Improving colorectal cancer screening in General Practice from obstacles to brief intervention

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« Ce qu'on n'a jamais mis en question n'a point été prouvé »

Denis Diderot
Chapter 1

Introduction
1.1 Introduction

Aim of the thesis: This thesis focuses on the obstacles in implementing colorectal mass screening and possible means to improve this implementation.

This thesis deals with GP’s and patient’s obstacles and facilitators for colorectal mass screening, GP’s performance to deliver the test, and GP’s communication skills in the context of colorectal mass screening.

The following topics will be covered in this introduction:
- The burden of colorectal cancer
- Screening strategies for colorectal cancer
- Determinants of the screening
- Invitation strategies
- Implementation of the screening in Europe
- Colorectal mass screening in France

The burden of colorectal cancer:

Colorectal cancer (CRC) is an important health problem in western countries including both Europe and the United States. CRC was the second cause of cancer-related deaths in 2008 in Europe (1). Worldwide, it is the third cancer in incidence and fourth in mortality. CRC incidence increased in all European countries from 1960 to 2006 with approximately 330 000 new cases in 2008, and 150 000 deaths in the 27 member states of the European Union and is now the most common cancer according to recent estimates by the International Agency for Research on cancer (1). On average the European 5 year survival rate for CRC is less than 50%. Reducing the mortality rate for CRC is a priority (2). The burden of CRC is not only in its incidence and mortality rate but also in its treatment costs, which features very expensive chemotherapy for later
stages. Most of CRC are diagnosed at late stages because of the lack of symptoms at early stages. When diagnosed at an early stage, the five-year survival rate is around 94% but only 1/5 colorectal cancer is diagnosed at this stage. Sixty to 80% of CRC developed from non-malignant precursor lesions called adenomas and their treatment can prevent cancer occurrence (3). Screening strategies are needed to diagnose adenomas and CRC at early stages.

Screening strategies for colorectal cancer:

The principles of population screening defined in 1968 by the World Health Organization (WHO) are still applicable (4).

Different screening strategies have been established. A stratification of risk for different population groups has been defined. Colonoscopy is recommended for high-risk population. More than ¾ of these cancers appear without any identified risk factor. A high-risk population include all people with symptoms that could trigger CRC. These symptoms are abdominal pain, persistent constipation, bleeding. The high-risk population also includes people with a family or personal history of CRC, and people with an inflammatory bowel disease.

In the average risk population, screening programs can detect asymptomatic adenomas and remove them at the same time (3).

The US preventive task force recommends different screening strategies beginning at the age 50 including yearly gaiac faecal occult blood test (gFOBT) or faecal immunochemical test (FIT or iFOBT), flexible sigmoidoscopy every 5 years, colonoscopy every 10 years, double contrast barium enema or virtual colonoscopy every 5 years (5).

Compliance and accuracy are the two major points for the effectiveness of these screening programs.
Accuracy of the screening programs:

- **gFOBT**: Four randomized control trials using the gFOBT involved 327,043 participants in Denmark, Sweden, United Kingdom and the USA (6). All trials reported more early stage and less late stage CRC. They showed evidence that the faecal occult blood test (FOBT) is an efficient test for mass-screening (6). A single test can detect 20% of adenomas and 50% of neoplasms in people without a high risk of colorectal cancer. It allows a significant decrease of CRC-related mortality of 15 to 18%, if it is repeated every two years among patients from 50 to 74 years old. For people attending at least one round of screening, there was a 25% relative risk reduction of mortality.

Limitations: The test processing is not automated and involves individual visual subjective reading. gFOBT is not specific for human haemoglobin. It showed a low sensitivity for CRC and even lower for advanced adenomas. The specificity of the test is 98% and its positive predictive value 40%. Until 2010, FOBT was the only test recommended by the European council for the CRC screening of men and women 50 to 74 years old. The overall process needs the performance of a colonoscopy if there is a positive test (2).

- **iFOBT or FIT**: using specific antibodies to human globin, includes the possibility of automated procedures. The test specificity and sensibility of FIT is higher. Several RCTs showed that immunochemical FOBT is better accepted, has better performance than gFOBT but leads to more colonoscopies (7). It can detect two times more cancer and four times more adenomas. FIT has been recommended for population screening by the latest European guidelines for quality assurance for CRC screening in 2011 (1). Its implementation is still low because of high costs. A French study compared the different cut off of the quantitative immunochemical test, FOB-Gold and proposed different strategies according to colonoscopy facilities: in countries with high facilities compatible with a screening test positivity rate of up to 5%, the authors suggested the use of a 1-day test with a cut-off value between 100 and 150ng/mL (low cut-off), whereas in countries with limited access to
colonoscopy, they suggested to increase the cut-off value up to the same positivity rate as Hemoccult® (gFOBT) (8).

- Sigmoidoscopy: between 55 and 64 years old one flexible sigmoidoscopy in which adenomas were removed can reduce substantially CRC incidence (36% in the left colon) (9).
Even if this program appeared efficient and safe, cost effectiveness data is missing. Its availability needs to be studied. The optimal interval for sigmoidoscopy screening should not be less than ten years (9, 10).

- Colonoscopy: its main advantage is the visualization of the entire colon and the removal of adenomas and early cancer at the same time of the procedure.
Limitations are the risk of major complications for asymptomatic patients (post polypectomy bleeding and perforation) and the colonoscopic miss-rate of adenomas (from 20 to 26% for any adenoma and about 2% for large adenomas). This rate depends on different factors such as colonoscopy skills, technology and patient related factors. Excellent patient preparation and adequate withdrawal time are necessary for high quality and efficient colonoscopy (11). More sophisticated devices try to find flat, depressed or hidden lesions (12). A retrospective study on patients who underwent colon cancer surgery in Massachusetts (USA) showed that patients with colon cancer identified on screening colonoscopy have lower-stage disease at presentation and lower death rates and recurrences than other patients (13).

- Comparison of different strategies:
  - IFOBT versus colonoscopy: In an RCT involving asymptomatic adults 50 to 69 years of age, one-time colonoscopy in 26,703 subjects was compared with FIT every 2 years in 26,599 subjects. The primary outcome was the death rate at ten years and will be available in 2021. Subjects in the FIT group were more likely to participate in screening than those in the colonoscopy group (34.2 % versus 24.6% p<0.001). On the baseline screening examination, the numbers of subjects in whom colorectal cancer was detected were similar in the two study groups, but more adenomas were identified in the colonoscopy group (14).
- Strategies combining sigmoidoscopy and FIT can be an option. Data is missing to evaluate the benefits of such strategies.
- New technologies such as stool DNA testing, capsule endoscopy need more evaluation: Colon capsule endoscopy (CCE) is a painless and non-invasive exploration of the colon without sedation and gas insufflation. The European society of Gastrointestinal endoscopy (ESGE) recently provided evidence based guidelines for Health care providers (15): it appeared to be feasible, safe and accurate in average risk population (grade C). Bowel preparation must be well done. Patients with adenoma over 6 mm or more than 3 polyps should be sent for a colonoscopy. The efficacy of such non-invasive test depends on the identification and the removal of the lesions with a colonoscopy.

Compliance of the screening programs:

Compliance rates are lower than 50% in population based programs in USA and in Europe.

Determinants of the screening

Two main categories of determinants can influence the compliance for CRC screening: factors related to the health care system and also to the physician and the patient. These factors should be taken into account while most participants of the CRC screening don’t perceive themselves as patients. The patient is defined according to the place of consultation and whether the patient consults a healthcare professional of their own choice or not (16). Whether or not the patient is consulting for CRC screening, one of the primary roles of the GP is to inform his/her patients on the benefits of preventive care. Throughout this thesis, the term “patient” will be used instead of “participant” whenever the relationship “doctor/participant” is concerned. This is always the case in the French healthcare system (however this may be different in other countries for CRC screening). GPs and primary care professionals are primarily concerned with preventive approach because of their knowledge of the patient and his/her environment and their ability to provide comprehensive care. As far as the patient is concerned, and in terms of health
promotion, professionals need to use another approach than immediate problem solving (complaint, reason for consultation).

Concerning the patients, a literature review of studies examining individual level decision factors suggested the utility of the formal health behaviour models including perceived severity, susceptibility, benefits, barriers and self-efficacy (17).

**Invitation strategies**

Different strategies are used to involve the target population in mass screening programs: through GPs or through an invitation by direct mail including a sampling kit. Organised screening programmes, based on invitation letters or on GP involvement, were consistently effective in increasing participation compared to spontaneous screening. Different methods were tested. Direct contact with a trained non-health professional was better than a letter in Spain (18). A Flemish study showed that inviting people by a direct-mail invitation, and including a faecal sampling set (iFOBT), resulted in much higher participation rates than inviting people through the GP (19). Other data was contradictory: in an Australian study, associating a GP to an invitation to screen achieved better participation and re-participation than an invitation from a centralized screening unit (20). A previous French study explored different recruitment methods and concluded that such a program required GPs’ involvement and close coordination between practitioners and health care insurance agencies (21).

**Implementation of the screening in Europe:**

In 2003, the advisory committee on cancer prevention of the European commission recommended the implementation of CRC screening. Member states were invited to organize population-based screening programs for colorectal cancer but also for breast and cervical cancer (22). Over 135 million people belonging to the CRC target population from 50 to 74 years old were sent personal invitations in order to reduce health inequalities. According to recent data, CRC is the most common cancer in Europe.
The long term aim of this council is to reduce the incidence of CRC by 15% by 2020 (23).
In European countries, the implementation of the screening is variable, but is gradually increasing. In figure 1 the situation in European countries in 2008 is presented.
At this moment population based programmes have been implemented in about twelve countries (France, The United Kingdom, Netherlands, Belgium ……). Some of them have already chosen the FIT. There was a considerable variation in the implementation of the different programs in the EU (23, 24).

In Belgium, a population-based screening program for colorectal cancer by means of an iFOBT proved to be feasible, since adequate participation rates were obtained and 'stool
taboo’ didn’t appear to be an obstacle in Flanders(25). Therefore the Flemish authorities have decided to start with a general CRC screening program for all people of 56-74 years old - this from the first of October 2013. The European guidelines defined the acceptable level of uptake participation rate over 45% and the desirable level over 65% (7). Most of the countries don’t reach those levels except Germany where screening rates have reached nearly 55% of the target population in 2010 (Figure 2). Pilot regions (began in 2000) in Scotland reached 60 % of participation with a biennial FOBT sent by post and decreased CRC mortality by 10% and 27% in participants (26).

**Figure 2 : Colorectal cancer screening : percentages of people screened aged 50-74 in 2010**

Average mortality rates in Europe declined between 2000 to 2010 but not uniformly across the 25 countries reflecting the effect of cancer care, screening and diagnosis. Fifteen countries saw a decline with the best rates in Czech Republic and Germany, which have the highest screening rates. The highest survival rate was observed in Belgium at nearly 65% in the 2004-2009 periods (22).
Colorectal mass screening in France:

In France, the level of colorectal neoplasm is the third most frequent cancer with about 40,500 new cases in 2011, mostly men (53%). Most CRC occurred after 50 years old (71% for men and 95% for women) (27). The mortality rate has decreased since 1989 but still remains high (56% 5 years after the diagnosis). France is a high risk country for this neoplasm.

Mass screening has been gradually organized with gFOBT. Sixteen million adults 50-74 are concerned by CRC screening. The program began in 2002 and in 2006 twenty three pilot regions were involved (28). The overall participation for the first 19 pilot regions after a first screening round, reached 42% for a target population of 5 million people (29). The mass screening has since been extended all over the country in 2008. To complete the process, colonoscopy has to be offered if there is a positive test. The immunological test is still being evaluated and will be implemented soon (30, 31).

Participation rates remain too low, have already declined in some pilot regions and are currently around 32% with 5 million people involved in the screening in 2011-2012 for a target population of 17.9 million (32).

A participation rate of at least 50% was obtained in the RCTs previously described and is required to obtain a significant mortality decrease (4). As we have already mentioned, the European guidelines defined the acceptable level of uptake participation rate over 45% and the desirable level over 65% (7). These objectives are currently not reached in most French areas. There are numerous obstacles for the screening, on the physicians’ and patient’s side as well as on the doctor’s educational level (6).

Some obstacles have already been identified. Socioeconomic level is a well-known determinant of participation. Uptake decreased with the level of social deprivation (33).

There are more participants among women and older people.

The implementation in France relies on a local cancer prevention association initially set up for national breast cancer mass screening. Both are set up and financed by the French National Health Service. These organizations are in charge of supplying GPs with the tests, training them and developing strategies for patient recruitment. A two steps strategy is currently used: all adults aged 50 to 74 receive a letter from their local cancer prevention association, encouraging them to visit their GP and ask for the test. Patients
must then send the test and a completed identity form, contained in an envelope to a central laboratory; if they do not, they receive a reminder. Finally, another three months later, those who did not go to see their GP receive a test directly at home. Each test package has the same content, i.e. an explanatory leaflet and a cardboard for the stool sample. The leaflet contains information on technical procedures and precautions for performing the test. In case of a negative test, (97 to 98%) an invitation for a new gFOBT is sent two years later. If there is a positive test (2 à 3%) a colonoscopy is strongly suggested. The colonoscopy will not find anything in 60% of the cases, will diagnose an adenoma in 30% of these, and a cancer in 10% of the positive testers.

Educational courses for GPs have been organised in the different regions of the country but their content and the way the doctors have been invited was very heterogeneous. As few as 50% of the GPs declared they were sufficiently trained (34).

Initially in 2006, before CRC mass screening was organized throughout France; I belonged to a local network who piloted CRC screening program in the Val d’Oise department. Included in this program were men and women from 50 to 74 without any risk factors. Eighteen months later, 41 GPs were volunteers and 1101 tests had been delivered. Even if all the doctors were volunteers there was a high difference amongst them (from 1 to 124 tests delivered during the study period). We conducted three focus groups of eight participants with those early adapters GPs to explore obstacles and facilitators: this was published in the revue “Exercer” in 2008 (appendix1) (35).

Then in 2008, CRC mass screening was extended to the whole country and we decided to study the topic in depth. The purpose of this doctoral thesis was first to explore all the barriers and after that to build a brief intervention to improve the participation rate.
1.2 Research questions

Four steps with four different research questions have been developed and will be reported in the different chapters of this thesis:

1. What are the patients’ and doctors’ barriers concerning colorectal cancer screening? Chapter 3 (Published in Family practice)

2. What is the core content of the consultation when French GPs deliver the FOBT? Chapter 4 (Published in European journal of general practice)

3. What GPs communication skills can be developed to improve patient’s participation? Chapter 5 (Published in journal of cancer education)

4. What is the effect of a multifactorial training intervention for GPs on the patients’ participation rate to colorectal screening? Chapter 6 (submitted in BMC cancer)
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Chapter 2

Methods

I) Qualitative research:

1. First chapter: patients’ and doctors’ barriers concerning colorectal cancer screening
2. Second chapter: the core content of the consultation when French GPs deliver the FOBT
3. Third chapter: GPs communication skills to be developed to improve patient’s participation

II) Quantitative research
Each step of the proposal used a specific research method. Qualitative and quantitative methods were both used in a sequential exploratory strategy (1, 2). The first phase was a qualitative data collection and analysis.

A qualitative approach was chosen as a means for exploring patients’ and doctors’ obstacles to participating in the CRC mass screening. This first step was followed by a second phase of quantitative data collection and analysis built on the results of the first qualitative step. Qualitative data was used as a basis for an educational training tested in a cluster randomized control trial.

I) Qualitative research:

Qualitative research follows an inductive process and can be used as an exploratory phase for new topics (3). Qualitative data collection methods are most of the time interviews, focus groups or participant observation. The specific nature of qualitative research is to understand the context and background of phenomena. It studies people in their own environment. Qualitative research used qualitative methods for data collection and analysis.

1. First chapter: patients’ and doctors’ barriers concerning colorectal cancer screening

Data collection: Data was collected from GPs’ focus groups (FG) and from semi-structured interviews with patients visiting their doctors on unrelated issues.

Focus groups interviews: are group interviews with 5 to 10 people, ideally 6 to 8, gathered to discuss specific topics (4, 5). The use of focus group interviews was originally developed by social scientists in the first half of the 20th century then used in the 1950s by market researchers needing to find out how to make their company’s products more attractive. In scientific approaches for health care, they are used to explore different beliefs, opinions, attitudes and behaviour in an interactive way using the synergy of each group. It is a good way for the researchers to collect multiple viewpoints and to explore how people can change their views and develop their thinking in the
process of interaction with other people. A topic guide is built with the research team using literature research and changed after the first FG. Purposive sampling is needed to involve different experiences.

The strategy was to reach a wide range of potentially distinct perspectives: the variables were age, sex and screening experiences that could change GPs ‘attitudes’. We took advantage of the progressive involvement of the various districts of France and organized five FG in five different regions. Trained moderators and observers who act as assistant moderators conducted the FGs. They were recruited by a French qualitative research network (The GROUM.F). In order to understand what happens in daily practice and how GPs interact with patients, openness is needed during the whole process.

Disadvantages of focus groups interviews: Dominant participants can influence the results and the role of the moderator is crucial. When dealing with emotional topics or situations, it can be difficult with this method to go more in depth.

**Individual interviews** seem a better way to explore beliefs that could be difficult to share with a group (6). A purposive sample is also elaborated to have as much diversity as possible.

Selection criteria for our patients were: age, gender, educational level, participation in screening, and opinion on the usefulness of the test. The sampling is completed during a continuous process of data collecting analysis, to fill in the missing categories.

**Analysis:** analysis and data collection are done at the same time during a parallel continuous process. Analysis in qualitative research is the act of giving meaning to data (7). All interviews are recorded, transcribed and kept anonymous. Content saturation remains necessary, and determines the number of interviews to be conducted. The data analysis follows a process in different steps, using a grounded theory approach. A first phase of open coding is done without a predefined framework. The data is first coded independently by the research team manually or using Nvivo 8 software. Then, the different elements are shared and discussed with all the research team. Through an iterative process of constant comparison, an axial coding framework is developed. In this way, ‘selective’ codes emerge and a comprehensive model can be developed (8, 9, 10).
2. Second chapter: the core content of the consultation when French GPs deliver the FOBT

The aim of this step was to explore GPs’ performance during consultations when patients come to request the test. GPs’ performance is defined as “what a doctor does in his day to day practice”. The study focused on two different aspects: the core content of the consultation and the communication style used between GPs and their patients.

In order to directly assess GPs’ performance, different methods could be used: audio or video records, observation or standardized patients in practice (11). We choose recorded consultations because of logistical reasons (difficulties to have trained observers and standardized patients in different regions of France) and because it seemed to be the best way to observe the conversations between the physicians and their patients in real situations. Patients were not standardized and this also gave the opportunity to observe the different ways in which they interact with their GP. In order to facilitate data collection for this study, we chose audio recordings instead of video even if non-verbal communication was missing.

*Participant recruitment:* Purposive sampling was used to recruit GPs in order to have the greatest possible diversity in terms of age, gender and screening experience (i.e. experience in delivering the test and number of tests delivered) as described in the previous step.

*Data collection:* Only the part of the consultation concerning the FOBT was audio taped. Data collection and analysis were performed using a continuous process. Data collection was stopped when data saturation on consultation content was reached.

*Data analysis:* In order to get a better description of the real content, two different methods were used and triangulated to respectively analyse the core content of the consultation and the communication between GPs and patients.

The core content of the consultation: In this qualitative descriptive study, content analysis was used as described in the previous paragraph without further interpretation and conceptualisation (12). All audio taped consultations were fully transcribed.
Analysis was performed by three researchers using a predefined framework from the previous research analysis. The categories of the predefined framework were: GPs’ and patients’ barriers and facilitating factors, information given to the patient, and practical and technical aspects of the FOBT. At the end of this process, a check-list with the main items of the FOBT consultation was elaborated.

The communication between doctors and patients: the Roter Interaction Analysis System (RIAS) was used by a different research team to analyse verbal interaction between GPs and patients. This method was proven reliable and valid in studies of doctor-patient communication (13, 14). Each smallest discriminable speech unit or utterance is classified in one of the 40 codes defined in the RIAS handbook. These codes are used by the researchers to distinguish task-related and socio-emotional communication. Task-related codes include medical condition, therapeutic regimen, lifestyle and psychosocial information, and all orientational or instructional statements told by GPs related to the clinic visit. Socio-emotional codes include all statements of verbal or non-verbal exchange indicating mainly reassurance, encouragement, approval or disapproval, criticism, empathy and so on. Because of the audio record, only verbal statements were taken into account. The ratio of codes related to psychosocial and socio-emotional (SE) aspects versus those related to biomedical (BM) issues, such as the medical conditions or therapeutic regimen, can be calculated. This SE/BM ratio has been used in previous studies to explore patient-centred interaction interchange. A ratio of > 1 indicated a patient-centred consultation (15, 16).

The RIAS also allowed us to determine verbal dominance by calculating the sum of all patient utterances divided by the sum of all physician statements. Each GP and each consultation was identified and the scores for each consultation and each GP were calculated. The RIAS coding was first done separately for 10% of the data then shared to check mutual concordance. This process was renewed until all of the data was analysed.
3. Third chapter: GPs communication skills to be developed to improve patient’s participation

None of the doctors who recorded their consultations reached the SE/BM ratio. It was concluded that in order to increase the participation rate for CRC screening, patient-centered communication had to be improved.

The aim of this step was to develop a training course to enhance GPs’ communication skills in CRC screening, based on the two previous qualitative studies. Most physicians in France receive no feedback or training on their communication skills after vocational training. Improvement in that topic can be reached using feedback in continuous medical education (CME).

Methods: The Patient-Centered Clinical Method described by Stewart et al was used in order to pass on these skills to the GPs (17). This model is composed of six interactive components, i.e. exploring both the disease and the patients’ experience with the illness, understanding the whole person, finding common ground, incorporating prevention and health promotion, enhancing the patient-doctor relationship and being realistic. Triangulation of all qualitative data coming from patient interviews, GP focus groups and recorded consultations was performed. All of this data was merged and three categories were defined for CRC screening. The first category involved arguments to convince patients, the second category focused on the main items GPs had to explain to make sure the patient would be able to take the test, and the third category concerned communication skills. All of the material regarding communication was incorporated into the six components of the Patient-Centered Clinical Method and discussed from the perspective of communication skills in order to develop the educational tool. Interactive educational techniques that have been shown to be relevant were selected. Two different scenarios were developed to improve communication with patients: one for a compliant patient (video 1) and another for a non-compliant patient (video 2).

Systematic reviews on effective strategies for teaching communication skills to physicians showed that programs were effective if they lasted at least one day. We chose a half day program in order to involve GP’s more easily. This previous publication
detailed the best training strategies as role play, feedback and small discussion. So we built the training-course with those elements (18).

The first part of the training course was a short discussion on GPs’ opinions of CRC screening in order to take them into account. The next sequence focused on how to improve communication with a compliant patient. The first step was a role-play with a participant playing the role of the GP and one of the moderators playing the role of patient based on a predefined scenario. The simulated patient spontaneously asked the GP for an FOBT. Feedback was then given and the participants discussed what they had observed during the role-play, with the moderator focusing the discussion on issues related to communication. Afterwards, the first video was shown, with participants being given the same instructions to identify the communication skills used. After the video, there was another discussion in order to try to raise all of the main communication-related issues. The same procedure was used in the second sequence for a non-compliant patient. The instructions for the role-play were to suggest CRC screening to a patient who had not made any request and to try to convince them. Participants were given a memo summarizing all of the main communication skills required.

II) Second quantitative phase: an intervention for GPs on the patients’ participation rate to colorectal screening

Quantitative research is useful to test a hypothesis and to control the effect of an intervention.

We tested the hypothesis that the implementation of our training course among GPs would increase the delivery of gFOBT and CRC screening participation among the target population with a cluster randomized trial (cRCT).

Randomised Controlled Trial: randomised controlled trials are the most rigorous way of determining whether a cause-effect relation exists between intervention and outcome (19). Random allocation ensures no systematic differences between intervention groups in factors that may affect outcome. In our research, whereas physicians allocated to the intervention were aware of the allocated arm, patients and outcome assessors were kept blind to the allocation.
Cluster randomization: We chose a cluster randomization with GP’s practice as a cluster unit. This choice of a cluster randomization can be done in different situations like health promotion initiative, or to minimize contamination between practitioners while GPs within a practice have been trained for an education program like new communication skills (20, 21).

Cluster randomization can have a large effect on sample size requirements and must be taken into account. The magnitude of the effect of cluster randomization is quantified by the intra-cluster correlation coefficient (ICC).

The CONSORT Statement provides useful recommendations for reporting randomized trials, in which individual participants are randomly assigned to health care interventions (22). These statements can be used to write the RCT protocol Cluster trials randomize interventions to groups of patients (e.g medical practices) rather than to individual patients. An extension to the CONSORT Statement for cluster randomized trials was developed to take into account their specific issues (23).

In order to detect an increase in patients’ participation rate from 30% in control groups to 40% in intervention groups 6 months after the intervention, with 90% power at a 5% significance level, we needed 477 patients in each study group. We calculated sample size with a method that takes into account the cluster effect. We assumed an intra-cluster correlation coefficient (CIC) of 0.05 commonly used in primary care studies with a process variable as primary criterion (20,24). We calculated mean cluster size from a pilot study with half of the GPs of the same department (equal to 1.5 GPs per practice).
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Chapter 3

Obstacles to colorectal screening in general practice:
A qualitative study of GPs and patients

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Abstract

Background: The faecal occult blood test (FOBT) has proven effectiveness at screening populations for an average risk of colorectal cancer. Mortality related to this cancer decreases by 15–18% among adults, 50–74 years old, tested every 2 years. A participation rate of at least 50% is desirable. This rate has not yet been reached in most French regions.

Objective: To explore the obstacles to mass colorectal screening in France.

Method: In 2009, five focus groups were conducted in different areas to explore physicians’ obstacles to FOBT screening. The patients’ obstacles were assessed in semi-structured interviews. A purposive sampling had been carried out for both GPs and patients. The focus groups were coded using Nvivo 8® software by three researchers; the interviews manually coded by two researchers.

Results: GPs reported insufficient training and some doubted the relevance of screening. They expressed concern of having insufficient time for the test during a consultation, as well as practical and administrative obstacles. Some GPs experienced difficulty persuading patients who had no signs of colorectal disease. Obstacles for patients were mainly difficulties in doing screening themselves and a perception of health care that didn’t match with screening. Information and organization were also important points to improve. The screening process was considered complex both by GPs and patients.

Conclusion: Numerous obstacles to colorectal screening, from both the physicians’ and patients’ perspectives, were found. The major goal to improve mass screening may be to increase awareness and understanding of both physicians and patients regarding this process.
Introduction

Many studies in Europe have assessed the effectiveness of screening for colorectal cancer using a guaiac faecal occult blood test (gFOBT). A single test can detect 20% of adenomas and 50% of neoplasms in people without a high risk of colorectal cancer. If performed every 2 years, for all adults 50–74 years old, it could reduce mortality rate from 15–18%, given a participation of at least 50% of this population \(^1,^2,^3\). France is a high-risk country for colorectal cancer (CRC): this neoplasm is the third most common cancer in France with nearly 38,250 new cases every year. It is also the second greatest cause of cancer mortality \(^4\). As in many European countries, a gFOBT is used for the screening \(^5\).

Mass screening began in pilot regions in France in 1992. It was then gradually extended to the whole country between 2002 and 2008 \(^6\). Patients aged between 50 and 74 years receive an invitation, every 2 years, from a local screening organization (that is a part of the national health system), urging them to ask next time their GP for the test. During this consultation, GPs first identify patients with a high risk of colorectal cancer and exclude them from the mass screening. A colonoscopy is recommended for these at-risk patients \(^6,^7\). GPs then deliver the FOBT and explain how to perform it. They also explain the meanings and consequences of the results. Within three months, patients must send the completed test to a central laboratory. If they don’t, they receive a reminder. Finally, another three months later, a test is directly sent to them. The participation rate is 85% when a GP delivers the test, but is only 15% when it has been sent directly \(^8\). Both GPs and patients receive the results. GPs refer patients who have a positive test to a gastroenterologist for a colonoscopy. In the past, 87% of patients with a positive test have undergone a colonoscopy \(^8\). In addition to this process, GPs could improve participation rate by identifying non-requesting patients. GPs can receive specific training to master these procedures. In addition, specific incentives are paid to GPs for each test carried out by a patient (about €5 per test). The desirable 50% patient participation has not yet been reached in France. At the present time, the mean participation rate is 42%. The overall participation rate in 2007–2008, for 18 pilot districts, ranged from 28–54%. When compared to the previous period (2006–2007), this rate had decreased in 13 districts \(^9\).
A previous French study explored the compliance determinants within a pilot program that encouraged screening for colorectal cancer. This cross-sectional study showed that GPs played a key role. The main reasons for non-participation were because of other personal priorities (36%) or not being convinced of the efficacy of screening (26%).

Women who had regular gynaecological follow-ups (pap-smear and/or mammography) had higher rates of participation in colorectal screening. To our knowledge, no published study has yet explored the detailed reasons for this behavior. This study explored GPs’ and patients’ barriers to undergoing screening for colorectal cancer in France using a qualitative approach.

**Methods**

Data were collected from GPs’ focus groups (FG) and from semi-structured interviews with patients visiting their doctors on unrelated issues.

Five FGs were organized. Purposive sampling involved looking for different screening experiences, and took advantage of the progressive involvement of the various districts of France. One group of GPs worked in a pilot region and had delivered the test since 1992. The other GPs had been involved in the screening process for 1–4 years. A French-speaking qualitative medical research network (the GROUM.F) helped organize the FGs. Eleven women and 28 men were purposefully recruited. Their mean age was 47 years (range: 27–67). GPs reported a large variance in experience in prescribing colorectal screening, from 0 to 200 FOBTs delivered every year (Table 1), thus allowing a range of opinions on the topic. The interview schedule was developed from the existing literature and was modified after the first FG (Table 2). Two moderators (IA, PI) and three observers (AM, FW, AML) conducted the FGs. The number of FGs was determined by content saturation during the analysis.

*Sampling strategy for the patients’ interviews*

For the interviews, 24 patients were recruited from five Parisian or suburban practices. Their GPs had various opinions about screening, which ranged from thorough involvement to complete refusal. The interview was conducted in the GP’s office (but not in the presence of the GP).
Two different interviewers (IA, AG) conducted the interviews using the same topic guide, but each of them interviewed different patients (Table 2). Eleven women and 13 men were recruited to have as much diversity as possible: selection criteria were age, gender, educational level, screening participation, and opinion on the usefulness of the test. The sampling was completed during a continuous process of data collecting analysis, to fill the missing categories. The mean patient age was 60 years (range: 50–74). The educational level of 10 patients was only to high school. Six patients had already done the test, nine were going to do it later, and three were still hesitating. The other six patients did not want to do be screened. The patients’ information on screening for colorectal cancer came from various sources: i.e., media, family, friends, and doctors. Each patient gave his/her informed consent before participation.

The combination of purposeful sampling criteria used for both GPs and patients ensured a wide range of diversified opinions. Nevertheless, content saturation remained necessary, and determined the number of interviews conducted.

Analysis
All interviews and FGs were recorded, transcribed and kept anonymous. The GPs’ data were coded independently by three researchers (IA, AM, JPL), using Nvivo 8 software. The patients’ interviews were manually coded independently by two researchers (IA, AG). The data were processed in different steps, using a grounded theory approach. A first phase of open coding was done without a predefined framework. Then, the different elements were shared and discussed with all the authors of this paper. Through an iterative process of constant comparison, an axial coding framework was developed. It started with the different levels of the ‘obstacles’ and ‘facilitators’ (patients, doctors, test, information given, organization, and further diagnostic procedures, such as colonoscopy), and assessed levels of knowledge, skills and attitudes. In this way, ‘selective’ codes emerged and a comprehensive model of the screening process was developed.

Results
Patients
Numerous obstacles appeared regarding the patients’ attitudes to screening. Some patients simply forgot to perform the test, others lacked time or were indifferent. Some
patients stressed that feeling their GP’s involvement was important to them (Q1). Participants were afraid of having responsibility for the testing process, and feared that a poor technical performance could induce a false positive or negative result (Q2). Screening for cancer did not match some patients’ perception of health care. These patients preferred to manage their health in a different way, such as eating healthy food or exercise (Q3). Many patients had a poor knowledge about CRC screening, in particular those who were male, and being older than 60 years. Some though that screening was only useful in the case of high risk familial CRC (Q4).

**Patients’ facilitators**

Women who had already acquired a screening culture through mammography and cervical smears, and patients, whose relatives had already performed a gFOBT, were more likely to accept the test. The same was true for those who experienced a CRC in their family or friends (Q5). Patients with a higher education level were also more likely to become involved in the screening process.

**Doctors**

The GPs’ experience and level of involvement were the most important influencing factors for patients undergoing the screening-decision process. GPs who had a bad screening experience, such as a false negative result, were less likely to encourage patients to be screened (Q6). The knowledge and attitudes of GPs were also important. Some GPs felt colorectal cancer screening was ineffective according to their knowledge of the medical literature and were, therefore, less motivated in the screening process (Q7). Time was a major issue. Many GPs found it difficult to find time for the FOBT as well as all their other tasks (Q8). Finding time during their consultation was especially challenging during respiratory-tract infection and influenza epidemics. It was difficult and quite annoying for GPs when the patient asked for the test at the end of the consultation, after having presented with many other health problems (Q9). GPs felt the need to develop various skills to motivate their patients. Patients who came without a screening request were a challenge (Q10). They experienced difficulties with
some patients: language and money problems could be barriers (Q11). Finally, some medico-legal aspects were taken into account (Q12).

**Doctors’ facilitators**
Choosing the best opportunity or the right time to introduce screening was a key issue for GPs. Some chose to anticipate the patient’s query and then proposed the test, whereas others preferred to postpone the screening, provided that the patient was a regular attendant (Q13).
GPs with a long experience of mass screening seemed more convinced, and were comfortable delivering the test (Q14). Some promoted the idea of a specific consultation on prevention (with a specific fee). To increase their effectiveness, some GPs modified their practice’s organization by making specific appointments or time slots for screening. Screening tests could also be synchronized, such as with mammography. Some GPs had developed their own routine of counselling (Q15).
Being flexible with a screening strategy allowed GPs to be more effective at approaching patients who initially refused the test (Q16).

**Patients’ and GPs’ agreements and discordances**
Several patient barriers were correctly identified by the GPs, but not all of them. GPs and patients agreed that lack of symptoms was one of the main reasons for doubting the test’s usefulness (Q17). They also agreed that other disease conditions or familial priorities could be reasons for postponing the test (Q18).
GPs thought that one of the main obstacles for patients was their misunderstanding of the screening process, while patients mostly complained about lack of time. Many patients worried that they might be constipated when they had to do the test three times in a row, whereas GPs did not mention this potential problem. GPs were afraid of patients’ reactions to a false negative whereas no patient spoke of this fear.

**The test**
GPs thought the manipulation of faeces was a major obstacle for most patients, but the patients said the whole process was a problem. They specifically mentioned problems with technical precautions, such as sampling 3 days in a row, preventing contamination with water or urine, and sampling the correct amount.
Some patients showed a complete lack of knowledge about the test, even sometimes thinking it was a colonoscopy. A problem also appeared regarding interpretation of the results: a positive test being automatically linked to cancer. For patients, performing the test at home, and choosing the appropriate time, facilitated the process. Avoiding a colonoscopy and the test being free of charge were also strongly positive arguments (Q19).

**Information about the test**

Some patients were not convinced by the explanatory letter and asked their GP for other reasons why screening was necessary, such as epidemiological factors (e.g. screening efficacy).

The letter was not always clearly identified, and could be mistaken for advertising, though Information on screening also came from the media, or from the patient’s friends and relatives. Media information was positively perceived, but most patients underlined its insufficiency. GPs also asked for more support from the media, frequently referring to the impact of the French alternative “use of antibiotics” campaign.

Many patients underlined the importance of getting information from their current GP, sometimes regretting that their GP had not told them about the screening before.

**Organization of the screening**

Many physicians complained about the amount of forms to complete. They also had to stock the screening equipment. This work was seen as repetitive and time-consuming, even though it facilitated the test’s delivery. Storage of the tests was also frequently mentioned as an issue.

The patient had to pay the fee for the screening consultation, and for the colonoscopy if necessary. This was also an obstacle for some GPs and patients. Management of the screening process by a local agency seemed helpful, but at the same time could cause a loss of involvement and a lowered feeling of responsibility by the GP (Q 20).

**Colonoscopy**

The GPs found it important to explain correctly the indications of the colonoscopy, whereas patients were afraid of the test’s results. Patients were also frequently afraid of
pain and the adverse effects of a possible colonoscopy, whereas physicians thought that patients were only worried about doing the screening.

**Discussion**

This focus group and interview study has given an insight into the complex processes involved in the decision to undergo a colorectal screening. It is a merit of this study that it combines both patients’ and doctors’ knowledge and attitudes. All these factors, as well as information and organizational issues, can be integrated into a model, which outlines steps, each with their own ‘obstacles’ and ‘facilitators’ (Figure 1).

**The different models of decision-making processes:**

At the patient level, a decision to undergo screening depends on complex behavioural issues, including values, beliefs and attitudes. Among the different models previously described, the health-belief model agrees with our data, and includes severity, susceptibility, benefits, barriers and self-efficacy.¹¹
Determinants of patient participation in screening

These determinants have been thoroughly described in many European countries with different health-care systems and target populations. In addition to previous findings, numerous incorrect ideas concerning screening and its objectives have also been identified as barriers, despite the range of information available (media, doctors, friends...).

Other determinants found in this study are consistent with those in the literature. Greater participation by those with a higher educational level has been previously described in a French pilot project, particularly for male patients.

Having a screening habit (mammography, cervical smear) was a positive factor for women. Also consistent with previous studies, our data show that an absence of bowel problems and symptoms was a recurrent barrier for flexible sigmoidoscopy or FOBT screening. Perceived susceptibility to bowel cancer was also important in the decision-making process because patients often confounded cancer screening and diagnosis. Lack of time to do the test was another reason for non-compliance, as has already been described in an Italian population for a comparative mass-screening programme.

Having visited a GP or a primary health-care provider during the past year has been linked with higher participation in screening in several studies. This relates to our findings on the significant effect of a GP’s behaviour when delivering the test. A GP’s involvement was described as a major issue in the interviews, which is a similar finding to that found in previous studies with different health systems.

GPs obstacles and difficulties

In addition to the existing literature, this study shows that GPs, like their patients, had difficulty in dealing with scientific arguments and in separating personal experience and public-health data. They realized that a false negative could lower their screening enthusiasm, and one successful screening could raise it. GPs were also more convinced about the importance of giving the test to patients if they got feedback on the overall screening results at their own practice.

In addition, much effort is needed to integrate prevention into daily practice. In this study, the GPs’ experiences helped them eliminate several obstacles. Organizational
issues, lack of time, and inadequate and too many forms, were identified. Solutions such as specific appointments or standardization of the explanations given to the patients were then proposed.

Organizational factors

Strategies that proved effective, like personalized and direct invitations to patients, and incentives for GPs are already being used in France. However, other strategies have proven their effectiveness and some are already being implemented by GPs of our study. Scheduled appointments, timing of invitations for different screening procedures (e.g. pap smear, mammography, FOBT) reminders or prompts placed in patients’ files, and media-based campaigns should be developed at a national level and could be very helpful to GPs. Other Countries like UK have chosen for a national organization of colorectal cancer screening, operating through a call and recall system, sending out test kits, analysing samples and dispatching results. Such a centralised system puts less pressure on the individual organisational capacities of GPs and eliminating some of the obstacles mentioned.

GPs and patients perceptions of each other

GPs’ perceptions about the obstacles patients perceived were also explored, and new issues were identified. GPs were not aware of some of these obstacles; they were more focused on medical barriers and less concerned about social or psychological factors. The obstacles perceived by GPs are described less in the literature: the lack of time and opportunity to discuss screening is shared by family doctors in other countries. In this study, lack of time was equally shared by GPs and patients. Greater participation in screening occurs when patients report greater satisfaction and communication with their physician. Lack of trust in doctors has been cited as a barrier by unscreened patients.

Limitations

This study had some limitations. The patients’ interviews were all conducted in Paris and the Parisian suburbs, where mass screening is just beginning. Therefore, most patients only had a low level of information and poor experience of the screening process, though this should improve in coming years. One interviewer had very little experience of the
methodology which may have influenced the data gathering. Some of the data could have been more consistent.

It was not possible to explore the differences between GPs’ experiences in more depth; thus, other studies need to focus on this important topic and explore it quantitatively.

**Implications for GP practice and future research**

Our GPs expressed difficulty in approaching patients who had not requested screening. These particular patients should be given specific attention. When they do consult, full involvement of the practitioner towards screening is needed, regardless of the initial motive for the consult.

Personal targeting and detailed information on the risks and benefits of screening would be useful for non-participant patients. However, this strategy is probably time consuming and will imply new criteria for incentives. For those patients who do not or only seldom consult with their GP, the mass media, health authorities and screening agencies should provide information and promote screening. However, the practitioner’s involvement is essential if the patient is unsure or confused about screening.

There is an obvious need for better and specific training of GPs. However, health providers’ education and training programmes have shown contradictory effects. Some interventions have significantly increased screening participation, whereas other interventions have been ineffective and expensive \(^\text{21}\). However, intensive patient education has been efficacious in improving compliance with FOBT \(^\text{23}\), but, in France, there is a lack of health-education structures and grants.

According to the literature, reminders to patient and GP are effective at increasing participation in CRC screening, and their use should be continued despite the big diversity of electronic medical record systems among French GPs \(^\text{22}\).

GPs’ communication skills and the doctor–patient relationship are very important in this process. The wording that a doctor uses while delivering the test, and the choice of when to suggest the screening should be explored. Even if the standardization of explanations to the patient appeared to be a facilitator.
The GP still needs to answer the patient’s personal questions to avoid any misunderstanding.

Our patients requested specific information about colorectal cancer and the risks and benefits of screening. This has also been described in a qualitative study carried out in the United Kingdom. These data could then be used during specific GPs’ training to increase awareness of potential barriers and of patients’ needs. Learning to allow time for patients to express their fears could be necessary.

**Conclusions**

The CRC screening process may look quite simple, yet it is exactly the opposite: delivering this test is a much more complex process than is usually thought. GPs and patients both experience several obstacles. This study has shown that GPs experienced difficulties in dealing with scientific arguments and understanding the differences between personal experience and public-health implications. Their responses were not dissimilar to the patients’ perceptions. The patients’ numerous false ideas about screening and its objectives were also identified as barriers, despite the various sources of information (media, doctors, friends…). On top of this, a gap was identified between GPs and patients in their perceptions of each other’s obstacles and health-care conceptions.

It is important that the organizational strategies, some of which have been proved effective in different countries should also be developed in France. In addition, targeting and personalised interventions are needed for late adopters to screening. It is hoped that our study leads to improved FOBT rates, which will encourage involvement increase the experience of family physicians, remedy patients’ incorrect ideas, and increase understanding of each other’s opinions. The promotion of shared decision making implies further research how to improve GPs’ training and patients’ education.
References


6 L’arrêté du 29 septembre 2006 relatif aux programmes de dépistage des cancers et les annexes (cahiers des charges).

7 Avis de la HAS sur la place des tests immunologiques de recherche de sang occulte dans les selles (iFOBT) dans le programme de dépistage organisé du cancer colorectal en France, 2008.


Table 1: Characteristics of the GPs

<table>
<thead>
<tr>
<th>Participants</th>
<th>All focus groups (2008 October–December)</th>
<th>FG 1 Soissons</th>
<th>FG 2 Ecouen</th>
<th>FG3 Grenoble</th>
<th>FG4 Rouen</th>
<th>FG5 Tours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=39</td>
<td>N=10</td>
<td>N=7</td>
<td>N=7</td>
<td>N=7</td>
<td>N=8</td>
</tr>
<tr>
<td>Age Mean (range)</td>
<td>47.4 (27-67)</td>
<td>27-62</td>
<td>29-58</td>
<td>33-54</td>
<td>50-67</td>
<td>27-57</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>28</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Women</td>
<td>11</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Practices Group (PG)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single handed or solo</td>
<td>28</td>
<td>4</td>
<td>5</td>
<td>All</td>
<td>All</td>
<td>5</td>
</tr>
<tr>
<td>Low prescribers (&lt;50 tests/year)</td>
<td>9</td>
<td>3</td>
<td>Not known</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Medium prescribers (&gt;100 tests -&lt;200/year)</td>
<td>13</td>
<td>4</td>
<td>Not known</td>
<td>0</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>High prescribers (&gt;200 tests/year)</td>
<td>1</td>
<td>0</td>
<td>Not known</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
**Table 2: Topic guide of GPs’ focus groups and for interviews with patients**

<table>
<thead>
<tr>
<th>GPs</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your experience of screening for colorectal cancer?</td>
<td>1/ what is your experience of colorectal cancer?</td>
</tr>
<tr>
<td>2. What do you know about FOBT?</td>
<td>2/ What do you know about the screening?</td>
</tr>
<tr>
<td>3. How do you present FOBT to your patients?</td>
<td>3/ what was your information source for the screening?</td>
</tr>
<tr>
<td>4. How do you organise screening for colorectal cancer in your daily practice?</td>
<td>4/ what do you think of the way you were asked to do the screening?</td>
</tr>
<tr>
<td>5. What are your personal barriers towards this type of screening?</td>
<td>5/ have you already done the test?</td>
</tr>
<tr>
<td>6. What comments have patients made?</td>
<td>If yes: how was it?</td>
</tr>
<tr>
<td>7. Which possibilities/personal skills do you see/use to overcome these difficulties within your? Organisation, as a doctor or with your patients?</td>
<td>If no: why not?</td>
</tr>
</tbody>
</table>
Table 3. Responses by patients and doctors

Patients:
Q1: “I would have been more encouraged to do the screening if I have been talked to by my GP” (Interview 7)
Q2: “If you don’t take the samples properly ... you feel responsible” (I 19)
Q3: “I take care of myself in a different way: I exercise and eat healthily” (I 14)
Q4: “I was surprised to read that screening was beginning so young, I thought it was a cancer for elderly people” (I 6)
Q5: “I was made aware of this problem by one of my relatives who had this cancer. It made me more attentive” (I 19)

Doctors:
Q6: “When you had a painful experience with a patient who had a negative screening and a CRC removed a few months later..... “ (FG Soissons)
Q7: “I read that mass screening was not efficient “ (FG Grenoble)
Q8: “We need more time, GPs can’t manage everything: contraception, smear test, bronchitis, and life events..... “(FG Ecouen)
Q9: “The problem is that patients come for many things; during the consultation, the number of complaints increases and, after all this, the screening letter pops up at the end of the consultation”(FG Grenoble)
Q10: “People are not motivated with any kind of reason; you should spend much more time convincing, educating or persuading them” (FG Rouen)
Q11: ”For people who are not screened, it’s not about seeking for care, but is all about money problems” (FG Tours)
Q12: ‘The 73-year-old patient, with no risk factors, it’s his first and last test: so you shouldn’t forget about him because of medico-legal implications” (FG Rouen)
Q13: “It depends on the patient: sometimes I ask them to come back for a specific appointment, but for those who don’t attend frequently, even if I ask them to, they won’t come back” (FG Soissons)
Q14: “Delivering the test become easier after several experiences” (FG Grenoble)
Q15: “Usually, I have to repeat the same explanations for having a screen” ( FG Ecouen)
Q16: “A refusal should lead to a new proposal, at a better moment on a more favourable day, using a new strategy. Then, it’s not harassment” (FG Rouen)
Q17: “The only criteria to convince me would be to find blood in my faeces” (I 14)
Q18: “I will do the test, but confess it’s enough to do my blood pressure and prostate” (I 21)

The test:
Q19: “The first advantage is to avoid a colonoscopy” (I 17)

The organization:
Q20: “My tendency is to offload my responsibility for the screening onto the local organization, and not to seek patients out by myself” (FG Tours)
Chapter 4

Delivering the Faecal Occult Blood Test:
More instructions than shared decisions
A qualitative study among French GPs

Isabelle Aubin-Augé
Alain Mercier
Katell Mignotte
Jean-Pierre Lebeau
Michel Bismuth
Lieve Peremans
Paul Van Royen

Abstract:

Background: Colorectal cancer (CRC) is the third most common cancer worldwide. In France, mass screening has been established with FOBT since 2008. The participation rate remains too low. Previous studies were conducted to explore doctors’ and patients’ perspectives. Objective: This study was conducted to explore GPs’ performance during consultations in which patients ask for FOBT, focusing on two different aspects: the core content of the consultation and the communication style used between GPs and patients.

Methods: Nine purposively sampled GPs were asked to audiotape specific consultations. Content analysis was performed using Nvivo 9® software. Communication between doctors and patients was explored using RIAS coding. Results: GPs audiotaped specific parts of 35 different consultations when they discussed and delivered the FOBT. The core content included primarily biomedical statements with a large portion dedicated to technical aspects. The communication style was not patient-centred. Conclusion: While the participation rate of mass screening in France is still low, the analysis of recorded consultations by French GPs confirms that the way of delivering FOBT can be improved.

Keywords: colorectal cancer, mass screening, communication

Key messages: GPs’ communication skills have to be developed in order to provide the correct type and amount of information for each patient. Incorporation of patients’ perspectives could enable a shared decision to be reached.
INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer worldwide, with a high mortality rate, which has led to various screening strategies (1). In France, mass screening with the Guaiac Fecal Occult Blood Test (g-FOBT) was extended to the entire country in 2008 (2). If at least 50% of the population would take the screening test every two years, mortality could be reduced by 16% to 18% (3, 4). In France, the mean patient participation rate for the period 2009-2010 was 34% (5).

Previous studies were conducted to explore patients’ and GPs’ barriers to CRC mass screening. As regards patients, women taking other preventive tests had the highest participation rate (6). Some patients requested specific information on colorectal cancer and the risks and benefits of screening (7). The GP’s experience and their level of involvement were the most important factors influencing patients during the screening decision-making process (7, 8). Some GPs complained about the time required to administer the test during a consultation; others reported insufficient training while others doubted the relevance of the screening.

In France, implementation relies on a local ‘cancer prevention association’ set up for national breast cancer mass screening. All adults aged 50 to 74 receive a letter from their local cancer prevention association, encouraging them to visit their GP to take the test. Patients must then send the completed test and an identity form to a central laboratory; if they do not, they receive a reminder. Finally, another three months later, those who did not go to see their GP receive a test directly at home (9). Each test package has the same content, i.e. an explanatory leaflet containing information on technical procedures for performing the test and a cardboard for the stool samples.

The way doctors explain the test can impact the participation rate. The content of physicians’ CRC recommendations has been explored via semi-structured interviews with GPs and it has been concluded that this content is a critical issue (10). When patients come to GPs’ practices and ask for the test, doctors should pay attention to various aspects of the consultation. Firstly, GPs should identify patients at high risk of CRC or those showing symptoms that require diagnostic investigations. Secondly, they have to explain how to perform FOBT as well as the meaning and consequences of the results, especially the need for a colonoscopy in the event of a positive test. The entire
process is performed by the GPs themselves. They could also improve the participation rate by identifying patients that do not spontaneously request screening.

A previous study explored physician-patient discussions about CRC screening in the U.S.A (11). American guidelines recommend different options for CRC screening including colonoscopy, so the discussions mainly focused on recommended colonoscopy. To our knowledge, no study was conducted in another context with only gFOBT recommended for the mass screening.

This study aims to explore GPs’ performance during consultations where patients come to request the test. The study focuses on two different aspects: the core content of the consultation and the communication style used between GPs and their patients. Patients not requesting the test were not included in this research.

METHODS

Design
In order to directly assess GPs’ performance, recorded consultations were used as a means to observe the conversations between the physicians and their patients (12). In order to facilitate data collection for this study, we chose audio recordings instead of video. In this qualitative descriptive study, content analysis was used in order to stay close to the sampled data and to the surface of words and recorded consultations, without further interpretation and conceptualisation (13). The study was approved by the ethical committee CPP Ile de France XI. There was neither financial support nor a conflict of interest.

Participant recruitment
Purposive sampling was used to recruit GPs in order to have the greatest possible diversity in terms of age, gender and screening experience (i.e. experience in delivering the test and number of tests delivered). Pilot regions that had been delivering the test for a long time and others where it had been released more recently were equally represented, taking advantage of the progressive involvement of the various regions throughout France. Fifteen doctors gave their informed consent to audio record at least
their next three consultations while administering FOBT. The only inclusion criterion for
the patients was their acceptance to be recorded. Written consent was requested and the
participants’ anonymity and confidentiality were ensured.

Data collection
Data were collected from June 2010 until June 2011. Only the part of the consultation
concerning the FOBT was audio taped. Data collection and analysis were performed
using a continuous process. Data collection was stopped when data saturation on
consultation content was reached.

Data analysis
In order to get a better description of the real content, two different methods were used
and triangulated to respectively analyse the core content of the consultation and the
communication between GPs and patients.

All audio taped consultations were fully transcribed. Analysis was performed by
three researchers (IAA, AM and MB) using a predefined framework from our previous
research analysis (7). The categories of the predefined framework were: GPs’ and
patients’ barriers and facilitating factors, information given to the patient, and practical
and technical aspects of the FOBT. Three researchers independently performed open and
selective coding using QSR Nvivo 9 software. The various elements were shared and
discussed through an iterative process of constant comparison. Data saturation was
reached at 33 recorded consultations.

Next, the Roter Interaction Analysis System (RIAS) was used by a different
research team to analyse verbal interaction between GPs and patients. The 40 codes
defined in the RIAS handbook were used by three researchers (IAA, PVR and KM) to
distinguish task-related and socio-emotional communication (14, 15). Task-related codes
include medical condition, therapeutic regimen, lifestyle and psychosocial information,
and all orientational or instructional statements told by GPs related to the clinic visit.
Socio-emotional codes include all statements of verbal or non-verbal exchange
indicating mainly reassurance, encouragement, approval or disapproval, criticism,
empathy and so on. The ratio of codes related to psychosocial and socio-emotional (SE)
aspects versus those related to biomedical (BM) issues, such as the medical conditions or therapeutic regimen, was calculated. This SE/BM ratio has been used in previous studies to explore patient-centred interaction interchange (15). A ratio of > 1 indicated a patient-centred consultation. The RIAS also allowed us to determine verbal dominance by calculating the sum of all patient utterances divided by the sum of all physician statements. Each GP and each consultation was identified and the scores for each consultation and each GP were calculated. The RIAS coding was first done separately for 10% of the data then shared to check mutual concordance. This process was renewed until all of the data were analyzed.

RESULTS

Samples

Physicians’ sample: Nine GPs from six different areas in France sent in at least three consultations. The other GPs were excluded because they did not send in any recordings or only one or two recorded consultations. Other reasons for not participating were technical problems in audio taping the consultations and insufficient time to participate. The characteristics of the GPs included in the study are described in table 1.

Patient characteristics: 36 patients, 50 to 72 years old, took part in the 35 recorded consultations (one consultation was for a couple (Doctor 1, consultation 4)). Their median age was 61.5. Twenty-two (61%) were men and 14 (39%) were women; 85% came to the consultation for other reasons; 22 (61%) came for their first FOBT and 14 for a repeat test.

Content analysis

The duration of the recorded consultations ranged from 2’18” to 8’28” with a mean of 5’38”.

Doctor statements (Table 2): Most of the GPs looked for medical history when patients came in for their first test (Table 2, Quote 1: Q1). Symptoms requiring a colonoscopy, such as abdominal pain, blood in faeces or constipation, were not always looked for (Q2). Only a few of the GPs asked about a previous colonoscopy. When patients came in
for a second or third test, only one GP (Doctor 9) looked at whether or not the patient was still eligible for screening and asked about new medical events since the last test. A large portion of the doctors’ statements involved technical explanations. All of them detailed the entire procedure (i.e. the quantity of the stool samples, the number of days samples were to be taken and how the samples were to be stored). Three doctors (Doctors 3, 4 and 5) mentioned the leaflet but none of them actually used it as an educational tool (Q3). In the event of a positive test, some of the physicians mentioned that a colonoscopy was necessary while others only suggested it was a possibility (Q4). The meaning of a positive test was not explained by all GPs (Q5). Only a few of the GPs mentioned the test being taken every two years and none spoke of interval symptoms requiring a colonoscopy. Two GPs (Doctors 2 and 6) elaborated on epidemiological aspects to convince their patients (Q6). One doctor (Doctor 2) used positive personal experience, describing an adenoma diagnosed after an FOBT. The diagnosis of a benign tumour and the potential to recover before the onset of CRC were sometimes mentioned. The word “adenoma” was often used but most of the time without explanation. Most of the GPs explained that the aim of the test was to look for occult blood in faeces. The meaning of this occult blood often remained unclear. Only one doctor (Doctor 6) mentioned the possibility of a false positive (Q7).

Patient statements: (Table 2) When doctors asked what patients knew about the test, most patients gave no answer, and some of them had vague notions of a free test taken to “avoid cancer”. The sources of information on FOBT varied, including websites, television shows or relatives. Most of the patients’ questions concerned technical aspects of completing the test (i.e. taking 3 samples on different days or on the same day, the number of days before the results, etc.) (Q8). Some patients were anxious because they had previously had blood in their faeces due to haemorrhoids (Doctor 6, patient 3).

Communication analysis
Tables 3 and 4 summarize the quantitative features of the number of occurrences according to RIAS coding. To make the results easier to understand, the RIAS categories were arranged in the same manner as described in a previous publication (16).
The GPs’ utterances predominantly focused (58.3%) on giving information about medical conditions and other conditions (Table 3). Another main category during communication was procedural, with more than 7% of the utterances being used to give instructions. These categories (procedures and other conditions) concerning technical aspects of the FOBT accounted for a total of 63.3% of all occurrences.

Only three of the doctors began by asking the patients what they already knew about the test and the topic. When they did, it was often with a closed-ended question. Some doctors did not wait for the patients’ answers (Doctor 4, patient 3; Doctor 5, patient 2; Doctor 6, patient 3; and Doctor 7, patient 3) and carried on distributing the test kit and explaining the screening in the same way. 7.8% of the utterances concerned reassurance or encouragement. Only one doctor (Doctor 8) showed empathy. There were no partnership statements and no questions about lifestyle and psychosocial conditions.

The largest share of patient communication (49.2%) involved showing approval or agreement (Table 4). Patient interaction mainly involved asking for technical information (all questions-other: 6.9%) as well as for understanding and reassurance (14.1%). Few patients gave information or asked questions regarding lifestyle or psychosocial problems but doctors did not take these aspects into account (0.3% for patients / 0 for doctors). Patients were more inclined to make personal comments (5.8%).

Comparing the two tables on patient activation and facilitation, doctors’ utterances occurred less frequently than patients’ (9.1% vs. 14.1%). Doctors mainly asked for understanding and patients mainly asked for reassurance.

Patients’ answers were only rarely used as a guide for the next part of the consultation. None of the doctors reached a ratio of socio-emotional (SE) statements to biomedical (BM) statements of > 1, which indicated that consultations were not patient-centred (Figure 1).. The mean SE/BM score was 0.5. Verbal dominance was calculated using the ratio of patients’ statements to doctors’ statements (Figure 1). It ranged from 0.21 to 0.76 (mean: 0.51), another illustration of the doctors’ verbal dominance.
DISCUSSION

Main findings
This qualitative descriptive study showed that the core content of consultations during which French GPs delivered FOBT was oriented towards biomedical statements with a large portion devoted to technical aspects. The communication was not patient-centred. The two different methods of analysis were complementary and showed overwhelming verbal dominance by the doctors. The main categories in the Roter analysis involved patient counselling and gathering biomedical data. Patient facilitation and activation enabled but little interaction between doctors and patients. Physicians seemed to deal more with personal habits than with specific communication skills. They used a predetermined speech and did not adapt its content to each patient.

Strengths and limitations
This original study shows the real content of the consultation while the GPs delivered FOBT. Even though the doctors tried to do their best, many areas need improvement. The purposive sample allowed for diversity in physicians’ attitudes and skills. The Roter analysis (RIAS) highlighted the lack of communication skills. All of the doctors had to volunteer for the study. They may have selected the patients for the recorded consultations. GPs did not report whether or not the recorded patients actually took the test or not. Non-verbal communication was missed, as the consultations were not videotaped. Nonetheless, the data collected did allow us to explore GP - patient communication. Data collection would have been even more difficult using video. Other methods such as observation and standardized patients could have been chosen to assess the GPs’ performance.

In addition, patients who came and asked for the test had probably already made the decision to participate in the program. This may have influenced the content and effects of doctors – patients’ communication.
The core content of the consultation

Most of the results of the content analysis were consistent with our previous study (7). In that focus group study, the GPs thought that one of the main obstacles for patients was their misunderstanding of the screening process and they specifically mentioned problems with technical precautions, such as sampling three days in a row (7). This is consistent with the results of the recorded consultations of this study, where, in both the content analysis and the Roter analysis, most of the physicians’ statements involved technical explanations. Using the leaflet could help GPs to have more time to elaborate on other arguments about follow up to the test.

In the patients’ interviews of our previous study, a positive test was sometimes automatically linked to cancer (7). In the recorded consultations of the current study, the explanations about the meaning of a positive test - if any - were often unclear. Some doctors even linked a positive test to a diagnosis of cancer. The detection of an adenoma was not used as a means to justify the usefulness of screening before the onset of an actual cancer. The colonoscopy was not always mentioned as mandatory. Moreover, in another study it was reported that 10% to 15% of patients with a positive test do not resolve the issue through a colonoscopy, therefore decreasing the effectiveness of mass screening (5).

In our previous study, some patients asked their GP to give reasons why screening was necessary, such as epidemiological factors (e.g. screening efficacy) (7). Only a few of the physicians of the current study used such arguments to convince their patients in the recorded consultations. One explanation for this may be that our current study focused on patients spontaneously requesting the test, so GPs may have thought that no further arguments were needed to convince the patients.

Communication skills

A previous study on CRC screening showed that the discussion between GPs and their patients did not facilitate shared decision making (11). In the American context, GPs did not take the patient’s preferences into account and focused on colonoscopy. Patient-centred consulting skills are considered crucial for effective primary care (18). Some
dimensions of this approach include understanding the personal meaning of the illness for each individual patient, shared decision-making and patient preferences in terms of receiving information (19). In our study, only one doctor looked at patients' opinions and no partnership statements were uttered that could have shown the physician's alliance with the patient. Wackerbarth had previously shown in interviews with doctors that only a few physicians explored patients' health beliefs for CRC screening (10). This approach does not allow for shared decision-making (19).

Towards a patient-centred approach
Stewart described the benefits of a patient-centred approach in terms of improved satisfaction, adherence and health outcomes (18, 20). The observational study conducted by Little et al showed patients' preferences for patient-centeredness rather than focusing on biomedical aspects (21). In our study, the recorded consultations were rather long (with a maximum length of eight minutes) while previous studies had shown that patient-centred care was not time consuming (22, 23, 24). Even though communication is less important when the patients themselves ask for the test, a patient-centred approach could be developed, for example exploring both the disease and the patient’s experience with the illness. First exploring patients’ knowledge of and experience with CRC screening could personalise the information and save time. Other components of the patient-centred clinical method should prove very important for non-compliant patients like the exploration of patients ‘fears and beliefs with often experienced CRC in their family or friends (23).

In the recorded consultations, we observed that the physicians did not ask for patient agreement and did not seek to find out patients’ preferences in terms of information. The amount of information patients wish to have varies widely. Previous studies showed that patients can be divided into two groups: seekers needing more information (around 80%) and avoiders who cope better with less information (around 20%) (25).

The physicians’ communication style appeared to be an important issue as well. Patients whose doctor seemed enthusiastic when discussing the FOBT more often
reported a recent test (26). GPs should take these points into account in order to achieve better communication.

*Practice implications*

Analysis of recorded consultations with French GPs confirms that the way of delivering FOBT should be improved. Since there is a lack of time during consultations with GPs, this time should be used more efficiently. Improved use of the leaflet should allow GPs to have more time to elaborate on other arguments and to give important information, which is now missing, in particular on follow-up to the test and the need for a colonoscopy in case of a positive test.

Communication with patients was highly standardised and neither sought out the patients’ fears and opinions nor gave the patients the chance to express them. Communication skills have to be improved in order to provide the correct amount and type of information for each patient. Incorporating patients’ perspectives and addressing patient concerns could enable shared decisions to be reached.

*Conclusion*

From this qualitative descriptive study, we can conclude that the core content of consultations during which French GPs delivered FOBT was oriented towards biomedical statements with a large portion of time spent to technical explanations. The communication style in these consultations was not patient-centred. Intervention studies should be conducted to explore how patient-centred communication could improve the FOBT delivery and CRC screening in daily practice.
Table 1: Characteristics of the doctors, their practice and their recruitment

<table>
<thead>
<tr>
<th>Doctors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>58</td>
<td>52</td>
<td>32</td>
<td>29</td>
<td>51</td>
<td>63</td>
<td>59</td>
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<td>Gender</td>
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<td>F</td>
<td>F</td>
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<td>M</td>
<td>M</td>
<td>M</td>
<td>F</td>
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<td>Size of Practice</td>
<td>G</td>
<td>S</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>S</td>
<td>G</td>
<td>N/A</td>
<td>G</td>
</tr>
<tr>
<td>Location</td>
<td>Urban</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Urban</td>
<td>Urban</td>
<td>Rural</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Teaching GP?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of consultations recorded</td>
<td>4/5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

N/A: not available

G: group practice

S: single practice
Table 2: Quotes

<table>
<thead>
<tr>
<th>Category</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients’ Medical history</strong></td>
<td>Q1: “Are there any bowel problems in your family?” (Doctor 2, patient 1)</td>
</tr>
<tr>
<td></td>
<td>Q2: “At the present time, don’t you have blood in your faeces or problems with your last bowel movements?” (Doctor 3, patient 3)</td>
</tr>
<tr>
<td><strong>Technical explanations</strong></td>
<td>Q3: &quot;So you have a leaflet but I am going to give you some explanations.&quot; (Doctor 3, patient 1)</td>
</tr>
<tr>
<td><strong>Colonoscopy</strong></td>
<td>Q4: “There is often a little damage to your bowels which could bleed and generally you need a colonoscopy.” (Doctor 4, patient 3)</td>
</tr>
<tr>
<td><strong>Follow-up to the test</strong></td>
<td>Q5:” If you have blood in your bowels, it is not necessarily serious…not necessarily a cancer.&quot; (Doctor 4, patient 2)</td>
</tr>
<tr>
<td><strong>Arguments to convince patients</strong></td>
<td>Q6: &quot;There are 32,000 people, a little more than 32,000 people affected by colorectal cancer per year in France and about 16,000 deaths …” (Doctor 6, patient 3)</td>
</tr>
<tr>
<td><strong>Patients’ questions</strong></td>
<td>Q7:”So three days?” (Doctor 7, patient 2)</td>
</tr>
<tr>
<td></td>
<td>“And what do I do if I have two stools a day?” (Doctor 5, patient 3)</td>
</tr>
<tr>
<td><strong>The test</strong></td>
<td>Q8: &quot;And there will be 5 or 6 patients with a normal colonoscopy; they will have been bothered for nothing…”. (Doctor 6, patient 3)</td>
</tr>
</tbody>
</table>
Table 3: Content of discussion during the consultation: doctors

<table>
<thead>
<tr>
<th>Communication category</th>
<th>Number of utterances (% utterances)</th>
<th>Combination of RIAS categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data gathering-biomedical</td>
<td>150/1830 (8.2%)</td>
<td>Asks closed-ended questions-medical conditions: 83 Asks closed-ended questions-other: 36 Asks open-ended questions-medical conditions: 11 Asks open-ended questions-other: 20</td>
</tr>
<tr>
<td>Patient education and counselling –biomedical</td>
<td>1068/1830 (58.3%)</td>
<td>Gives information-medical conditions: 252 Gives information-other: 816</td>
</tr>
<tr>
<td>Facilitation and patient activation</td>
<td>167/1830 (9.1%)</td>
<td>Asks for opinion: 2 Asks for permission: 2 Asks for reassurance: 1 Asks for understanding: 126 Back channel responses: 7 Check for understanding: 29</td>
</tr>
<tr>
<td>Rapport building : Negative</td>
<td>7/1830 (0.3%)</td>
<td>Shows criticism: 5 Shows disapproval: 2</td>
</tr>
<tr>
<td>Rapport-building/ emotional</td>
<td>170/1830 (9.3%)</td>
<td>Empathy: 3 Legitimization: 3 Shows concern or worry: 19 Reassures encourages or shows optimism: 144 Partnership statements: 1</td>
</tr>
<tr>
<td>Rapport-building/ social</td>
<td>17/1830 (0.9%)</td>
<td>Personal remarks –social conversation: 15 Self -disclosure: 2</td>
</tr>
<tr>
<td>Procedural</td>
<td>141/1830 (7.8%)</td>
<td>Gives orientation–instructions: 141</td>
</tr>
</tbody>
</table>
Table 4: Content of discussion during the consultation: patients

<table>
<thead>
<tr>
<th>Communication category</th>
<th>Number of utterances 946 (% utterances)</th>
<th>Combination of RIAS categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question asking-biomedical</td>
<td>66/946(6.9%)</td>
<td>All questions-medical: 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All questions-other: 54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bid for repetition: 8</td>
</tr>
<tr>
<td>Question asking-lifestyle/psychosocial</td>
<td>1/946(0.1%)</td>
<td>All questions-lifestyle: 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All questions-psychosocial: 0</td>
</tr>
<tr>
<td>Information giving–biomedical</td>
<td>203/946(21.4%)</td>
<td>Gives information-medical condition: 81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gives information-other: 122</td>
</tr>
<tr>
<td>Information giving - lifestyle /psychosocial</td>
<td>3/946 (0.3%)</td>
<td>Gives information-lifestyle: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gives information – psychosocial: 1</td>
</tr>
<tr>
<td>Patient activation and engagement</td>
<td>134/946(14.1%)</td>
<td>Asks for reassurance: 72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Asks for understanding: 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for understanding: 46</td>
</tr>
<tr>
<td>Rapport-building: Positive</td>
<td>465/946 (49.2%)</td>
<td>Laughs –tells jokes: 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shows approval: 85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gives compliment: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shows agreement: 356</td>
</tr>
<tr>
<td>Rapport –building : negative</td>
<td>7/946 (0,7%)</td>
<td>Shows criticism: 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shows disapproval: 2</td>
</tr>
<tr>
<td>Rapport-building/ emotional</td>
<td>19/946 (2.1%)</td>
<td>Empathy: 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Legitimization: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shows concern or worry: 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reassures, encourages or shows optimism: 8</td>
</tr>
<tr>
<td>Rapport-building/social</td>
<td>54/946 (5.8%)</td>
<td>Personal remarks –social conversation: 54</td>
</tr>
<tr>
<td>Procedural</td>
<td>1/946 (0.1%)</td>
<td>Gives orientation – instructions: 1</td>
</tr>
</tbody>
</table>
Figure 1: Patient-centred communication and verbal dominance
REFERENCES


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Chapter 5

From qualitative data to GP training on CRC screening

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Alain Mercier
Josselin Le Bel
Katrien Bombeke
Dan Baruch
Anne Youssefian
Jean Pierre Lebeau
Tu Le Trung
Lieve Peremans,
Paul Van Royen

Abstract
Background: Colorectal cancer (CRC) is the third most common cancer worldwide. In France, although mass screening has been performed using the guaiac fecal occult blood test (gFOBT) since 2008, the participation rate remains too low. Previous studies have explored doctors’ and patients’ perspectives as well as GPs’ performance by recording and analyzing consultations in which patients came and asked for FOBT. Results indicated that improvement was needed in patient-centered communication.
Research aim: To develop educational material and training programs for GPs in order to enhance their communication with patients on CRC screening based on data from two qualitative studies.
Methods: Triangulation of all qualitative data was performed and discussed with communication experts in order to develop educational material and training programs based on the Patient-Centered Clinical Method.
Results: Two different scenarios were developed to improve communication with patients: one for a compliant patient and another for a non-compliant patient. Two videos were made featuring a doctor and a simulated patient. A two-sequence training program was built, including role-playing and presentation of the video followed by a discussion.
Conclusion: The qualitative data helped us to produce a useful, relevant training program for GPs on CRC screening.
Introduction

Colorectal cancer (CRC) is the third most common cancer worldwide. Various screening strategies have been developed for patients starting at the age of 50. The US task force on CRC recommends a yearly guaiac Fecal occult blood test (gFOBT) or fecal immunochemical test (FIT), or flexible sigmoidoscopy every 5 years, or a colonoscopy every 10 years, or a double-contrast barium enema or virtual colonoscopy every 5 years (1). In France, since 2008, GPs have performed mass screening using gFOBT every two years on all patients aged 50 to 74 who do not show any CRC risk factors (2). Colonoscopy is reserved for patients who test positive. Although CRC screening is known to reduce mortality, participation rates have remained too low with considerable variability in different countries. In Europe, the proportion of adults screened using FOBT ranged from 7.2% to 91%. In the USA, according to the National Health Interview, the proportion of adults older than 50 years who had had a recent screening test ranged from 53% to 73% (3). In France, the participation rate is around 32% and has decreased in some pilot regions involved in mass screening since 2002 (4). These results suggest that only early responders, who came in and spontaneously asked their GP for the test, participated. The physicians’ communication style appeared to be an important factor in CRC screening. Patients whose doctor seemed enthusiastic when discussing FOBT more often reported a recent test (5).

Previous studies had been conducted to explore doctors’ and patients’ perspectives using 5 GP focus groups (FG), and 24 patient interviews (PI) (6). GPs’ performance was also explored by recording and analyzing 35 consultations (RC) by 9 GPs in which patients came and asked for FOBT. Doctor-patient communication was explored using RIAS coding (7). The ratio of codes related to psychosocial and socio-emotional aspects and those related to biomedical issues was calculated. This ratio had been used in previous studies to explore patient-centered interaction, with a ratio of > 1 indicating a patient-centered consultation (8). None of the doctors reached this ratio. It was concluded that in order to increase the participation rate for CRC screening, patient-centered communication had to be improved.

The aim of this study was to develop a training course to enhance GPs’ communication skills in CRC screening, based on the two previous qualitative studies.
Methods:
The Patient-Centered Clinical Method described by Stewart et al was used in order to pass on these skills to the GPs. This model is composed of six interactive components, i.e. exploring both the disease and the patients’ experience with the illness, understanding the whole person, finding common ground, incorporating prevention and health promotion, enhancing the patient-doctor relationship and being realistic (9). Triangulation of all qualitative data coming from patient interviews, GP focus groups (6) and recorded consultations was performed. All of these data were merged and three categories were defined for CRC screening. The first category involved arguments to convince patients, the second category focused on the main items GPs had to explain to make sure the patient would be able to take the test, and the third category concerned communication skills. All of the material regarding communication was incorporated into the six components of the Patient-Centered Clinical Method and discussed from the perspective of communication skills in order to develop the educational tool. Interactive educational techniques that have been shown to be relevant were selected (10).

Results:
Based on these triangulated data, two different scenarios were developed to improve communication with patients: one for a compliant patient (video 1) and another for a non-compliant patient (video 2). Two videos were made with a doctor and a simulated patient. The first video was 7’ 25” in length and the second video 9’12”. A training program was developed with two sequences, including role-playing and presentation of the video followed by a discussion in small groups of GPs.

The scenarios: based on the six components of the Stewart et al model:
The scenarios focused on the six components of the Patient-Centered Clinical Method (9). When exploring both the disease and the patients’ illness experience, “disease” is to be understood as the description according to the conventional model, while “illness” refers to the patients’ personal experience of being sick (Component 1). In the recorded consultations (RC), we observed that most of the time the patient’s background knowledge was not taken into account. There was very little information about patients’
feelings, especially fears and personal history. In the video scenario, we built in an open-ended question on what the patient knew about CRC screening and the patient’s fears and knowledge were explored (Quotes 1-2: table 1). Understanding the whole person is a huge chapter that includes the person, their family life cycle and the context (social, economic, etc.) they live in (Component 2). The patient interviews (PI) identified some patients’ fears and beliefs, often related to their previous experiences of relatives with CRC, which could influence their own reasons for undergoing the screening or not. In the scenario, the following points were used to explore patients’ fears: testimonials on friends’ experiences (Q3) and patients’ beliefs, including their defense mechanisms (Q4).

Finding common ground (Component 3) is the central task of patient-centered medicine. The common aim of the doctor and their patient includes three steps: defining the problem to reach a mutual understanding and agreement; establishing the goals of management; and identifying the roles to be assumed by patient and doctor. As analysis of the RCs showed that doctors did not ask for patients’ agreement and did not investigate patients’ preferences for information, these questions were used explicitly in the scenario (Q5). In the PIs, arguments in favor of screening were put forward, such as the fact that the test could be performed at home, the fact that the patient could choose the most appropriate time, the fact that the test could help to avoid a colonoscopy and the fact that the test was free of charge. Some patients asked for epidemiological arguments. These arguments were used in the scenario to define the problem and establish the patient’s and doctor’s respective roles (Q6).

In the RCs and physician focus groups (FG) there was no promotion of CRC screening and the test was not delivered when patients did not request it. Prevention and health promotion (Component 4) were not incorporated. In the second scenario, the patient did not come in specifically for the screening but the doctor asked to perform it and tried to convince the patient to do so (Q7-8).

Enhancing the patient-doctor relationship (Component 5) includes compassion, continuity, constancy and sharing of power. In the RCs, continuity of care was not elaborated upon. There was no explanation of warning symptoms and the need to do the
test every two years and no explanation of the need for a colonoscopy in the event of a positive test (Q9-10).

Being realistic requires learning how to most effectively manage time and choosing the best time to deal with problems (Component 6). In the FGs, GPs complained about the time required to deliver the test and the fact that patients came in for an appointment for many other reasons in addition to the screening test. The RCs showed that that too much time was spent on technical aspects, and that the leaflet given with the test was hardly used. Nonetheless, the patients interviewed had a good opinion of the information in the leaflet and said that it was very well explained. In the scenarios, GPs avoided providing only technical information and referred patients to this leaflet (Q11). The patients’ way of life was also taken into account in order to facilitate their compliance with the screening (Q12). Although the patient was non-compliant in the second scenario, and since the only reason for the appointment was a renewal, the GP had the time to deal with CRC screening (Q13).

The training course:
Three sessions involving 6 to 8 participants were organized during the same week in December 2011. Each session lasted a total of 4 hours. Eighteen GPs were recruited and trained after cluster randomization of all family practice physicians in the same geographical area (Val d’Oise, a suburb of Paris). The local prevention organization (PSVO or “Prevention Santé Val d’Oise”) supported the project and the participants were given incentives.

The three sessions were run by the same two moderators (IAA and AY) using interactive methods.

The first part of the training course was a short discussion on GPs’ opinions of CRC screening in order to take them into account. The next sequence focused on how to improve communication with a compliant patient. The first step was a role-play with a participant playing the role of the GP and one of the moderators playing the role of patient based on a predefined scenario. The simulated patient spontaneously asked the GP for an FOBT. Feedback was then given and the participants discussed what they had observed during the role-play, with the moderator focusing the discussion on issues
related to communication. Afterwards, the first video was shown, with participants being given the same instructions to identify the communication skills used. After the video, there was another discussion in order to try to raise all of the main communication-related issues. The same procedure was used in the second sequence for a non-compliant patient. The instruction for the role-play was to suggest CRC screening to a patient who had not made any request and to try to convince them. Participants were given a memo summarizing all of the main communication skills required.

Discussion:
Qualitative data collected from two previous studies were used in an active way to build this training course. The material was developed based on real screening practices taken from the recorded consultations. Previous studies had been conducted to explore physicians' CRC recommendations via semi-structured interviews or focus groups, which provided insight by allowing the GPs to talk about their practices in detail (11, 12). Our data corroborated their results, which showed that GPs usually take a standard approach with most patients and only tailor it to each patient’s level of education (12). In addition, Wackerbath et al concluded that the content of the CRC recommendation was a crucial issue (11).

Focusing on doctor-patient communication for CRC screening, our data showed that improvement was needed. Many reasons led us to develop educational material focused on doctor-patient communication with a patient-centered approach. Little et al had previously demonstrated that in primary care, patients strongly preferred a patient-centered approach with a communication partnership and health promotion (13). Even with a compliant patient, this approach could be useful in enabling GPs to save time and increase patient satisfaction.

Clinical communication training in continuing medical education is feasible. Berkhof conducted a systematic review of previous communication skills programs in continuing medical education (CME) (10). Those programs were effective if they were learner-centered, practice-oriented and used interactive methods like role-plays, feedback and small group discussions. One-day sessions seemed to be more effective, however. It is not easy to get GPs to take part in such one-day sessions, as shown by the low level of
recruitment, i.e. 18 GPs, in our training course. Most of them had already been trained on CRC screening, with a focus solely on epidemiological data and technical procedures. This could enable them to save time while improving doctor-patient communication, even though these skills are rarely taught in CME. Increasing CRC screening participation rates did not seem to be a priority for these practitioners. Providers’ attitudes were classified as modifiable factors influencing CRC screening participation and as potential targets for future interventions (3). All health care providers should be involved in such interventions in order to improve the rate of later responders. The efficicacy of our educational program must now be explored. A randomized trial is currently underway to explore whether or not this CME training could help to improve the CRC screening participation rate.

**Conclusion:**
The qualitative data helped us to produce a relevant training program for GPs on CRC screening. Its usefulness is currently being tested in a randomized controlled trial. The Patient-Centered Clinical Method was used to train GPs on a patient-centered approach. The main focuses were patients’ health beliefs regarding CRC screening, giving appropriate explanations, providing the correct amount and type of information, checking their understanding and avoiding giving patients only technical information. This approach could allow for shared decision-making as regards CRC screening (11), a process that all health care providers should be involved in.
References:


10. Berkhof M, Van Rijssen HJ, Schellart AJM, Anema JR, Van der Beeke AJ. Effective training strategies for teaching communication skills to physicians: an overview of systematic reviews. Patient Educ Couns 2011; 84:


<table>
<thead>
<tr>
<th>Stewart et al model component</th>
<th>Video</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploring both disease and the patients’ illness experience</td>
<td>1</td>
<td>Doctor: “What do you know about CRC screening? What do you know about the test?” (Q1)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Doctor: “Could you tell me more about the things that have made you decide not to participate/prevented you from participating?” (Q2)</td>
</tr>
<tr>
<td>Understanding the whole person</td>
<td>1</td>
<td>Patient: &quot;Yes doctor, I am concerned. I have a friend who has been operated on. He has a pouch...&quot; Doctor: &quot;That’s right, it’s hard, which is why we do the screening.&quot; (Q3)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Patient: &quot;If I have a problem (with my bowels) I will tell you.&quot; Doctor: &quot;This screening is for patients who aren’t complaining of any symptoms.” (Q4)</td>
</tr>
<tr>
<td>Finding common ground</td>
<td>1</td>
<td>Doctor: &quot;If you agree, we will first talk about CRC screening.&quot; Patient: &quot;All right doctor, but you know, my knee is really painful.” Doctor: &quot;Adenomas are not cancer but can become cancer many years later. Would you like me to tell you more?”(Q5)</td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>Doctor: “It’s free and very useful because colorectal cancer is very common. If you don’t do the screening, it is often diagnosed too late.” “You can do this test whenever you want at home, on three different days.” (Q6)</td>
</tr>
<tr>
<td>Incorporating prevention and health promotion</td>
<td>1</td>
<td>Doctor: &quot;I heard that you came because of your knees but first we’ll talk about the FOBT... because preventing colorectal cancer is also a way of taking care of your health.&quot; (Q7)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Doctor: &quot;Have you ever taken the test to screen for colorectal cancer?” (Q8)</td>
</tr>
<tr>
<td>Enhancing the patient-doctor relationship</td>
<td>1</td>
<td>Doctor: &quot;If the test is negative, it’s very important to do it again every two years.&quot; Patient: &quot;So we have to do the screening every two years? I didn’t know that.&quot;(Q9) &quot;If the test is positive, it’s important to see what’s really happening using a colonoscopy.&quot; (Q10)</td>
</tr>
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<td></td>
<td>2</td>
<td>Doctor: “You will see. It’s very well explained in the instructions.” “Here is the test. Everything is in the envelope.” (Q11)</td>
</tr>
<tr>
<td>Being realistic</td>
<td>1-2</td>
<td>Patient: “I wake up very early every morning...what if I forget one day?” Doctor: &quot;Don’t worry, you can go as long as nine days between the first and third samples.”(Q12)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Patient: “I feel good; it’s only for my renewal.” Doctor: “So we have time today. I will have a look at your file.”(Q13)</td>
</tr>
</tbody>
</table>
Chapter 6

Efficacy of communication skills training on colorectal cancer screening by GPs: A cluster randomized controlled trial

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Abstract
Background: Colorectal mass screening has been implemented in France since 2008. Participation rates remain too low. The objective of this study was to test if the implementation of a training course focused on communication skills among GPs would increase the delivery of gFOBT and CRC screening participation among the target population.

Method: A cluster randomized controlled parallel groups study was conducted in the Val d'Oise department in France with GP’s practice as a cluster unit. Among all practices in this department (n=585), 50 were randomized per arm. GPs from practices in the control group were asked to continue their usual care. GPs of the intervention group received a four hours educational training, built with previous qualitative data on CRC screening focusing on doctor-patient communication with a follow up of six months for both groups. The effect of the intervention on the primary outcomes (patient participation rate) was analyzed taking into account of the design effect due to cluster sampling using generalized linear-mixed effects model with group (intervention vs. control) as fixed effect and practice as random effect (using SAS procedure GLIMMIX).

Results: At the end of the study period, 17 GPs (16 practices) in intervention group and 28 GPs (19 practices) in control group participated. The baseline characteristics of participating GPs in both groups were comparable in terms of sex, age, and year of practice setup, certification and location. The primary outcome measure was the patients’ participation rate in the target population for each GP of CRC screening in the intervention group 6 months after the educational training (36.7%) versus the patients’ participation rate for each GP in the control group (24.5%) (p=0.03).

Conclusion: An intervention focused on doctor-patient communication showed efficacy to enhance patients’ participation.

Potential implications: Doctor-patient communication should be develop and teach to all GPs in order to improve patients ‘adherence and participation rate in the target population for CRC mass screening.

Keywords: Colorectal cancer screening, communication skills, general practice, educational intervention
Introduction
Colorectal cancer (CRC) is the third most common cancer in western countries, including the USA and Europe. CRC mortality remains high, though better survival rates are reached if the disease is detected at early stages [1]. Various screening strategies to detect asymptomatic preclinical CRC and adenomas known to precede CRC have been developed worldwide, all beginning at the age of 50 [1]. The US preventive task force recommends a yearly guaiac Fecal Occult Blood Test (gFOBT) or fecal Immunochemical Test (FIT) or flexible sigmoidoscopy every 5 years. The alternatives are performing a colonoscopy every 10 years, or a double contrast barium enema or virtual colonoscopy every 5 years [2]. In France, mass screening has been established since 2008, with gFOBT delivered by general practitioners (GPs) every two years for the average risk population. Colonoscopy is performed when the gFOBT test is positive or for high risk patients [3]. Patients between 50 and 74 years of age receive an invitation to take the test from a local screening organization every 2 years as part of the national health system. They are urged to ask their GP for the test during the next consultation. Whatever the method, participation rates remain too low worldwide. In the USA, from 35% to 50% of the eligible population has not been screened [4]. In France, 68% of the eligible population had not been screened in the past period [3]. To understand this problem, we conducted comprehensive studies to explore doctor and patient perspectives using GP focus groups and patient interviews [5]. French GPs experienced few difficulties with early adopters coming and asking for the test. With these patients, the main obstacle for the GPs was managing the consultation time as these patients came with several medical issues to be dealt with [5]. Later adopters or non-compliant patients were much more of a challenge to convince. Previous studies have tried to provide a more complete understanding of physician-patient discussion about CRC screening in the, USA where different options for CRC screening are recommended. Mc Queen et al. and Katz et al. concluded that patient preferences were not discussed and that physicians did not facilitate informed or shared decision-making [6, 7]. GPs focused on colonoscopy and did not offer any choice for the screening procedure. In France, thirty-five consultations with 9 GPs in which patients came and asked for gFOBT were audio-recorded to analyze doctor-patient
communication (Aubin-Augé et al. 2013). Based on a Roter analysis [8, 9], the ratio of codes related to psychosocial and socio-emotional aspects and those related to biomedical issues was calculated to explore the level of patient-centered interaction. This analysis showed that the communication style during these consultations was not patient-centered. A content analysis was also performed, leading us to develop a checklist for GPs that includes all of the important items to be discussed during the consultation.

Interventions to improve CRC screening are needed. Doctor-patient communication appears to be an interesting target for interventions. Little is known about this kind of intervention. A German randomized controlled trial (RCT) compared the effect of evidence-based information with that of standard information on informed choice in CRC screening [10]. This intervention increased patients' informed choice and knowledge but did not increase CRC screening participation rates. To our knowledge, no intervention focusing on GP communication skills has been performed. Educational material and a training program were developed based on triangulation of the previous qualitative data focusing on the six components of the Patient-Centered Clinical Method [11]. Two different scenarios for a video aiming to improve communication with patients were developed: one for a compliant patient, another for a non-compliant patient. Two videos were made featuring a doctor and a simulated patient [12]. Interactive methods were used to deliver educational training, including role playing and presentation of the video followed by an interactive discussion [13]. Using a cluster randomized trial (cRCT), we tested the hypothesis that implementation of this training course among GPs would increase the delivery of gFOBT and CRC screening among the target population.

**Methods**

This trial aimed to assess the efficacy of communication skills training on colorectal cancer screening by GPs, as measured by the rate of gFOBTs delivered and those actually performed among the target population. This cluster-randomized, controlled, primary care trial used a two-arm parallel design. The rationale for choosing a cluster design was to minimize "contamination" between practitioners, i.e. the phenomenon of GPs who had taken the training course on new
communication skills passing on the knowledge to physicians at the same practice who had not taken the training course. Thus, the cluster and unit of randomization was the GP practice. The study was approved as a non-interventional study by the French Ethics Committee of Ile-de-France IV (n° IRB 00003835).

All practices in the Val d’Oise département (county) in France were eligible to participate. This specific location in the suburbs of Paris was chosen because the local screening organization (PSVO) had decided to be involved in a research project in order to improve the CRC screening participation rate. This agreement allowed us to share all of their data, including a list of all GPs and their addresses. The target population for the screening in this area included 273,882 adults from 50 to 74 years of age. We excluded 11,900 adults (7%) belonging to the high-risk population for CRC as defined by French national guidelines [14]. Thus, the eligible population for our study totaled 254,842 adults. The mean CRC screening participation rate in this département in 2011 was 27.6% (with a French national average of 32%) [15].

Randomization
All GPs (n = 878) at practices (n = 598) in the Val d’Oise département, with the exception of GPs at investigators' practices and doctors exclusively using complementary therapies (acupuncture therapy, homeopathy, etc.) (n = 32 GPs), received a letter explaining the study in June 2011. Among 585 practices, an independent biostatistician randomized 50 practices per arm in October 2011 based on a computer-generated randomization list (CL). This resulted in 69 GPs in the intervention group and 73 GPs in the control group. Two team members (IA and AY) telephoned all of the GPs at the randomized practices at the end of October 2013. The involvement of practices, GPs and patients in the trial is summarized in Figure 1.

Intervention:
GPs from practices in the control group were asked to continue their usual care, as if they were not participating in this trial. GPs from both groups had to send their patient list to the research team in order to calculate their eligible population. They were also asked to list all gFOBT screening delivered during the six-month study period. The list of
gFOBTs performed per GP was supplemented with the data sent by the local screening organization (PSVO).

In the intervention group, participating GPs received a four-hour training course focusing on patient-centered care. The course included role-playing and presentation of the video produced, featuring a doctor and a simulated patient, with two scenarios (one for a compliant patient, the other for a non-compliant patient), described in greater detail in another publication (Aubin-Augier et al, 2013). The presentation of the video was followed by an interactive discussion. Three identical sessions, involving five to seven participants, were organized during the same week in December 2011. In order to limit the scope of investigation solely to the exploration of doctor-patient communication, the GPs from both the intervention and control groups received a written memo summarizing the main items that needed to be checked before delivering the gFOBT, after these training sessions.

Whereas physicians allocated to the intervention arm were aware of the group they were part of, patients and outcome assessors remained blind to the allocation.

Outcome measures
The primary outcome measure was each GP's patient CRC screening participation rate in the target population during the 6-month study period. For the intervention group, this period started immediately after the training course. The participation rate was the number of patients who performed a gFOBT during the study period divided by each GP's eligible population (adults from 50 to 74 years of age minus adults excluded from the screening) during that same period. Since it is recommended that CRC be performed at least every two years, the total eligible population for two years was extrapolated from the 6-month study period.

The secondary outcomes were as follows: the number of GPs reaching a patient participation rate of 65% during the study period, consistent with the desirable uptake rate defined by European guidelines for quality assurance in colorectal cancer screening [16]; the number of GPs reaching a participation rate of 45% consistent with the acceptable uptake rate specified by the same guidelines; and the number of gFOBTs delivered by GPs during the study period, the number of gFOBTs performed per GP in
eligible patients during the study period and the difference between the two. All of the outcome data were measured at the individual GP level.

Sample size

In order to detect an increase in the patient participation rate from 30% in the control group to 40% in the intervention group 6 months after the intervention, with 90% power at a 5% significance level, 477 patients were required for each of the study groups. Sample size was determined using a method that takes the cluster effect into account. An intra-cluster correlation coefficient (CIC) of 0.05, commonly used in primary care studies, was assumed, with a process variable as primary criterion [17, 18]. Mean cluster size was calculated based on a pilot study with half of the GPs from the same département (i.e. 1.5 GPs per practice). Based on this, a design effect was calculated as $1+\frac{(m_o-1) \times \text{CIC}}{m_o}$ with $m_o$ being the number of eligible patients per practice. With the number of eligible patients per GP being 300, $m_o$ was 450. In addition, the design effect was 23.5. The sample sizes in the intervention and control groups were then multiplied by this design effect to give an effective sample size [19]. The number of patients per arm was $477 \times 23.5 = 11,210$ and the number of practices per arm was $11,210 / m_o = 25$. Finally, the number of GPs required per arm was $25 \times 1.5 = 38$. Thus, 50 practices were randomized per arm in order to ultimately enroll 25 practices per arm (with 50% refusal expected).

Analysis

The effect of the intervention on the primary outcomes (patient participation rate) was analyzed taking into account of the design effect due to cluster sampling (i.e. within practice correlation) using generalized linear-mixed effects model with group (intervention vs. control) as fixed effect and practice as random effect (using SAS procedure GLIMMIX). The same analysis was used to measure the effect of the intervention on the secondary outcomes. All tests were two-sided and the alpha-risk was set at 0.05. SAS 9.3 software (SAS Institute Inc, Cary, NC) was used for statistical computations. Data are shown as mean ± standard deviation (±SD) for continuous variables and number and % for categorical variables.
Results

Participant characteristics:
Among the 50 practices randomized per study group, 23 practices (24 GPs) accepted to take part in the intervention group and 35 practices (50 GPs) in the control group. There were multiple reasons for declining the invitation: no interest in the topic, the impression of already doing their best, too much work and no time for continuous medical education (CME), and previous training.

A total of 18 GPs were trained during three identical courses. Six GPs who had initially accepted did not come in the end because they were too busy or ill.

At the end of the study period, 17 GPs (16 practices) in the intervention group and 28 GPs (19 practices) in the control group were still active and sent in their data (Figure 1). Finally, 45 GPs (35 practices) ultimately participated in the trial. Among these 45 GPs, the mean cluster size was 1.3. The mean cluster size in the entire département was 1.5 (878 GPs and 598 practices).

The baseline characteristics of participating GPs in both groups were comparable in terms of sex, age, year of practice setup, certification and location (Table 1). They were also comparable to French national GP characteristics in terms of sex and age. The GPs were predominantly male (62%) and worked at group practices (69%) in urban areas (93%), with an overall mean age of 51 (±9.8) years.

In the intervention group, the GPs delivered 415 gFOBTs among their eligible population, compared to 549 in the control group, during the study period. In the intervention group, the number of gFOBTs performed in the GPs' eligible population was 383, compared to 567 in the control group, during the study period. During the same period, 20,652 tests were performed in the entire department, within a population of 254,842 eligible patients (273,882 adults from 50 to 74 years of age minus 7% non-eligible adults). This meant a participation rate of 7.5% for the population to be screened over 7 months, or an extrapolated participation rate of 27.8% over two years.

The number of eligible patients per GP during the study period was 64 (±46) in the intervention group and 71 (±28) in the control group (p = 0.6).
Main outcome: The patient participation rate per GP among eligible patients during the study period was 36.7 (±20.3) in the intervention group and 24.5 (±10.1) in the control group (p = 0.03) (Table 2).

Secondary outcomes: The difference between the number of gFOBTs delivered and those actually performed during the study period was 1.9 (±18.9) in the intervention group and -0.6 (±4.3) in the control group (p = 0.5). Details on the numbers of gFOBTs delivered and those actually performed are provided in Table 2. One GP in the intervention group reached a patient participation rate of 65% during the study period whereas none did so in the control group (p = 0.2). Four GPs in the intervention group reached the acceptable participation rate of 45%, as did two GPs in the control group (p=0.3).

Discussion

Main Findings: An intervention focusing on doctor-patient communication showed efficacy in improving patient participation. Using patient-centered care and giving GPs skills to motivate non-compliant patients appeared to be good ways of increasing their CRC screening participation rate.

Study limitations: According to a systematic review undertaken by Berkhof et al., training programs are effective if they last for at least one day [13]. There were many difficulties in getting GPs involved in the intervention group, so a half-day course was organized. The choice of scheduling the intervention during the month of December was probably a mistake as practices have a heavy workload at that time of year due to winter epidemics. GPs were already too busy and did not take time for CME. Even though such an intervention showed efficacy, the way it is implemented needs to be discussed. In a French study on GPs’ desire to participate in primary care research, approximately 30% of the participants were willing to be investigators. Preventive care was one of their fields of interest, albeit more for cardiovascular diseases than for cancer screening [20]. No statistical significance was found for the secondary outcomes, probably due to a lack of statistical power. The hypothesis that improving communication skills should reduce the difference between the number of tests delivered and those actually performed could
not be proved. Though our calculations called for 25 practices per arm, 16 practices actually took part in the intervention group and 19 actually took part in the control group. Strengths: This cRCT is particularly original because the intervention content focused on communication skills between GPs and their patients. It was developed based on qualitative data previously collected from patients and doctors in primary care settings (Aubin-Augur et al, 2013). Patient-centered care, though recognized as a component of high-quality health care, is not yet taught at every French medical university. Participants in the intervention group showed interest in this original training course, exploring patient perspectives, in particular with non-compliant patients. It was more of a challenge to convince patients who came to consultations without any request for the screening, and the second video gave them the skills and specific arguments to make progress in this area. Improving communication skills could also prove useful for GPs’ in screening or preventive care in order to reach shared decisions [21].

Even though the intervention was successful, the desirable uptake rate of over 65% specified by European guidelines on quality assurance in colorectal cancer screening and diagnosis has not yet been reached [16]. Only one doctor in the intervention group reached this rate. Multi-level interventions focusing on the various determinants involved in the screening process - i.e. patients, healthcare providers, healthcare organization, information sources (the media, family, doctors, etc. - ) should prove useful in achieving this rate [5, 22].

The main interventions to increase the CRC screening participation rate, such as patient reminders or phone calls, focus on patients and not on doctors. Interventions can be tailored to the unique characteristics of a single person or untailored for a target population. Printed untailored interventions delivered by clinical practices, organizations or screening programs were effective for gFOBT CRC screening [23]. Interventions to reduce structural barriers to gFOBT screening, such as time, distance or administrative procedures, were shown to be sufficiently effective and were thus recommended [23]. Providers’ attitudes are modifiable factors for improving CRC screening and are an interesting target [4]. Le Breton et al. showed that targeted actions to improve CRC screening should be mainly directed to GPs [24]. Some GPs did not participate in the RCT because they did not feel concerned. Incentives or other motivations should be
developed to improve GP participation. In France, a new payment for performance (P4P) scheme for primary care physicians was gradually introduced in 2009 [25]. In 2013, this payment for performance scheme will be extended to various indicators (percentage of hypertensive patients and diabetics who reached the targets, etc.) but none will involve CRC screening. Provider assessment and feedback is recommended with sufficient evidence to increase delivery and promotion of CRC screening [23]. Reminders directed towards health-care providers are also efficient [22, 26].

CME is not yet mandatory in France. Support from national academies and health care organizations will probably prove useful in developing CME and research in primary care on this topic. The support from the local PSVO organization has been perfect and could be expanded. Other educational materials, such as online videos, should be tested in order to achieve better implementation.

**Conclusion:** In this cluster-randomized intervention study, it was shown that an educational program focusing on doctor-patient communication was effective at increasing patient participation. Using patient-centered care and giving GPs the skills to motivate non-compliant patients appeared to be good ways to increase their CRC screening participation rate. Nonetheless, participation rates have remained low. Feasible multi-level interventions should be developed in order to improve screening program results.

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Danièle Delobel for secretarial work, Prévention santé Val d’Oise (PSVO) and Stephen Martin (Tradensys) for english language

The authors declare that they have no competing interests.

IAA, JL, AY, LP and PVR conceived of the study, and participated in its design and coordination and helped to draft the manuscript. CL participated in the design of the study and performed the statistical analysis. TLT, DB, JPL participated in participants ‘recruitment, and coordination. All authors read and approved the final manuscript.
Table 1: Baseline characteristics of all 45 participating general practices in Val d’Oise
Table 2: Outcomes after six months
Figure 1: Study flow chart
References


**Table 1** Baseline characteristics of all 45 participating general practices

<table>
<thead>
<tr>
<th>GPs factors at baseline</th>
<th>Intervention group (n = 17 GPs)</th>
<th>Control group (n = 28 GPs)</th>
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<tr>
<td>Female GPs, n (%)</td>
<td>5 (29.4)</td>
<td>12 (42.9)</td>
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<td>Age of GPs in years (±SD)</td>
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<td>Certification of GPs since years (±SD)</td>
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<td>Number of GPs per practice, years (±SD)</td>
<td>2.2 (±1.3)</td>
<td>2.4 (±1.0)</td>
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<td>Number of GPs in practices, n (%)</td>
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<tr>
<td>Single</td>
<td>7 (41.2)</td>
<td>7 (25.0)</td>
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<td>4 (23.5)</td>
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<td>Practice with secretariat, n (%)</td>
<td>14 (82.4)</td>
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<td>Location, n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>1 (5.9)</td>
<td>2 (7.1)</td>
</tr>
<tr>
<td>Urban</td>
<td>16 (94.1)</td>
<td>26 (92.9)</td>
</tr>
</tbody>
</table>

GP, general practitioner
<table>
<thead>
<tr>
<th></th>
<th>Intervention group (n = 17 GPs)</th>
<th>Control group (n = 28 GPs)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary outcome:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient’s participation</td>
<td>36.7 (±20.3)</td>
<td>24.5 (±10.1)</td>
<td>0.03</td>
</tr>
<tr>
<td>rate per GP in eligible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>patients during study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>period, mean (±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Secondary outcomes:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of GPs with</td>
<td>1 (5.9)</td>
<td>0 (0)</td>
<td>0.2</td>
</tr>
<tr>
<td>patient participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rate of 65% during the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>study period, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of GPs with</td>
<td>4 (23.5)</td>
<td>2 (7.1)</td>
<td>0.3</td>
</tr>
<tr>
<td>patient participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rate of 45% during the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>study period, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of gFOBT</td>
<td>24.4 (±24.1)</td>
<td>19.6 (±9.0)</td>
<td>0.3</td>
</tr>
<tr>
<td>delivered during study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>period, mean (±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of gFOBT</td>
<td>22.5 (±15.9)</td>
<td>20.3 (±10.3)</td>
<td>0.6</td>
</tr>
<tr>
<td>performed per GP in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eligible patients during</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>study period, mean (±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference between gFOBT</td>
<td>1.9 (±18.9)</td>
<td>-0.6 (±4.3)</td>
<td>0.5</td>
</tr>
<tr>
<td>performed and delivered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per GPs during the study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>period, mean (±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Figure 1** Study flow chart

All practices and GPs of Val d’Oise department (n = 598 practices, 879 GPs)

Excluded (n = 13 practices; 32 GPs*)
- Practices of GP investigators
- Doctors exclusively using complementary therapies

Assessed for eligibility (n = 585 practices; 846 GPs)

Randomized (n = 100 practices, 142 GPs)

Allocated to **intervention** (n = 50 practices; 69 GPs)
- Accepted to participate (n = 23 practices; 24 GPs)
- Received allocated intervention (n = 17 practices; 18 GPs)
- Did not participate/receive intervention (n = 33 practices; 51 GPs)

Allocated to **control group** (n = 50 practices; 73 GPs)
- Accepted to participate (n = 35 practices; 50 GPs)
- Declined to participate (n = 15 practices; 23 GPs)

Lost to follow-up (n = 1 practice; 1 GP)
- Didn't collect the data

Lost to follow-up (n = 16 practices; 22 GPs)
- Didn’t collect the data

Analysed (n = 16 practices; 17 GPs)

Analysed (n = 17 practices; 28 GPs)

*GP, general practitioner
Chapter 7

General Discussion

In this chapter, the findings of the thesis are summarized and a general perspective is provided. Implications for practice, research and education are discussed.
**What was already known:**

While CRC mass screening has been widespread in France since 2008, the desired 45% patient participation rate has not yet been reached (mean participation: 32%). A key role has been assigned to French GPs for CRC mass screening because participants between 50 and 74 years of age receive an invitation from a local screening organization every 2 years, urging them to ask their GP for the test during their next visit. During this consultation, GPs first identify patients with a high risk of colorectal cancer and exclude them from mass screening. They then deliver the FOBT and explain how to perform it. They also explain the meanings and consequences of the results and manage complementary investigations. GPs and patients are both involved in the screening process. We have already discussed the differences between the terms “participants” and “patients”. In France, participants in CRC mass screening have to go to a GP’s practice to ask for the test, and can thus be considered as “patients”. Before mass screening was extended throughout France, the Fado study explored patient compliance determinants within a pilot program that encouraged screening for colorectal cancer (1). This cross-sectional study showed that GPs played an important role in patient motivation. The absence of a GP’s recommendation was one important reason for not undergoing screening. The other main reasons for patients’ non-participation were other personal priorities (36%) or not being convinced of the efficacy of screening (26%). Women who had regular gynecological follow-ups (pap-smear and/or mammography) had higher rates of participation in colorectal screening. We had already gained initial insight into the obstacles faced by physicians via another pilot study among GPs who volunteered to deliver the gFOBT prior to mass screening. Time management during the consultation was the main obstacle for these GPs (2). The lack of time and opportunity to discuss screening was shared by family doctors in other countries (3). The Edifice study showed that in 2008, 83% of the French GPs were convinced that CRC screening was important but only 30% of them systematically recommended the FOBT (4). One of the reasons was that they needed more training. Most of the GPs delivered the test only to patients who requested it. Developing communication strategies to ensure that the target population is to make informed decisions whether or not to participate in CRC screening.
is the first recommendation in the tenth chapter of the European guidelines for quality assurance in colorectal cancer screening and diagnosis (5).

**What this study adds:**

New data was needed to better understand GP and patient obstacles and to build new tools to improve patient participation in CRC screening. Many determinants had been the subject of little investigation.

The first step of the proposal explored all of the various determinants in the screening decision in greater detail. This figure highlighted different targets for further interventions, i.e. GPs, patients, organization and sources of information (6).

The screening process appeared to be more complicated and involved many determinants. These included patient and GP knowledge, and the GPs’ experience with a possible negative influence when faced with previous false negative results. In addition, GP and patient attitudes, as well as the GPs’ skills, were important factors.
This study was also helpful to understanding GP and patient perceptions of each other.
GPs’ perceptions about the obstacles patients perceived were explored, and new issues were identified. GPs were not aware of some of these obstacles: they were more focused on medical barriers and less concerned about social or psychological factors. In the study conducted by Fox et al, the physicians’ communication style appeared to be an important issue (7). Patients whose doctor seemed enthusiastic when discussing the FOBT more often reported a recent test. Better communication between patients and doctors seemed useful to improve patient participation in CRC screening and led us to explore this theme in greater depth.

The second step of the proposal used recorded consultations as a means to explore GP performance in CRC mass screening. The conversations between the physicians and their patients while the GPs delivered the FOBT were analyzed. The core content of these consultations was oriented towards biomedical statements with a large portion devoted to technical aspects. These results were consistent with the previous qualitative data (8). Some important items (such as the meaning of a positive test, interval symptoms requiring a colonoscopy, etc.) were often missing. A checklist of all the main elements of this consultation was developed (see Appendix 3).

The communication between GPs and patients was not patient-centered. Physicians seemed to deal more with personal habits than with specific communication skills. They used a predetermined speech and did not adapt its content to each patient.

Triangulating all of this qualitative material was the next step in building an intervention focused on communication skills (9). The Patient-Centered Clinical model described by Stewart et al, composed of six interactive components, was used in order to pass on these skills to the GPs. Prevention and health promotion (Component 4) were not incorporated. This intervention, focused on doctor-patient communication, was shown to be effective in improving patient participation. Using patient-centered care and giving GPs skills to motivate non-compliant patients appeared a good way to increase their CRC screening participation rate.

After these different steps of the proposal, we have a better overview of the whole process. On the GPs’ side, standardized organization is required while on the patients’ side, better communication is needed in order to personalize each consultation. GPs
seemed to experience many difficulties in dealing with public health considerations. They confused their own screening experience with evidence-based considerations on CRC mass screening. The CRC screening participation rate cannot be improved if GPs only deliver the test to patients who spontaneously ask for it. Later adopters need an active process in order to reach them and specific communication skills in order to deal with them.
Table 1 summarizes the main results of the proposal.

<table>
<thead>
<tr>
<th>Screening determinants</th>
<th>Obstacles: 1st step with GP focus groups and patient interviews</th>
<th>Facilitators: 1st step with GP focus groups and patient interviews</th>
<th>Performance: 2nd step with recorded consultations</th>
<th>Intervention: 3rd step with educational training for GPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>Insufficient knowledge of the screening process.</td>
<td>GPs sharing experience during focus groups.</td>
<td>Missing important items regarding patient eligibility for screening process</td>
<td>Checklist of the main items addressed in the consultation</td>
</tr>
<tr>
<td></td>
<td>Time management issues.</td>
<td>Right time and best opportunity to introduce screening.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patients without request.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes</td>
<td>Lack of involvement.</td>
<td>Experience.</td>
<td>Mainly: Biomedical statements and technical aspects.</td>
<td>Proactive attitude to late adopters.</td>
</tr>
<tr>
<td></td>
<td>Importance of personal experience.</td>
<td>Own personal counselling routine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>Many false ideas on severity of and susceptibility to CRC and benefits of screening.</td>
<td>CRC in friends or relatives.</td>
<td>Vague notions on CRC.</td>
<td>Specific training towards later adopters.</td>
</tr>
<tr>
<td></td>
<td>Poor knowledge of screening process.</td>
<td>The media.</td>
<td>Only technical questions.</td>
<td>Specific information delivered.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP involvement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes</td>
<td>Many obstacles: time, GP involvement, health perceptions and self-efficacy Other priorities.</td>
<td>Screening culture: through other screening or relatives.</td>
<td>Anxiety about the procedure. Approval or agreement statements.</td>
<td>Enhancing preventive care and self-efficacy.</td>
</tr>
</tbody>
</table>

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Relevance for the clinical perspective

Based on our data, many targets for improvement can be discussed from a clinical perspective. While the initial qualitative data in the pilot study suggested that standardized organization could improve physician involvement, later results encouraged a personalized approach to each patient. Another French study showed that target actions to improve CRC screening should be directed to GPs as a whole (10).

1) Organization in the GP’s practice:
In GP focus groups, some GPs explained that they had modified their practice’s organization by making specific appointments or time slots for screening. Other suggestions were, for instance, that all screening tests (e.g. mammography, pap smear and FOBT) could be synchronized to occur at the same appointment. Some GPs had developed their own routine of counseling in order to be able to deliver more tests. They also expressed difficulties in assessing the target population and reaching the later adopters of the screening. Different things could be done in order to obtain a better organization at the GPs' practices:
  - A checklist of the main items to be addressed during the consultation: From our research it became clear that many items have to be explored by the GP before delivering FOBT. Some of these were often forgotten during the recorded consultations. When patients asked for a second test, practitioners did not check whether or not the patient was still eligible for screening and did not ask about new medical events since the last test. We developed a checklist of the main items to be assessed during the consultation (see Appendix3). Research is still underway to test the implementation of this list.
  - Means to better assess the target population and identify the later adopters, i.e. electronic medical records with reminders and regular updates. Medical records are the best tool to identify each patient’s status and assess patient eligibility for CRC screening. When non-compliant patients consult for other reasons, doctors should know about it quickly to suggest CRC screening. In patient interviews, some of them simply forgot to perform the test, while others lacked time or were indifferent. The GP's intervention could be useful if only just to remind them of the screening. Many different software programs are sold in France for electronic medical
records. This situation does not facilitate the standardization of procedures in order to help GPs manage their target population for CRC screening. Despite the use of electronic records, tracking each GP’s target population and coding medical data with an international classification like the International Classification of Primary care (ICPC) remained difficult.

Reminders for healthcare providers are also efficient and should be developed in all different software programs for CRC screening and other prevention campaigns (other cancer screening, vaccination, etc.)(11). The gFOBT is recommended only for the CRC average risk population. Recorded family history and past examinations need to be updated. Denis B et al showed in a previous French study that collection of these data needs to be improved (12). Electronic medical records with regular updates could also improve these statements.

- Time scheduling: During the interviews, many GPs reported insufficient time to manage preventive care. Some of them suggested different solutions for improvement, one of which was avoiding preventive care during epidemic periods. Another was to schedule this kind of consultations during specific time periods or slots in the year. Scheduled appointments were shown to be effective in increasing the patient participation rate for CRC mass screening (13).

2) Continuous Medical Education: Although our intervention focusing on communication skills was shown to be effective, its implementation was difficult and needs to be discussed. Communication skills are insufficiently provided in CME courses (14). We observed contradictory results though 50% of the GPs in the EDIFICE study declared they were insufficiently trained in CRC screening and asked for specific training (4,15). We had many difficulties involving practitioners in our trial because many of them argued they were already trained or not concerned.

In a French study on GPs' expectations to participate to primary care research, about 30% of the participants were willing to be investigators (16). Support from national academies and healthcare organizations will probably be useful in developing CME and research in primary care on that topic.
Providers’ attitudes are modifiable factors in improving CRC screening and are an interesting target (17). Continuous medical education (CME) has been mandatory in France since 2013, but GPs can choose their training. Although GPs do not feel concerned, continuous medical education on specific topics should be mandatory. None of the GPs over 30 year of age have been trained in communication skills (Appendix 4). Patient-centered care remained unknown though it could increase patient satisfaction.

3) Improved tests: One of the GPs’ obstacles in our research was that they did not trust the gFOBT. Better tests should be developed with increased sensitivity and without decreased specificity.

Immuinochemical FOBT (FIT) will be soon implemented in France. Several RCTs showed that FIT is better accepted and performs better than the gFOBT (18). This new procedure should be another opportunity for GP training and requires further research.

4) Patients’ perspective: In our data, patients’ many false ideas about screening and its objectives were identified as barriers, despite the various sources of information (the media, doctors, friends, etc.). Attitudes and knowledge are crucial for patients.

- Initial CRC screening: Better information at the start of the process is a crucial issue in persuading patients to undergo their initial screening test. Improving patient knowledge on CRC screening is necessary but not the only goal to reach. Patient attitudes need also improvement. GPs must take a systematic approach with the target population for CRC screening. The main problem remains for participants who never visit a GP. Information could be given via other family members.

- Subsequent screening: CRC mass screening is efficient if performed every 2 years, for all adults 50 to 74 years old. In our recorded consultations, only a few GPs mentioned the test being taken every two years and none spoke of interval symptoms requiring a colonoscopy. Once the screening process has been accepted, we could think that the subsequent tests would be easier. This hypothesis was not confirmed by the data from 18 French pilot districts involved earlier in the mass screening. Their overall participation rate in 2007–2008 ranged from 28–54%. When compared to the previous period (2006–2007), this rate had decreased in 13 districts (19). Continuous information for patients is probably required and is also important in order to initiate regular screening. All of the determinants in the screening process can be
involved, i.e. the various sources of information (the media, etc.), the specific organization of cancer screening and, of course, GPs.

In our qualitative data, women who had already acquired a screening culture through mammography and cervical smears and patients whose relatives had already performed a gFOBT were more likely to accept the test. The same was true for those whose family members or friends had had CRC. Other previous data showed that uptake was higher in women than in men and in older populations and decreased with the level of deprivation (20). Targeted interventions could be developed for different patient groups (21). Better attitudes to all types of preventive care are needed.

- Doctor-patient communication: In the recorded consultations, we observed that the physicians did not ask for patient agreement and did not seek to find out patients’ preferences in terms of information. Physician-patient communication needs to be improved. Many different evidence-based recommendations have been developed by the European expert group to facilitate informed decision-making (5). Multimodal interventions for patients, including audiovisual and printed material, was shown to be effective and could be particularly useful for the elderly, minorities and participants with lower educational backgrounds.

- Language barriers: Some GPs in the focus groups experienced difficulties with certain patients for whom language and money problems could be barriers. These could be overcome with specific information leaflets.

5) Transferability: Our data showed there is a lack of time during GPs’ consultations and this time should be used more efficiently. Some of the GPs in our interviews asked for help in providing technical explanations. There are a number of possible solutions:

- Nurse practitioners (NPs) are minimally involved in primary care organization in France. One part of FOBT delivery could be transferred to nurses or secretaries in order to provide more time for patients to express their fears or questions. Some countries have already experimented with various ways of involving NPs in the CRC screening process. In Nevada (USA), they were involved in creating a Web-based toolkit to assist NPs in ensuring that every eligible patient receives the screening tests (22). Different strategies were tested in Maryland (USA) to support cancer screening. These included patient and physician reminders, screening rate performance reports, electronic medical records,
implementation of in-practice guidelines, and use of NPs or physician assistants. Fewer than 10% of physicians used these strategies to support cancer screening (23). European and American studies have found that trained NPs can perform colonoscopies as safely, accurately and satisfactorily as a gastroenterologist. Training NPs to perform colonoscopy may be an effective strategy to increase access to the entire CRC mass screening process (24).

- The use of leaflets: A leaflet describing the entire test process is given to patients. Improved use of the leaflet should allow GPs to have more time to develop other arguments in greater depth during the consultation.

**Relevance for health care organization and policy**

We had already learned from our qualitative data that health care organization was an important determinant in the whole process. The following changes can be suggested:

1) Payment for performance: In France, a new payment for performance (P4P) scheme for primary care physicians was gradually introduced in 2009 (25). In 2013, this payment for performance scheme was extended for different indicators (percentage of hypertensive patients and diabetics who reached the targets, mammography for breast cancer screening, smear tests for cervical cancer, etc.) but none of these concerns CRC screening. This is difficult to understand given the fact that GPs were identified as a key component of the process.

2) Organization of CRC screening and other types of screening: Colorectal cancer is the only type of screening in France with a key role for GPs. In Australia, some studies confirmed the effect of GPs’ commitment on patients’ initial participation as well as on subsequent participation. The best results are obtained by sending printed invitations, signed by the physician, on the GP's letterhead. (4,5,13). GPs often expressed the need for more preventive involvement. Other types of screening (pap smear tests and mammography) could be organized based on the same model.
3) Specific consultations for preventive care, with a specific fee: Although the test is free, the patient has to pay the fee for the screening consultation, and for the colonoscopy if necessary. This obstacle was described in GP focus groups. A specific consultation for all preventive care should be developed with a specific fee to promote better attitudes on both the GPs’ and patients’ sides.

4) The media and health care organization: In our data, the letter inviting the patient to perform CRC screening was not always clearly identified, and could be mistaken for advertising. This letter should be better identified, with the signature of each patient’s doctor. Media information was positively perceived, but most patients underlined its insufficiency. For patients who do not or only seldom consult with their GP, information on and promotion of CRC screening by the mass media and health authorities is a crucial issue.

5) Implementation of guidelines: Even if European guidelines recommend strongly CRC mass screening, our data showed some GPs were doubtful. National agencies should take this point into account to develop different versions including information to facilitate interaction with patients (26).

Relevance for medical education

Communication skills training (CST) is also a crucial issue for students. To avoid problems in transferring these skills from education to practice, Bombeke et al showed that students need more support in integrating CST with clinical experience (27). The intervention we developed in order to improve GPs' communication skills for CRC screening could be tested on medical students.
Further research

Many other research projects could be further developed. All of the determinants of the screening process we described could be new objectives or targets for interventions. Various directions can be outlined from our data:

1) Although our intervention was effective in improving the patient participation rate, it could be considered as a pilot study and additional research on a larger scale should be promoted.

Other methods should also be tested to obtain better implementation. Online communication skills training for pediatric mental health visits showed it was feasible and increased clinicians’ confidence in their key skills (28). Such a training course could be tested and developed using our videos.

2) Six months after the first invitation, patients directly received the test at home. No research has been conducted to explore if they are able to self-assess their eligibility for screening.

3) Assessing GPs’ performance could be done in other ways using standardized patients. Video feedback could be another way to reflect on physicians’ communication skills (29).

An action research design could enable GPs to better accept such interventions.

4) Improving patient participation should be another target for interventions. Different patient teaching strategies that increase knowledge, decrease anxiety and increase satisfaction are effective. These strategies include computer technology, audiovisual materials, written materials and demonstrations (30). Different types of interventions could be tested on specific patients groups.
Conclusion
Colorectal cancer (CRC) was the second-highest cause of cancer deaths in 2009 in western countries. Different screening strategies have been developed to decrease this mortality rate. Whatever the method, participation rates remain too low all over the world. The fecal occult blood test (FOBT), an effective test for mass screening, has been implemented in France since 2008. Our proposal identified different determinants involved in this process. On the GPs’ side, standardized organization could be developed while on the patients better communication should be used to personalize each consultation. The way French GPs delivered the FOBT did not allow for shared decision-making with patients. We focused on doctor-patient communication, which appeared not to be patient-centered, in order to develop educational training for GPs. This training was shown to be effective in improving the patient participation rate in the target population of the GPs involved in the intervention. Other research on a larger scale should be promoted.
References:


Abbreviations

CRC: colorectal cancer

gFOBT: gaiac fecal occult blood test

FIT : fecal immunologic test

GP : general practitioner

NP : nurse practitioner
This chapter provides a short English summary in the form of an abstract of this research project.
SUMMARY

Colorectal cancer (CRC) is an important health problem in western countries including both Europe and United states. In 2009 it was the second cause of cancer deaths in those countries. CRC incidence increased in all European countries from 1960 to 2006 with approximately 330 000 new cases in 2008 in the 27 member states of the European Union. The European average 5 year survival rate for CRC is less than 50%. According to all health actors, reducing mortality of the CRC is a priority. Better survival rates are reached if CRC is detected at early stages. The gaiac faecal occult blood test (gFOBT) has proven effectiveness at screening populations for an average risk of colorectal cancer. Mortality related to this cancer decreases by 15–18% among adults, 50–74 years old, tested every 2 years. A participation rate of at least 50% is desirable. Since 2008, mass screening has been organized in France with gFOBT. Patients aged between 50 and 74 years receive an invitation, every 2 years, from a local screening organization, as part of the national health system. The desirable rate of 50% has not yet been reached in most French regions, as is the case in many other countries. At the present time, the mean participation rate in France is 42%. The overall participation rate in 2007–2008, for 18 pilot districts, ranged from 28–54%.

The current doctoral thesis aims to explore barriers and facilitators of the mass screening, to analyse the way the French GPs deliver the test and finally to build a brief intervention to improve the participation rate.

In order to reach these aims, the following research questions were formulated:

1. What are the patients’ and doctors’ barriers and facilitators concerning colorectal cancer screening?

2. What is the core content of the consultation when (French) GPs deliver the FOBT?

3. What GPs communication skills can be developed to improve patient’s participation?
4. What is the effect of an educational training intervention for GPs focused on communication skills on the patients’ participation rate to colorectal screening?

For each research question we used a specific research method. Qualitative and quantitative methods were both used in a sequential exploratory strategy. A qualitative approach was chosen as a means for exploring patients’ and doctors’ obstacles to participate to the CRC mass screening.

This analysis was followed by a second phase of quantitative data collection, built on the results of the first qualitative step. Qualitative data were used as a basis for an educational training tested in a randomized control trial.

In chapter 3, the results are presented of the qualitative study to explore the obstacles to mass colorectal screening in France in patients and GPs. Five focus groups were conducted in different areas to explore physicians’ obstacles to FOBT screening. The patients’ obstacles were assessed in semi-structured interviews. A purposive sampling had been carried out for both GPs and patients. The focus groups were coded using Nvivo 8® software by three researchers; the interviews were manually coded by two researchers. GPs reported insufficient training and some doubted the relevance of screening. They expressed concern of having insufficient time for the test during a consultation, as well as practical and administrative obstacles. Some GPs experienced difficulty persuading patients who had no signs of colorectal disease to perform the test.

Obstacles for patients were mainly difficulties in doing screening themselves and a perception of good health that didn’t match with screening. Information and organization were also important points to improve. The complexity of the screening process was considered as an obstacle both by GPs and patients.

Numerous obstacles to colorectal screening, from both the physicians’ and patients’ perspectives, were found. The major goal to improve mass screening seemed to increase awareness and understanding of both physicians and patients regarding this process.

In chapter 4, the GPs’ performance during consultations in which patients ask for FOBT, is explored. The study focused on two different aspects: the core content of the consultation and the communication style used between GPs and patients. Nine
purposively sampled GPs were asked to audiotape specific consultations. Content analysis was performed using Nvivo 9 software. Communication between doctors and patients was explored using Roter Interaction Analysis System (RIAS) coding. GPs audiotaped specific parts of 35 different consultations when they discussed and delivered the FOBT. The core content included primarily biomedical statements with a large portion dedicated to technical aspects. The communication style was not patient-centered, with an overwhelming verbal dominance of the GPs. While the participation rate of mass screening in France is still low, the analysis of recorded consultations by French GPs confirmed that the way of delivering FOBT can be improved with a patient-centered approach. GP’s communications skills have to be developed in order to provide the correct type and amount of information for each patient. Incorporation of patients’ perspectives could enable a shared decision to be reached.

In order to enhance their communication with patients on CRC screening, we developed educational material and a training program for GPs. In chapter 5, this development process is reported. Based on data from the two previous qualitative studies, a triangulation of all these data was performed. Then, the main points of this data collection were debated with communication experts in order to develop educational material and a relevant training program based on the Patient-Centered Clinical Method. Two different scenarios were developed to improve communication with patients: one for a compliant patient and another for a non-compliant patient. Two videos were made featuring a doctor and a simulated patient. A two-sequence training program was built, including role-playing and a presentation of the video followed by a discussion. The qualitative data helped us to produce a useful, relevant training program for GPs on CRC screening.

Finally in chapter 6, we report the intervention study, measuring the efficacy of a communication skills training for GPs. The objective was to test if the implementation of that training course focused on communication skills among GPs would increase the delivery of gFOBT and CRC screening participation among the target population. A cluster randomized controlled trial, using a two-arms parallel design, was conducted in the Val d’Oise department in France with GP’s practice as a cluster unit. Among all practices in this department (n=585), 50 were randomized per arm. GPs of the
intervention group received a four hours educational training, built with previous qualitative data on CRC screening focusing on doctor-patient communication. GPs from practices in the control group were asked to continue their usual care. There was a follow up of six months for both groups. The primary outcome measure was the participation rate in CRC screening within the target population for each GP.

The baseline characteristics of participating GPs in both groups were comparable in terms of sex, age, year of installation and certification and location. At the end of the study period, 17 GPs (16 practices) in the intervention group and 28 GPs (19 practices) in the control group participated. The patients’ participation rate after 6 months was 36.7% in the intervention group, compared to 24.5% in the control group (p=0.03). This allowed us to conclude that training of GPs on doctor-patient communication with an appropriate program and education materials showed efficicacy to enhance patients’ participation in CRC screening within 6 months.

The different steps as reported in this thesis allowed us to have a better overview of the whole process of CRC mass screening. The screening process appeared to be more complicated and involved many determinants: patients’ and GPs’ knowledge but also GPs’ experience, GPs’ and patients’ attitudes were also important factors as well as GPs’ skills. On GPs’ side, a standardization of his organization is required while on patients’ side a better communication needs to individualize each consultation to reach shared decision. Participation rate for CRC screening could not be improved if GPs only deliver the test to patients spontaneously asking for. Later adopters need an active process to reach them and specific communication skills to deal with them. On a clinical perspective, different methods could improve GPs organization, such as electronic medical records with reminders, time scheduling. Communication skills training should be more developed during medical education but also during continuous medical education. Continuous information for the patients is probably required and important to initiate the first screening and every two years regular screening. All determinants in the screening process can be involved: the different sources of information (medias…), the specific organization of cancer screening and of course GPs. A specific indicator for CRC screening in GPs Payment for performance could be introduced as well as a specific consultation for preventive care.
Population based screening programs are useful to reduce CRC mortality. But participation rates remained too low worldwide. Multilevel interventions should be developed to improve the results of those programs. The targets could be all determinants of the screening process. Using patient-centered care and giving GPs skills to motivate non-compliant patients showed efficacy to enhance patient participation rate to CRC screening.

Even if our intervention pilot focused on GPs communication skills showed already efficacy to improve patients’ participation rate, other research projects on a larger scale should be developed and performed to reach a better implementation. This should also include online training, because this is probably easier to implement in daily practice. Incentives should be developed by the national Health care system.
Nederlandstalige samenvatting
SAMENVATTING
Colorectale of dikke darmkanker is een belangrijk gezondheidsprobleem in Westerse landen, zowel in Europa als in de Verenigde Staten. In 2009 was het de tweede oorzaak van kankersterfte in deze landen. De incidentie van dikke darmkanker steeg in alle Europese landen van 1960 tot 2006 met ongeveer 330 000 nieuwe gevallen in 2008 in de 27 lidstaten van de Europese Unie. De Europese gemiddelde 5-jaars overleving voor dikke darmkanker is minder dan 50%. Volgens alle gezondheidsactoren, is het beperken van de sterfte ten gevolge van dikke darmkanker een prioriteit. Men bereikt een betere overleving indien dikke darmkanker vroegtijdig wordt opgespoord. De gaiac Fecal Occult Blood test (gFOBT) heeft een bewezen effectiviteit voor het opsporen van dikke darmkanker bij een populatie met een gemiddeld risicoprofiel voor dikke darmkanker. Als men de test om de twee jaar aanbiedt bij volwassenen van 50-74 jaar oud, dan geeft dit een daling met 15-18% van de sterfte ten gevolge van deze kanker. Een participatiegraad van ten minste 50% is dan gewenst. Sinds 2008 wordt er in Frankrijk een populatiegerichte screening georganiseerd met gFOBT. Patiënten tussen 50 en 74 jaar krijgen een uitnodiging, elke twee jaar, van een lokale screeningsorganisatie, die zelf deel uitmaakt van het nationale gezondheidssysteem. De wenselijke en beoogde screeningsgraad van 50% werd nog niet bereikt in de meeste regio’s van Frankrijk, zoals dit ook het geval is in de meeste andere landen. Momenteel is de participatiegraad in Frankrijk 42%. De totale participatiegraad in 2007-2008, voor de 18 pilootdistricten, varieerde van 28 tot 54%.

Deze doctoraats thesis heeft als doel om de belemmerende en bevorderende factoren voor populatiegerichte screening te exploreren, om te onderzoeken hoe Franse huisartsen de test afleveren en tenslotte om een korte interventie te ontwikkelen met het doel de participatiegraad te verhogen.

Om deze doelstellingen te bereiken, werden de volgende onderzoeksvragen geformuleerd:
1. Wat zijn de hinderpalen en bevorderende factoren bij patiënten en huisartsen voor dikkedarmkankerscreening?
2. Wat is de kerninhoud van een raadpleging, waarbij huisartsen (in Frankrijk) een fecal occult blood test (FOBT) afleveren?
3. Welke communicatievaardigheden kunnen ontwikkeld worden bij huisartsen om de deelname van patiënten te verbeteren bij dikkedarmkankerscreening?

4. Wat is het effect van een interventie bestaande uit een training rond communicatievaardigheden bij huisartsen op de deelname van patiënten aan dikkedarmkankerscreening?

Voor elke vraag gebruikten we een specifieke onderzoeksmethode. Kwalitatieve en kwantitatieve methoden werden allebei en opeenvolgend gebruikt in een exploratieve strategie. We kozen voor een kwalitatieve benadering om de belemmerende factoren voor deelname aan een populatiegerichte screening te exploreren bij patiënten en artsen. Deze analyse werd in een tweede fase gevolgd door een verzameling van kwantitatieve gegevens, en dit gebaseerd op de eerste kwalitatieve stap. Kwalitatieve data werden gebruikt als basis voor het uittesten van een training in een gerandomiseerde gecontroleerde trial.

In hoofdstuk 3, worden de resultaten voorgesteld van het kwalitatief onderzoek naar de belemmerende en bevorderende factoren voor populatiegerichte dikkedarmkankerscreening in Frankrijk, en dit bij patiënten en huisartsen. We organiseerden vijf focusgroepen met huisartsen in verschillende regio’s om bij hen de belemmerende factoren voor dikkedarmkankerscreening te exploreren. De belemmerende factoren bij patiënten werden onderzocht via semigestructureerde interviews. Een doelgerichte steekproef werd gebruikt zowel voor de huisartsen als de patiënten. De focusgroepen werden gecodeerd door drie onderzoekers met behulp van Nvivo 8® software; de interviews werden manueel gecodeerd door twee onderzoekers. Huisartsen rapporteerden over onvoldoende training en sommige twijfelden over de relevantie van de screening. Zij waren bezorgd dat ze onvoldoende tijd hadden tijdens de consultatie voor de test, en ze gaven ook aan dat er praktische en administratieve problemen waren. Sommige huisartsen ondervonden moeilijkheden om patiënten te overtuigen voor de test, als ze geen tekens hadden van een dikke darmziekte.

Hinderpalen voor de patiënten waren vooral moeilijkheden om de screening zelf uit te voeren en de perceptie dat ze een goede gezondheid hadden die niet noodzaakte tot screening. Informatie en organisatie waren ook belangrijke punten ter verbetering. De
complexiteit van het screeningsproces werd beschouwd als een hinderpaal zowel voor huisartsen als patiënten.
Talrijke belemmerende factoren voor dikkedarmkankerscreening werden vastgesteld, zowel vanuit het perspectief van de patiënten als dat van de artsen. Het bleek dat het erg belangrijk was om de bewustwording en het begrip over het screeningsproces van zowel artsen als patiënten te verhogen, met als doel ook de populatiegerichte screening te verbeteren.

In hoofdstuk 4, werd bestudeerd hoe huisartsen hun consultatie aanpakken wanneer ze hun patiënten vragen voor een FOBT test. De studie richtte zich op twee verschillende aspecten: de kerninhoud van de consultatie en de communicatiestijl die huisartsen en patiënten hanteerden. Negen huisartsen werden via een doelgerichte steekproef gevraagd om specifieke consultaties op te nemen via een audiotape. Inhoudsanalyse werd uitgevoerd met Nvivo 9 software. De communicatie tussen artsen en patiënten werd onderzocht via een Roter Interaction Analysis System (RIAS) codering. Huisartsen registreerden via audiotape specifieke delen van 35 verschillende consultaties, wanneer ze de FOBT bespraken en afleverden aan hun patiënten. De kerninhoud en gebruikte informatie was vooral biomedisch van aard met een groot deel gewijd aan technische aspecten. De communicatiestijl was niet patiëntgericht, met een belangrijk verbaal overwicht van huisartsen. De analyse van de opgenomen consultaties door Franse huisartsen bevestigde dat de manier om FOBT af te leveren kan verbeterd worden met een meer patiëntgerichte benadering, vooral vanuit de vaststelling dat de participatiegraad bij populatiegerichte screening in Frankrijk nog erg laag is. De communicatievaardigheden van huisartsen moeten ontwikkeld worden om de correcte en ook voldoende informatie voor elke patiënt te kunnen geven. Het is belangrijk dat men rekening houdt met de perspectieven van de patiënt om aldus een ‘gedeelde beslissing’ (shared decision) te kunnen bereiken.

Om de communicatie met patiënten over dikkedarmkankerscreening te verbeteren, ontwikkelden we vormingsmateriaal en een trainingsprogramma voor huisartsen. In hoofdstuk 5 wordt gerapporteerd hoe dit materiaal werd ontwikkeld. Gebaseerd op de gegevens van de twee vorige kwalitatieve studies, werd een triangulatie van al deze gegevens uitgevoerd. Vervolgens werd over de belangrijke punten van deze
dataverzameling gediscussieerd met communicatie experten, om aldus vormingsmateriaal en een relevant trainingsprogramma te ontwikkelen gebaseerd op de Patiëntgerichte Klinische Methode. Twee verschillende scenario’s werden ontwikkeld om de communicatie met patiënten te verbeteren: één voor de ‘therapietrouwe’ of ‘meegaande’ patiënt en een tweede voor de ‘niet-therapietrouwe’ of ‘niet-meegaande’ patiënt. Er werden twee video’s gemaakt met een arts en een simulatiepatiënt. We ontwikkelden een trainingsprogramma met twee delen: een rollenspel en een presentatie van de video’s gevolgd door een discussie. De kwalitatieve data hielpen ons om een bruikbaar en relevant trainingsprogramma voor huisartsen over dikkedarmkankerscreening op te stellen.

Tenslotte in hoofdstuk 6, rapporteren we over de interventiestudie, die de werkzaamheid van een training in communicatievaardigheden voor huisartsen wil meten. Het doel was na te gaan of de implementatie van die trainingscursus gericht op communicatievaardigheden bij huisartsen, het afleveren van gFOBT en de participatie van de doelgroep aan dikkedarmkankerscreening zouden verhogen. Een cluster gerandomiseerde trial, met een twee armen parallel design, werd uitgevoerd in het departement van Val d’Oise in Frankrijk met de huisartsenpraktijk als cluster eenheid.

Van alle praktijken in dit departement (n=585), werden er 50 gerandomiseerd per arm. Huisartsen in de interventiegroep kregen een vier uur durende opleiding/training, gebaseerd op de vorige kwalitatieve gegevens over dikkedarmkankerscreening en gefocust op de arts-patiëntcommunicatie. Huisartsen in de controlegroep werden gevraagd om hun standaard zorg verder te zetten. Er was een follow-up van 6 maanden voor beide groepen. De primaire uitkomstmaat was participatiegraad van de doelgroep in dikkedarmkankerscreening en dit voor elke huisarts.

De uitgangswaarden van de deelnemende huisartsen in beide groepen waren vergelijkbaar wat betreft geslacht, leeftijd, jaar van installatie, erkenning en vestigingsplaats. Op het einde van de studie, namen 17 huisartsen (16 praktijken) in de interventiegroep en 28 huisartsen (19 praktijken) in de controlegroep deel. De participatiegraad aan de screening na 6 maanden van patiënten was 36,7% in de interventiegroep, vergeleken met 24,5% in de controlegroep (p=0.03). Daaruit konden
we besluiten dat de training van huisartsen op het vlak van arts-patiënt communicatie met een aangepast programma en opleidingsmateriaal effectief bleek om op een termijn van 6 maanden de participatie van patiënten aan dikkedarmkankerscreening te verhogen. De verschillende stappen zoals gerapporteerd in deze thesis geven ons een beter zicht op het hele proces van populatiegerichte dikkedarmkankerscreening. Het screeningsproces bleek meer gecompliceerd en werd beïnvloed door veel factoren: de kennis van patiënten en huisartsen, de ervaring van huisartsen, de houding van patiënten alsook de ervaring van huisartsen. Voor de huisartsen is er een standaardisatie nodig van de organisatie en wat betreft de patiënten moet een betere communicatie leiden tot het individualiseren van elk consultatie zodat een ‘shared decision’ kan genomen worden. De participatiegraad aan dikkedarmkankerscreening kan niet verbeterd worden als huisartsen enkel de test afleveren als de patiënten hier spontaan om vragen. Diegenen die moeilijk of laat ingaan op het voorstel van screening, moeten betrokken worden in een actief proces en met specifieke communicatietechnieken benaderd worden. Vanuit een klinisch perspectief, kunnen verschillende methodes de organisatie bij huisartsen verbeteren, zoals een elektronisch medisch dossiers met reminders, plannen van screening in de tijd. Een training in communicatievaardigheden moet meer ontwikkeld worden tijdens de medische opleiding maar ook tijdens de navorming. Patiënten hebben nood aan continue informatie, want dit is belangrijk om de eerste screening en ook de tweejaarlijkse regelmatige screening te realiseren. Alle factoren in het screeningsproces kunnen hierin betrokken worden: verschillende informatiebronnen (media, ..), de specifieke organisatie van de screening en natuurlijk de huisartsen zelf. Men zou ook een betaling per performance kunnen invoeren voor huisartsen in dikkedarmkankerscreening alsook een specifieke consultatie voor preventie zorg.

Zelfs als onze interventiepilot al enige werkzaamheid toonde om de participatiegraad van patiënten te verhogen, blijft het noodzakelijk om andere onderzoeksprojecten te ontwikkelen op grotere schaal, zodat een betere implementatie kan bereikt worden. Dit moet ook online training inhouden, omdat dit waarschijnlijk gemakkelijker is om te implementeren in de dagelijks praktijk. Incentives moeten daarnaast ontwikkeld worden door het nationaal gezondheidszorgsysteem.
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Participation à des congrès de recherche

Communications orales France et étranger.


Octobre 2007 Congrès WONCA Paris, présentations orales :
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Mai 2012 EGPRN Ljubljana Isabelle Aubin-Auger, Alain Mercier, Josselin Le Bel, Dan Baruch, Anne Youssefian Katrien Bombeke, Jean Pierre Lebeau, Lieve Peremans, Paul Van Royen. From qualitative data to educational training of CRC screening


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Traité de thérapeutique CNGE/APNET 2013 ; deuxième édition: rédaction du chapitre sur le suivi du patient cancéreux
APPENDIX 1

Paper in the journal “exercer”

Identifier les obstacles au dépistage du cancer colorectal
et envisager les moyens de les surmonter

Exercer 2008;80 :4-7
Identifier les obstacles au dépistage du cancer colorectal et envisager les moyens de les surmonter

Hémobstacle : une étude qualitative

Isabelle Aubin-Auger1, Alain Mercier2, Laurence Baumann-Cobleitz3, Tu Le Trung4, Yves Decorte5, Claire Rousseau3, Jacques-Patrice Lamy4, Nancy Gaye2, Arnaud Bouton-Laroze4

exercer 2008;80:4-7.

Introduction

Le cancer colorectal est une pathologie fréquente et grave avec une incidence de 38 250 nouveaux cas en 2000 et une survie de 40 % à 5 ans1. La recherche de sang occulte dans les selles a fait la preuve de son efficacité dans les populations à risque de cancer du côlon en permettant une diminution de la mortalité de 15 à 18 % s’il est réalisé tous les deux ans chez les patients âgés de 50 à 74 ans2,3. Bien qu’imparfait, avec une sensibilité de 60 %, le test Hemoccult II® est actuellement la référence4. Le dépistage de masse ne concerne actuellement qu’une partie des départements français mais devrait être généralisé courant 2008. Le Réseau ville-hôpital d’oncologie d’Argenteuil (ROA) a dégagé un financement il y a deux ans pour distribuer et assurer l’analyse des Hemoccult II® pour les patients des médecins adhérents au réseau. Quarante et un médecins ont été volontaires pour participer. Au bout de 18 mois, 1 101 tests avaient été effectués. Le nombre de tests réalisés par les patients était très variable d’un médecin à l’autre (de 1 à 124). Certains médecins n’avaient distribué aucun test. La question se posait alors d’étudier quels étaient les obstacles pour ces médecins généralistes à la réalisation du dépistage du cancer colorectal par la recherche de sang occulte dans les selles.

Méthode

Les médecins du réseau participant au dépistage ont reçu une invitation par courrier pour discuter des difficultés rencontrées. Vingt-quatre d’entre eux ont répondu. Trois focus groups de huit participants ont été organisés simultanément. Afin de favoriser l’interactivité, chaque groupe comportait à la fois des médecins faibles et forts prescripteurs. Quatre généralistes n’avaient pas encore distribué de test. La discussion était guidée par un catalyseur élaboré par l’équipe de chercheurs et les médecins responsables du réseau (tableau 1). Un animateur était chargé de conduire les débats dans chaque groupe. Chacun des trois chercheurs a pris le rôle d’observateur et a noté la communication non verbale.
Intéressez-vous la prévention et le dépistage dans votre pratique quotidienne ?
Que savez-vous du test Hemoccult® ?
Que pensez-vous de l’apport du ROA pour la réalisation des tests ?
Comment présentez-vous le test au patient ?
Qu’avez-vous acquis comme expérience du test Hemoccult® ?
Quelles sont les difficultés rencontrées par les patients ?
Quelle est votre opinion sur la campagne de dépistage Hemoccult® ?
Avez-vous d’autres choses à ajouter au débat précédent ?

Tableau 1. Cannevas des entretiens des focus groups

Les discussions ont duré environ 1 h 30 dans chaque groupe. Elles ont été enregistrées, retranscrites et analysées par les trois chercheurs. Il était prévu que les résultats de l’analyse seraient présentés aux participants des focus groups.

Résultats
Les principaux résultats sont résumés dans le tableau 2. Le premier point de discussion portait sur la place de la prévention et du dépistage en général dans la pratique quotidienne de médecine générale.

Un investissement nécessaire dans le dépistage
Les médecins estimaient que les actes de dépistage étaient dans leurs attributions. Ils pratiquaient tous à des degrés divers le dépistage cardiovasculaire, le dépistage des cancers du col, du sein et de la prostate, le dépistage de troubles du langage, de la vue, des pathologies dues à l’amiante. Ces dépistages étaient hiérarchisés, avec une priorité accordée au dépistage cardiovasculaire (accord fort). Ces dépistages étaient intégrés au long cours dans tous leurs actes. Ils estimaient que les fonctions de dépistage ne pouvaient être laissées à un organisme dédié, celui-ci n’ayant pas forcément la dimension médicale. Le dépistage de masse organisé était vécu comme une tâche supplémentaire. L’absence d’investissement dans ces domaines était, pour certains, comme une négation totale de leur rôle : “ça veut dire qu’on ne fait plus rien”.

Le rôle des médecins généralistes dans les actions de dépistage
Ce rôle était de faire eux-mêmes les dépistages, de faire faire ou d’inciter les patients, ainsi que d’expliquer leur intérêt et la façon de les faire : “J’essaie de m’enquérir de quand date le dernier frottis...” “On” juste une action d’encouragement...” “...Notre rôle c’est justement d’attirer l’attention sur tel ou tel problème...” C’était également un rôle de renforcement positif quand le patient était lui-même demandeur du dépistage : “Soyez, ils viennent en disant : est-ce que vous pensez qu’à ce moment-là, on rebondit là-dessus ?”

Les obstacles au dépistage
Le sexe du médecin semblait influencer l’investissement dans les différents dépistages. Les médecins femmes s’investissaient davantage dans les dépistages des cancers féminins et les médecins hommes dans celui des cancers masculins : “Je crois que, quand on est un médecin homme ou un médecin femme, on n’a pas non plus entre le sein et la prostate la même possibilité...” L’absence de confiance dans sa pratique était également citée comme un obstacle à la réalisation des frottis et des touchers rectaux : “Il faut avoir confiance en son geste.”
Le sentiment de compétence ou de légitimité était considéré comme important pour l’examen de la peau : “Sérieusement, sur le grain de beauté, est-ce qu’on est compétent pour regarder les grains de beauté ?”
L’absence de clarté des recommandations était également un frein au dépistage : “Il y a une autre problématique du PSA, c’est qu’on n’est pas clair...” sur la fiabilité du test..., à quel âge, à quel rythme ?”

Dépistage du cancer colorectal et les obstacles identifiés après dix-huit mois d’expérimentation
Le principal obstacle soulevé par les médecins généralistes sur le dépistage du cancer colorectal était celui du temps avec, en corollaire, l’avantage de prendre en charge des patients dans la durée.

Nécessité d’avoir un temps explicatif préalable
Il s’agit là d’emporter l’adhésion du patient, c’est l’enjeu principal qui ne peut se concevoir dans l’approche et l’urgence. “Il n’est arrivé parfois de dire, tient celui-là, il faudrait que je lui prescrive un Hemoccult® et j’ai déjà 20 minutes de retard, ça y est et la consultation elle est dépassée, ça sera pour la prochaine fois...” “Comme ce sont des gens qu’on voit assez régulièrement, que ça reste du dépistage et qu’on le propose tous les 2 ans, ça nous laisse du temps pour pouvoir le faire un petit peu...”

Les stratégies élaborées pour contourner cet obstacle
Dans ce contexte, diverses tactiques étaient employées par les praticiens. L’une d’entre elles consistait à différer la prescription tout en délivrant une information minimale : “Tiens, j’aimerais bien vous revoir, parce qu’il faudrait qu’on parle de l’Hemoccult® ou du cancer du côlon, et tu prends rendez-vous, le mois prochain ou dans 3 mois. ” “Excusez, je n’ai pas le temps de vous en parler, mais la prochaine fois, vous m’êtes facile à penser, on en reparle et je vous propose des tests. Ils en parlent la fois d’après...” Cette stratégie a plusieurs...
avantages. Tout d’abord, elle permet de préparer la prochaine consultation et de « gagner du temps » lors du prochain rendez-vous. Par ailleurs, elle renforce l’implication des patients dans le dépistage : « Ils ont le temps d’y réfléchir, ils ont éventuellement le temps de se renseigner, ce qui raccourcit éventuellement notre temps passé dans la consultation pour expliquer ce que c’est… »

Les problèmes de démographie médicale. Parmi les obstacles identifiés, les problèmes de démographie médicale ont été cités à plusieurs reprises, avec la nécessité de prendre en charge en premier lieu les pathologies acquises infectieuses : « Le problème, c’est qu’en est noyé par l’eau ? ! T’en dépasse par les épidémies… » Il en résulte une insatisfaction du médecin sur la façon dont il se consacre au dépistage : « Je suis insatisfait sur la façon dont je le fais… » Cette insatisfaction est d’autant plus grande qu’il a la conviction d’être plus utile dans les actions de dépistage. « Il n’y a pas longtemps avec l’Hémocult® j’ai découvert un polype : c’est quand même plus important que de soigner 3 rhinopharyngites… » Pour essayer d’y remédier, certaines périodes de l’année, en dehors des épidémies hivernales, ou de la journée apparaissent aux participants plus propices aux dépistages : « A la rentrée, on est tranquille… » « Si je reviens surtout en fin de consultation, soit en début d’année ou en fin d’année… »

Un soutien des pouvoirs publics est souhaité. La nécessité de diffusion de messages d’information a été soulignée à plusieurs reprises. Une campagne nationale d’information du même ordre que celle des antibiotoxiques apparaîtrait très utile, à condition qu’elle soit intégrée dans un plan général d’incitation au dépistage. « Ce qui sort des campagnes nationales, c’est très important. On a vu les antibiotoxiques, le cancer du sein, mais il n’y a rien derrière… » Des consultations spécifiques dédiées au dépistage et une meilleure rémunération ont été également souhaitées pour faciliter ces actions.

Nécessité de prévoir un temps de conseil

Le praticien doit prévoir un temps pour expliquer la technique du test et les précautions à prendre : « Il faut 10 minutes minimum, si on veut être sûr qu’il a compris qu’il faut bien le positionner, ce qu’il faut faire, qu’il ne faut pas qu’il en mette trop dessus… » « Il y a des choses à leur dire quand même… »

Cette relation éducative doit intégrer la réponse aux éventuelles questions sur les résultats, avec la nécessité d’anticiper sur la possibilité d’une coloscopie : « Ce qui nous prend du temps aussi, c’est d’écouter les questions au-delà de l’aspect technique. Je pense que c’est ça aussi qui demande peut-être plus de temps que ce qui va se passer après et pourquoi on en arrive à ce qui va se passer après le résultat. »


L’organisation personnelle intégrant la disponibilité du matériel prêt à être utilisé facilitait le travail : « Dernièrement j’ai tout noté, tout bien rangé et tout, et puis je me suis aperçu que ça n’était pas si compliqué et j’ai commencé à m’y mettre. »

Du temps est également nécessaire pour remplir les documents qui accompagnent le test

Un moyen de faciliter le dépistage est le recours à l’infomatique avec une fiche préremplie pour les patients, avec des difficultés plus importantes pour les médecins non informatiques : « Les papier, c’est un frein à le faire. » « Le frein à l’utilisation de l’informatique, c’est aussi un problème. » Une assistance pour remplir les papiers et informer les patients pourrait y remédier : « Il ne me semblerait pas illogique d’avoir, que ce soit une future assistante, une infirmière qui bosse avec nous, une secrétaire formée, rémunérée pour. Leur expliquer comment on fait l’Hémocult®. Je ne savais pas où faire, dans un cabinet moderne, dans un pays où on fait du dépistage, »

Enfin, l’aide du patient peut être requise pour rédiger la partie administrative : « Même si, effectivement, on le fait remplir, on lui dit… votre numéro de série, vous le connaissiez mieux que moi, mais c’est vrai que tout ça c’est du temps ! »

Une dernière difficulté, comme pour les autres dépistages : y penser régulièrement

L’intégration des alarmes informatiques peut être une aide efficace : « Avoir, dans notre système, un logiciel qui fait ça nous le rappelle, ça ce serait l’idéal ! »

L’intégration de maquettes de consultation en fonction de l’âge du patient a été citée comme un autre élément facilitant : « J’ai eu des maquettes et des alertes en fonction de l’âge, en fonction d’un examen qui est déjà prescrit, ça me dit, bah voilà, on aurait peut-être bien de représenter…”

Discussion

Cette étude sur les barrières au dépistage du cancer colorectal a été réalisée sur un échantillon particulier de médecins, tous membres d’un réseau ville-hôpital. Ils étaient volontaires et se déclaraient eux-mêmes comme une minorité, l’essentiel des généralistes ne leur semblant pas partager leurs préoccupations : « En fait, on est un petit groupe là, c’est presque toujours les mêmes… »

En même temps, ils ont exprimé de l’incompréhension pour un exercice médical qui n’intégrerait pas cette dimension : « Je ne sais pas comment on peut faire de la médecine sans faire de prévention et de dépistage… »
Recherche

<table>
<thead>
<tr>
<th>Obstacles</th>
<th>Comment les contourner</th>
<th>Souhaits des médecins</th>
</tr>
</thead>
</table>
| Temps nécessaire pour éduquer et informer| • Préparer le patient  
• Dépister en dehors des périodes d’épidémies  
• Périodes de consultation plus calmes  
• Entraînement   | • Programme national d’information  
• Consultations spécifiques  
• Rémunération meilleure |
| Temps nécessaire pour expliquer le test et répondre aux questions | • Assistance  
• Entraînement | • Infirmier(ères) |
| Temps pour distribuer le test           | • Bonne organisation  
• Aide du patient pour les données administratives | • Rôle central du médecin généraliste |
| Temps pour penser au dépistage          | • Alarmes informatiques  
• Marquettes de consultation selon l’âge du patient | • Programme national d’information |

Tableau 2. Obstacles, solutions possibles et souhaits des médecins

Les difficultés identifiées sont de type organisationnel dans leur pratique quotidienne avec un obstacle majeur constitué par la disponibilité nécessaire à la mise en place du dépistage.

Une étude canadienne sur le même thème, également réalisée avec des focus groups, mettait en évidence d’autres barrières comme l’adhésion des médecins au test et les problèmes techniques. La formation préalable des médecins via le réseau a permis de limiter ce type d’obstacles. Au Canada, le test était principalement remis par les laboratoires ou les infirmières. Cette assistance, qui est souhaitée par les généralistes de cette étude, n’apparaissait pas satisfaisante et méritait d’être étudiée de façon plus approfondie.

L’absence de clarté des recommandations, évoquée dans les focus groups, a également été soulignée par les médecins généralistes de l’étude canadienne.

La technique des focus groups était particulièrement adaptée pour identifier les obstacles au dépistage du point de vue des participants. Elle a permis également, grâce à des échanges très riches, d’imaginer des solutions pour les contourner (tableau 2). Cette méthode de recherche permet de recueillir des données et, grâce au processus d’interactivité, de faire évoluer les points de vue. Trois mois après la discussion dans les focus groups, quatre médecins qui n’avaient jamais distribué l’Hemocult, avaient débuté le dépistage.

Avec l’ensemble des participants, une autre soirée est prochainement programmée pour discuter les résultats de l’analyse des retranscriptions. Elle devrait permettre de poursuivre ce processus interactif en donnant aux participants l’opportunité de prendre connaissance et de commentter les échanges antérieurs.

Il serait utile d’explorer ces mêmes obstacles dans une population de médecins généralistes impliqués dans le dépistage de masse.

Les barrières au dépistage venant des patients ont été évoquées par les participants mais ne pourront être valablement explorées qu’en se préoccupant des désirs et craintes des patients eux-mêmes.

Conclusion

Cette étude par focus groups a permis de mettre en évidence les obstacles rencontrés par les médecins généralistes vis-à-vis du dépistage de sang occulte dans les selles. Cet échantillon de médecins particulièrement impliqués a essentiellement révélé des barrières dans leur organisation personnelle. Une étude similaire réalisée avec des médecins moins investis pourrait conduire à d’autres résultats. Le processus d’interactivité des focus groups a été particulièrement efficace pour envisager des solutions pratiques aux obstacles identifiés.

Références

APPENDIX 2

Editorial comment to family practice paper by

Prof. Christos Lionis

Prof. Elena Petelos

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By permission of Oxford University Press, Pr Christos Lionis and Pr Elena Petelos
Early detection of colorectal cancer: barriers to screening in the primary care setting

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Colorectal cancer (CRC) is one of the leading causes of illness and death in the Western world and the second most common cause of cancer morbidity in Europe. Yet, if detected early, CRC is highly treatable. Good news has recently arrived from across the Atlantic, where decision analysis tools were employed to inform recommendation updates and microsimulation modeling demonstrated that declines in CRC death rates are consistent with a relatively large contribution from screening.

Nevertheless, and despite the fact that U.S. CRC mortality and incidence rates have improved, CRC screening remains underused: only 77.5% of physicians report use of the national screening guidelines and only 51.7% reported recommendations consistent with the guidelines. However, there are still European countries without a national population-based CRC screening programme, and even those with established national screening programmes, they are underutilized. A survey in France, which has established population-based screening programme, indicated that although 83% of the GPs were convinced of the importance of CRC screening, only 30% recommended the procedure to their patients.

There is an ongoing debate about the role of GPs and primary care physicians (PCPs) and their potential contribution to the effective implementation of screening programmes, both opportunistic and population-based. In addition to the assessment of the risk of developing CRC, in general, the involvement and the role of the GPs and PCPs in convincing patients to participate and initiate CRC screening should be further explored and elucidated, as it is of key importance in cultural and organizational context and health policy issues. This editorial highlights certain issues that have an impact on the early detection of CRC and focuses on barriers to screening at primary care and general practice levels.

One of the most challenging issues that PCPs encounter is to convince the individual at average risk to use a simple and inexpensive test to initially detect if any hidden blood is present in stools, constituting a strong indication of the presence of an adenomatous polyp or CRC. There is evidence indicating a low rate of CRC screening, especially in younger patients, while few physicians recommend screening for the majority of their patients. Also, one-third of the PCPs use chart reminders and only 15% use outreach mechanisms to contact patients most likely to benefit from screening. Despite the evidence that screening contributes to early diagnosis, with indicators such as reduced mortality, participation rates remain low even when there is an active nationwide screening programme.

In terms of population-wide screening, however, the GPs and PCPs might also need to receive further education and training regarding early diagnosis and prevention, including health promotion. A very interesting study undertaken in France, and published in the current issue of Family Practice, employed a qualitative approach to explore GP and patient barriers to undergoing CRC screening. This study highlights several important issues: GPs reported insufficient training and some doubted the relevance of screening. They expressed concerns in terms of the time available for the test during the consultation and they, also, reported practical and administrative obstacles.

Other barriers to CRC screening reported by the GPs included the difficulties in convincing patients especially those not experiencing signs and symptoms. Aubin-Augé et al. also examined barriers at the patient level, and how these are linked to the physician-patient interaction and communication. For example, cancer screening did not fit with the attitudes of some patients regarding health care, and they failed to identify benefits outside the context of familial high-risk groups.

The conflict between the personal experiences of physicians and public health implications is notable. Reflecting specificity and sensitivity issues, GPs were concerned about poor technical skills and taking ownership of the risk for performing the CRC screening test. Nevertheless, through the process of assessing doctor-patient agreements and discordances, it appears that GPs and patients agreed that the lack of symptoms and lack of familial risk were two of the main reasons for doubting the usefulness of such a test. The GPs thought that patients misunderstood the process and were worried about reactions to false-negative
results, whereas the patients complained about time, as well as the constipation effect from repeating the test, and did not express fears about such results. Further evidence indicates that screening intentions and test ordering are adversely affected when patient and provider preferences differ. Interestingly, supporting previously reported data, having a screening habit (e.g. a history of mammography) proved to be a positive factor for women, while increased participation was reported for those with a higher educational level, particularly for men. In addition, patients with a relative who had already performed a faecal occult blood test (FOBT) were more likely to accept the test, whereas friends and family were not identified as obstacles.

Cultural and linguistic barriers were also touched upon in the Aubin-Augé et al. study; noteworthy is the fact the authors identified the importance of the wording doctors use, and its effect on uptake of CRC screening, albeit, further research is, of course, needed.

Employing culturally and linguistically relevant approaches for FOBT promotion is also important to increase screening participation in vulnerable populations belonging to low-income and/or less acculturated minority groups. Another challenge to guideline adherence and compliance in screening is ensuring equity of access to screening. One aspect of ensuring screening access is to ensure awareness issues have been addressed for all ethnic and culturally diverse groups.

Taskila et al. studied >11,000 patients aged 50–60 years registered in general practices for a UK region (West Midlands) and examined factors that contributed positively or negatively on behaviour towards screening. This study reported a great variation in attitudes, indicating there are different needs to be addressed for increasing awareness and highlighted the importance of culturally relevant strategies for designing and implementing screening programmes. Researchers have also established that both indications for use and follow-up of a positive result varied according to the ethnicity of the GP and independently of the medical training received. Additionally, Koo et al. noted that the ethnicity of the patient and associated linguistic and cultural barriers affect screening uptake and special consideration should be given to these as they may, also, adversely affect the health of immigrant populations.

Not only CRC screening but also screening tests for cervical and breast cancer remain underutilized despite their proven effectiveness in reducing mortality and morbidity. CRC screening, similarly to other cancer screening programmes, is most likely to improve when a health organization provides the necessary support through organizational changes in staffing and clinical procedures. Organizational obstacles to screening participation have been reported by various studies, with evidence that CRC screening is most likely to improve when performance is supported by the health care organization through changes in staffing and clinical procedures; this, of course, is extremely relevant in the context of health care system sustainability.

Interventions focusing on organizational changes include the use of separate clinics devoted to prevention, use of a planned care visit, designation of non-physician staff for specific prevention activities and continuous quality improvement interventions. For example, the importance of personalized and direct invitations to patients has been identified, as well as the importance of saving time and effort. The benefits and drawbacks of a centralized system include removing pressure from the individual GP and the organizational capacity at practice level but, as previously reported, may result in a loss of involvement and a lowered feeling of responsibility; these factors are discussed by Aubin-Augé et al.

In terms of policy, guidelines and recommendations, the first-ever set of European Union (EU) guidelines for CRC screening and diagnosis was only recently published February 2011; however, issues of interpretation still remain, and adoption practices vary greatly among different EU member states. The increasing complexity of guidelines, as well as the time and effort GPs need to invest to learn how to best implement these, also seem to play an important role. Additionally, health promotion issues are not a priority in the agenda of PCPs in some European countries; a 2005 study showed that significant gaps exist between GP knowledge and practices. Consequently, differences exist in health care provision and health care promotion in the context of the health care systems and as determined by organizational barriers.

Investment has been made to assess the impact of quality improvement intervention programmes. Ornstein et al. combined diverse components, such as performance activities, delivery system design, electronic medical record tools and patient activation, and reported promising results in the Evidence-Based Toolbox and Guide. Additionally, time and effort are required on the part of PCPs and other health care practitioners to discuss options, educate their patients and engage in shared decision making (SDM).

Issues relevant to improvement of uptake of CRC screening could be explored with the use of cognitive methods and the translation of psychological theories as the Theory of Planned Behaviour and the Health Belief Model into education and training programmes for GPs and PCPs. A closer collaboration between medical and social care scientists is needed to increase the understanding of compliance with for CRC screening recommendations. For effective and integrated partnering to translate theory into clinical practice, we must invest in frameworks and networks that support collaborative research to further elucidate the uptake of CRC screening in primary care.
Also, SDM tools, helping to bridge gaps between the perceptions of patient behaviour of the PCPs and actual patient attitudes, should be further studied as they become incorporated in general and family practice. For example, the combined use and importance of smaller quasi-interventions, such as a letter of endorsement at the primary care level and a more explicit procedural patient leaflet with decision-aid tools, such as motivational calls in the context of tailored patient education, would not be underestimated, and need further study.

Increasing CRC screening uptake remains a challenging general practice/family medicine and public health issue, which necessitates further research so as to elucidate its many facets, especially the role of the doctor–patient communication and cultural and organizational issues. Finally, incorporating decision analysis tools into efforts to inform recommendation updates would further substantiate the evidence on the benefits of early diagnosis and help better formulate evidence-based policy for CRC screening strategies.

Declaration

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Ethical approval: none.
Conflict of interest: none.

References


APPENDIX 3

Check list of the consultation
# CHECK LIST FOR THE CONSULTATION

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Previous screening</strong></td>
<td></td>
</tr>
<tr>
<td>Have you ever had the hemoccult test? &quot;</td>
<td>Search patient eligibility screening</td>
</tr>
<tr>
<td>&quot;When did you have done this test?&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Level of risk evaluation</strong></td>
<td></td>
</tr>
<tr>
<td>Have you ever had blood in the stool? &quot;</td>
<td>Check eligibility (even if it is the 2nd time)</td>
</tr>
<tr>
<td>&quot;Have you ever had a colonoscopy? &quot;(If yes)&quot; Had they found something, a polyp at colonoscopy?”</td>
<td>Do not underestimate risk patients (previous history of CRC or adenoma, family history of CRC or adenoma, IBD, FAP, HNPCC Lynch Sd)</td>
</tr>
<tr>
<td>&quot; When did you realize that colonoscopy? Is that colonoscopy is more than 5 years? “</td>
<td>Explain the concept of the first degree relative (1 1st degree relative before age 65 or two first degree relatives regardless of age)</td>
</tr>
<tr>
<td>&quot;Is this one of your parents, brother, sister, or children, has already spent a colonoscopy? Have they ever had problems with bowel / polyps / cancer? &quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Technical explanations</strong></td>
<td></td>
</tr>
<tr>
<td>&quot;The test can detect the microscopic blood / invisible / that is not seen in the stool&quot;</td>
<td>Recall the purpose of the test</td>
</tr>
<tr>
<td>&quot;You have three boxes with square A and B, 1 stick per square or 6 sticks. It should take two small stool samples on three successive stool &quot;</td>
<td>Describe the different phases</td>
</tr>
<tr>
<td>&quot;The saddle should not come in contact with water or urine, then you can put newspaper or a bag to collect your stool&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;We must keep the cards in the open air at room temperature&quot;</td>
<td></td>
</tr>
</tbody>
</table>
"You have nine days to make the samples, once finished it and only when you're done, you put the 3 boxes in the pocket and you send in the envelope pre-filled and pre-stamped"

<table>
<thead>
<tr>
<th>Results</th>
<th>&quot;We should get you and me, the outcome in a couple of days&quot; &quot;If you have a question about your results, do not hesitate to contact me&quot;</th>
</tr>
</thead>
</table>
| Negative test | "In most cases, more than 9 out of 10 times, the result is negative, that is to say that we did not find any blood in the stool"  
"If these two years, you have bowel problems, blood in the stool, a sudden weight change, you just see me as usual"  
"It is very good but as I have explained to you should repeat the test every two years to be sure not to miss out on something / a polyp / a beginner problem" |
| Positive test | "In less than 1 in 10 (3%), the test will be positive, that is to say that we found a little blood in the stool and then you have to accept to make a colonoscopy " |
| Colonoscopy | Do you know what a colonoscopy is?" "This is a small camera that allows us to see inside your bowels"  
"An examination under general anesthesia where you pass a tube into the intestine and we'll see what happens"  
"You do not feel anything, it does not hurt" |
| Colonoscopy results | « in 5 cases out of 10, it is not a problem and we will continue as usual "  
"In four cases out of 10, there is a | Screening "preventive" a precancerous lesion  
Reassure  
Importance of early detection
polyp, and in only one case out of 10, there is a cancer that when the tracks early is very treatable (94% survival at 5 years)"

<table>
<thead>
<tr>
<th>False negative</th>
<th>This is a test that does not track all problems, especially because the lesions bleed intermittently but with repeat testing and monitoring for symptoms, we can detect the vast majority “</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reassure Enter the patient screening every 2 years (long term vision)</td>
</tr>
</tbody>
</table>
APPENDIX 4

Check list of communication skills
Check list of communication skills

Compliant patient

- Encourage patients to talk about the test from the beginning of the consultation
- Ask for patient's knowledge of screening / and test
- Build explanations on prior knowledge of the patient
- Assess the patient's desire for information
- Rely on the leaflet for technical information to develop a priority aspect of the overall understanding of screening.
- Separate information to deliver in short paragraphs in a logical sequence
- When each new information is provided, ensure their understanding
Non compliant patient

- Identify patients, checking data screening for all patients 50 to 74 years
- Ask about barriers to screening (to help the arguments given in the enclosed leaflet)
- Ask for patient’s knowledge of screening and test
- Use patient and his level of information to adapt the speech
- Assist the patient to a decisional balance
- Deliver information
- Wait for his (or her) approval to provide technical information
- Delay if the patient is reluctant but note in the electronic record to inform again later
- Ensure understanding of the information provided
Arguments to develop to encourage patients to screening

<table>
<thead>
<tr>
<th>Beginning the consultation</th>
<th>Suggestions</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;We will take time today to talk about your health &quot;</td>
<td>Enhance the act of screening</td>
</tr>
<tr>
<td></td>
<td>&quot;We will present a test that is important to your health&quot;</td>
<td>Inform the patient about the way the consultation will be conducted</td>
</tr>
<tr>
<td></td>
<td>&quot;Following this presentation, I will answer your expectations .... renewal ...&quot;</td>
<td></td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>This is a cancer that affects many people in France (30 000 new cases per year), and which is</td>
<td>Inform the patient about the frequency and severity of colorectal cancer</td>
</tr>
<tr>
<td>epidemiology</td>
<td>often detected too late &quot;</td>
<td>Emphasize the importance of early detection</td>
</tr>
<tr>
<td></td>
<td>&quot;detected early, colorectal cancer is very treatable. Advances in medicine can treat 9 out of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &quot;</td>
<td></td>
</tr>
<tr>
<td>colorectal cancer</td>
<td>Do not wait for symptoms to detect because it is too late&quot;</td>
<td>Counter the idea that patients should be screened for symptoms</td>
</tr>
<tr>
<td>cancer history</td>
<td>&quot;The test allows us to find precancerous lesions / polyps so that they become cancer later&quot;</td>
<td>Reassure</td>
</tr>
<tr>
<td></td>
<td>&quot;These polyps grow very slowly (10 years) which allows us repeating the test every two years</td>
<td>Explain the concept of precancerous lesions and the chance to detect at this stage</td>
</tr>
<tr>
<td></td>
<td>to identify and remove them before they become a cancer&quot;</td>
<td>Enter the patient in a biennial screening</td>
</tr>
<tr>
<td>Comparison with other</td>
<td>“Mammography can detect an early cancer while FOBT reveals a precancerous lesion&quot;</td>
<td>Insist on the concept of precancerous lesion and the possibility to treat before cancer</td>
</tr>
<tr>
<td>screening</td>
<td>&quot;Screening for colorectal cancer can as smear test detect a lesion that is not yet a cancer&quot;</td>
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<tr>
<td>Benefits of performing the</td>
<td>&quot;This is a simple, easy test, which is not painful, and it is completely free&quot;</td>
<td>Reassure</td>
</tr>
<tr>
<td>test</td>
<td>&quot;You can do it whenever you want&quot;</td>
<td>Emphasize the practical benefits of FOBT</td>
</tr>
<tr>
<td></td>
<td>&quot;At home&quot; &quot;no need to go to the lab or hospital&quot;</td>
<td></td>
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<tr>
<td></td>
<td>&quot;This is not a colonoscopy&quot;</td>
<td></td>
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<tr>
<td></td>
<td>&quot;The instructions are very well done&quot;</td>
<td></td>
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