; Colonoscopy; Awareness

Terhaar sive Droste JS, Heine GDN, Craanen ME, Boot H, Mulder CJJ. On attitudes about colorectal cancer screening among gastrointestinal specialists and general practitioners in the Netherlands. *World J Gastroenterol* 2006; 12(32): 5201-5204

<http://www.wjgnet.com/1007-9327/12/5201.asp>

Abstract

AIM: To find out whether there are differences in attitudes about colorectal cancer (CRC) screening among gastrointestinal (GI) specialists and general practitioners (GPs) and which method is preferred in a national screening program

METHODS: Four hundred and twenty Dutch GI specialists in the Netherlands and 400 GPs in Amsterdam were questioned in 2004. Questions included demographics, affiliation, attitude towards screening both for the general population and themselves, methods of screening, family history and individual risk.

RESULTS: Eighty-four percent of the GI specialists returned the questionnaire in comparison to 32% of the GPs ($P < 0.001$). Among the GI specialists, 92% favoured population screening whereas 51% of GPs supported population screening ($P < 0.001$). Of the GI specialists 95% planned to be screened themselves, while 30% of GPs intended to do so ($P < 0.001$). Regarding the general population, 72% of the GI specialists preferred colonoscopy as the screening method compared to 27% of the GPs ($P < 0.001$). The method preferred for personal screening was colonoscopy in 97% of the GI specialists, while 29% of the GPs favoured colonoscopy ($P < 0.001$).

CONCLUSION: Screening for CRC is strongly supported by Dutch GI specialists and less by GPs. The major health issue is possibly misjudged by GPs. Since GPs play a crucial role in a successful national screening program, CRC awareness should be realized by increasing knowledge about the incidence and mortality, thus increasing awareness of the need for screening among GPs.

INTRODUCTION

Colorectal cancer (CRC) is the second leading cause of cancer-related death in the Western world, with over 4400 deaths per year in The Netherlands and 500 000 deaths per year worldwide^[1]. Due to the aging population and population growth, the expected number of CRC patients will increase in the forthcoming years^[2]. CRC is suitable for screening. Pre-malignant lesions can be identified and removed, and in case of detection in an early stage, its five year survival rate exceeds 90%^[3].

The call for a national screening program in the Netherlands is increasing and implementation of the faecal occult blood test (FOBT) as a method of screening is planned within 2-3 years^[4]. A meta-analysis of results from four randomised controlled trials showed that screening reduces mortality of colorectal cancer patients by 23% of those who have been actually screened^[5]. However, a recent study has shown a moderate sensitivity (12%) in detecting CRC with FOBT and patient compliance of only 40%-60%^[6]. Mortality reduction by means of endoscopic screening is expected to be 15%-20% higher, but evidence from prospective randomized trials is lacking^[7].

The Netherlands rank the lowest public awareness regarding CRC among countries in Europe^[8]. In some countries feasibility and implementation studies of nationwide screening programs, together with capacity inventories, are ongoing, while Dutch reports are still awaited^[9-11].

A high participation level of the general population is essential for a national screening program to succeed. The key to achieving adequate compliance is informing the community through an educational campaign about the nature and extent of the disease, as well as education re-

Table 1 Population and personal screening

	GI specialists (%)	GPs (%)	Fisher exact test
In favour of population screening	92	51	$P < 0.001$
In favour of personal screening	95	30	$P < 0.001$

Table 2 Favoured method of population screening

	GI specialists (%)	GPs (%)	Fisher exact test
FOBT	0	26	$P < 0.001$
Sigmoidoscopy	0	18	$P < 0.001$
Combination FOBT + sigmoidoscopy	12	0	$P < 0.001$
Colonoscopy	72	27	$P < 0.001$
Fecal DNA test/CT-colonoscopy	16	19	NS ($P = 0.49$)
Indifferent/Unknown	0	10	$P < 0.001$

garding the method of screening to be used. Involvement of the general practitioners (GPs) is crucial in increasing the yield of a CRC screening program with FOBT^[12-14].

There is ongoing debate among physicians and politicians on the necessity of CRC screening and which screening modality is to be used. This study was to inquire into the attitudes regarding screening among Dutch gastroenterologists, gastrointestinal (GI) surgeons and GPs.

MATERIALS AND METHODS

During a biannual meeting in 2004 in the Netherlands, addressing all general topics in gastroenterology, all the attending Dutch gastroenterologists and gastrointestinal surgeons were questioned ($n = 420$). The same 17-item questionnaire was sent to all GPs in Amsterdam ($n = 400$) in fall, 2004. In an attempt to achieve a comparable sample size between GI specialists and GPs, only GPs from Amsterdam were asked to return the questionnaire. Questions included demographics, affiliation, attitude towards screening both for the general population and themselves, methods of screening, family history and individual risk.

Statistical analysis

SPSS for Windows version 11.0 was used for the descriptive statistical analysis. The Fisher exact test was used for the comparison of proportions. $P < 0.05$ was considered statistically significant.

RESULTS

Responses were obtained from 354 of the 420 GI specialists (84%) who were questioned. Among the GI specialists 82% were gastroenterologists and 18% gastrointestinal surgeons. Eleven percent of the GI specialists worked in an academic setting and 89% in a community hospital. The mean age of GI specialists was 48

Table 3 Age at initiation of screening

	GI specialists (%)	GPs (%)	Fisher exact test
50 yr	37	29	NS ($P = 0.39$)
55 yr	42	18	$P = 0.005$
60 yr	21	13	NS ($P = 0.29$)
Unknown	0	40	$P < 0.001$

Table 4 Familial predisposition to CRC and personal judgment of increased risk of developing CRC

	GI specialist (%)	GPs (%)	Fisher exact test
Familial predisposition for CRC ¹	4	25	$P < 0.001$
Personal judgment of increased risk for CRC	2	8	$P = 0.006$

¹ Defined as one or more first degree relatives diagnosed with CRC.

years (range 28-71 years). The response rate among the 400 potentially eligible GPs was 32% (126). All GPs worked in Amsterdam. The mean age of the GPs was 49 years (range 32-69 years).

A highly significant difference in appreciation of population and personal screening was found between GI specialists and GPs ($P < 0.001$, Table 1). Moreover, significant differences were found in the preferred screening method. Colonoscopy was considered the primary population screening tool by the majority of GI specialists, while FOBT, sigmoidoscopy and colonoscopy were almost equally supported by GPs (Table 2). Personal screening with colonoscopy was favoured by 97% and 27% of GI specialists and GPs, respectively ($P < 0.001$). Forty-two percent of GI specialists considered 55 years as the proper age to start personal screening, whereas the age of 50 years was chosen by GPs (Table 3). Four percent of GI specialists and 25% of GPs reported a familial predisposition to CRC. Nevertheless, within the latter two groups only 50% and 33% regarded themselves at a higher risk of developing CRC (Table 4). Finally, a subgroup analysis was performed on the GPs with familial predisposition to CRC, regarding their opinion on population screening. In this group 61% preferred population screening, compared to 51% in the total group of GPs ($P = 0.32$).

DISCUSSION

Population screening for CRC is strongly supported by Dutch GI specialists. In their opinion benefits definitely outweigh the drawbacks and their discussion focuses on how to implement a national CRC screening program and which method should be used. Unfortunately, the above-mentioned results suggest that GPs are more reluctant to speak out in favour of a CRC population-based screening program than GI specialists. Only 51% of responding GPs are in favour of population screening. A challenging task is reserved for the GI specialists to convince GPs of the need for screening. It has been shown that by increasing

knowledge about the incidence and mortality of CRC, as well as the possibility for early detection, the attitudes of GPs will change^[15].

There is a remarkable difference in returned questionnaires between GI specialists and GPs. It can be hypothesized that completing a short questionnaire on a meeting is less of a burden than during daily routines, where other priorities may prevail. However, the response rates differ significantly, suggesting that GPs are ignorant of the CRC screening issue or are in a low state of awareness of the problem's magnitude. These findings correspond to the previous reports stating a lack of interest and knowledge in the definition of the high risk population among GPs^[16,17].

Another argument may be that only half of all GPs favour population screening and only 30% intend to be screened themselves. In the present study, no significant difference was observed in preference of population screening (61% *vs* 51%; $P = 0.32$) even between a subgroup of GPs with a familial predisposition to CRC which results in an increased risk of developing CRC and the total group of GPs. In contrast, 92% of all the GI specialists supported such a nation-wide CRC screening program and 95% planned to undergo personal screening. In this context, it can be put forward that knowledge of the natural course of CRC, its pre-malignant precursor lesions and therapeutic options in case of early detection, might explain the large differences in opinion. Since GPs play a crucial role in achieving a successful national screening program, the latter suggestion should be a concern to GI specialists and central government. On the other hand, GPs are subjected to a continuous barrage about the different types of screening (lung, breast, prostate, CRC, cervix) and they might have a wider view on priorities and cost-efficiency in the health sector.

Regarding the screening modalities for both personal and population screening, a clear preference to colonoscopy was observed among GI specialists.

Colonoscopy is the method of screening preferred by GI specialists. In the present study, 97% of the GI specialists preferred this method for their personal screening, and 72% for population screening. The higher preference to alternative methods for population screening presumably reflects concerns regarding the capacity and logistics (Table 2).

Among GPs, population screening with FOBT or colonoscopy was equally supported (respectively 26% and 27%). A rather surprising finding is that none of the GI specialists preferred FOBT as a screening method, since there is evidence in terms of cost-effectiveness and mortality reduction^[18-20]. Nevertheless, the fact that GI specialists agree with and encourage the implementation of FOBT for nationwide screening can be explained by the fact that FOBT is the only screening method accepted by the central government at this moment. Furthermore, there is a convincing mortality reduction using FOBT as a method of screening and in this perspective screening with FOBT is better in any case than no screening^[5,18]. In addition, an ongoing screening program allows future alternatives to be implemented more easily, when they are proven superior to FOBT.

Finally, a large proportion of GI specialists plan to start

personal screening at the age of 50-55 years, even though only 4% are found at a high risk of developing CRC. In 40% of responding GPs in favour of personal screening, the age at which screening should be initiated is unknown (Tables 3 and 4). This emphasises the importance of education about this disease since one out of 20 people will develop CRC during a lifetime, with advancing years of age as the foremost risk factor for CRC development. The highest mortality rate for CRC appears to be around the age of 60 years, the time interval in which a precursor lesion develops into an invasive cancer is 10-15 years^[21].

In conclusion, the findings of our study are relevant to GPs in Amsterdam. However it is unknown whether GPs in other parts of the Netherlands have similar attitudes. Nonetheless, this inquiry clearly indicates the urgent need for GI specialists and GPs to solve the ongoing debate on CRC screening. Education of all parties involved should lead to an increased knowledge about the magnitude of the CRC problem. An unambiguous policy stressing the crucial role of GPs in a CRC screening program, may improve patient compliance, thereby reducing the mortality of CRC. More studies are mandatory to draw firm conclusions.

REFERENCES

- 1 **Parkin DM**, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. *CA Cancer J Clin* 2005; **55**: 74-108
- 2 Signaleringscommissie Kanker van KWF kanker bestrijding. Vroege opsporing van dikkedarmkanker. Minder sterfte door bevolkingsonderzoek. KWF rapport. 4 A.D. Ref Type: Dutch Report
- 3 **Meyerhardt JA**, Mayer RJ. Systemic therapy for colorectal cancer. *N Engl J Med* 2005; **352**: 476-487
- 4 **de Visser M**, van Ballegooijen M, Bloemers SM, van Deventer SJ, Jansen JB, Jespersen J, Klufft C, Meijer GA, Stoker J, de Valk GA, Verweij MF, Vlems FA. Report on the Dutch consensus development meeting for implementation and further development of population screening for colorectal cancer based on FOBT. *Cell Oncol* 2005; **27**: 17-29
- 5 **Towler B**, Irwig L, Glasziou P, Kewenter J, Weller D, Silagy C. A systematic review of the effects of screening for colorectal cancer using the faecal occult blood test, hemoccult. *BMJ* 1998; **317**: 559-565
- 6 **Imperiale TF**, Ransohoff DF, Itzkowitz SH, Turnbull BA, Ross ME. Fecal DNA versus fecal occult blood for colorectal-cancer screening in an average-risk population. *N Engl J Med* 2004; **351**: 2704-2714
- 7 **ZonMw**. Screening op colorectaal kanker in Nederland: tijd om te starten. 2200.0065. 3 A.D. Ref Type: Dutch Report
- 8 **Coebergh JW**. Colorectal cancer screening in Europe: first things first. *Eur J Cancer* 2004; **40**: 638-642
- 9 **Seeff LC**, Richards TB, Shapiro JA, Nadel MR, Manninen DL, Given LS, Dong FB, Wings LD, McKenna MT. How many endoscopies are performed for colorectal cancer screening? Results from CDC's survey of endoscopic capacity. *Gastroenterology* 2004; **127**: 1670-1677
- 10 **Seeff LC**, Manninen DL, Dong FB, Chattopadhyay SK, Nadel MR, Tangka FK, Molinari NA. Is there endoscopic capacity to provide colorectal cancer screening to the unscreened population in the United States? *Gastroenterology* 2004; **127**: 1661-1669
- 11 **Douglas B**, Nelson MD. Technical assesment of direct colonoscopy screening. *G-I Endoscopy clinics of Northern America* 2002; **12**: 77-84
- 12 **Hart AR**, Barone TL, Gay SP, Inglis A, Griffin L, Tallon CA, Mayberry JF. The effect on compliance of a health education leaflet in colorectal cancer screening in general practice in central England. *J Epidemiol Community Health* 1997; **51**: 187-191

- 13 **Hardcastle JD**, Balfour TW, Amar SS. Screening for symptomless colorectal cancer by testing for occult blood in general practice. *Lancet* 1980; **1**: 791-793
- 14 **Macrae FA**, St John DJ, Ambikapathy A, Sharpe K, Garner JF. Factors affecting compliance in colorectal cancer screening. Results of a study performed in Ballarat. *Med J Aust* 1986; **144**: 621-623
- 15 **Tong S**, Hughes K, Oldenburg B, Del Mar C. Would general practitioners support a population-based colorectal cancer screening programme of faecal-occult blood testing? *Intern Med J* 2004; **34**: 532-538
- 16 **Federici A**, Giorgi Rossi P, Bartolozzi F, Farchi S, Borgia P, Guasticchi G. Survey on colorectal cancer screening knowledge, attitudes, and practices of general practice physicians in Lazio, Italy. *Prev Med* 2005; **41**: 30-35
- 17 **Birkenfeld S**, Niv Y. Survey of primary physicians' knowledge of colorectal cancer screening. *J Clin Gastroenterol* 2006; **40**: 64-67
- 18 **Scholefield JH**, Moss S, Sufi F, Mangham CM, Hardcastle JD. Effect of faecal occult blood screening on mortality from colorectal cancer: results from a randomised controlled trial. *Gut* 2002; **50**: 840-844
- 19 **O'Leary BA**, Olynyk JK, Neville AM, Platell CF. Cost-effectiveness of colorectal cancer screening: comparison of community-based flexible sigmoidoscopy with fecal occult blood testing and colonoscopy. *J Gastroenterol Hepatol* 2004; **19**: 38-47
- 20 **Helm JF**, Russo MW, Biddle AK, Simpson KN, Ransohoff DF, Sandler RS. Effectiveness and economic impact of screening for colorectal cancer by mass fecal occult blood testing. *Am J Gastroenterol* 2000; **95**: 3250-3258
- 21 **Hermesen M**, Postma C, Baak J, Weiss M, Rapallo A, Sciotto A, Roemen G, Arends JW, Williams R, Giaretti W, De Goeij A, Meijer G. Colorectal adenoma to carcinoma progression follows multiple pathways of chromosomal instability. *Gastroenterology* 2002; **123**: 1109-1119

S- Editor Wang J L- Editor Wang XL E- Editor Bi L