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Oncology

Fecal immunological blood test is more appealing than the guaiac-based test for colorectal cancer screening



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ABSTRACT

Background: The reasons for participation in fecal immunological testing (FIT) of subjects who were previously non-respondents to guaiac fecal occult blood testing (g-FOBT) have not been assessed. *Population and methods:* We aimed to determine the reasons for current compliance with FIT among non-responders to g-FOBT, termed "converts", in a French district. A questionnaire was returned by 170 converts aged from 55 to 75 years (response rate 75.2% after exclusions).

Results: The major barriers to participation in screening with g-FOBT were test-related: the test was perceived as complicated (24%) and it required three consecutive stools (28%). Among the test-related major determinants of FIT compliance was the perception that the test was less complicated than previous test (30%) and that a unique stool sample was required (29%). Among the non-test related major determinants of FIT compliance were the perception that the general practitioner was more convincing (31%) and the feeling to be more concerned because of age (21%). The reasons for compliance among converts did not differ according to age, sex, and rural or urban residence.

Conclusions: Our study demonstrated that the simplicity of FIT and the endorsement of practitioners were both major motivations for FIT compliance among non-respondents in at least two previous consecutive campaigns.

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1. Introduction

Worldwide, colorectal cancer (CRC) is the third most common cancer in men and the second in women [1]. Organized and opportunistic screening programmes have been implemented throughout many countries to decrease the incidence and mortality rate of CRC [2]. Most European countries with an organized screening programme screen by means of a non-invasive stool test. Previously implemented guaiac fecal occult blood testing (g-FOBT)-based programmes are being replaced by fecal immunologic testing (FIT) [2]. This is the case in France where the g-FOBT programme, which was instituted in 2003 and was implemented nationwide in 2008, was replaced by FIT in 2015. Similar to other programs, the French g-FOBT screening programme has faced disappointingly

low participation rates. While the European guidelines for quality assurance in CRC screening recommend a minimum uptake of 45% to keep the programme cost-effective [3], the participation rate in France was estimated to be 34.3% in 2008–2009 [4], which decreased to 29.8% in 2013–2014 [5].

Screening programme organizers expect a decrease in the gap between targeted and observed screening rates due to the switch to FIT because a meta-analysis of direct comparative studies reported that FIT resulted in a higher uptake (16%) compared with g-FOBT [6]. Despite the publication of pilot study results [7,8], the consequence of replacement of g-FOBT with FIT with respect to nationwide compliance is still unknown. A systematic review of factors associated with adherence to CRC screening presented in the literature has identified many factors related to socio-demographic, psychological, environmental, and health care provider-related characteristics [9,10].

To the best of our knowledge, the reasons for participation in FIT-based screening of subjects who were non-respondents to g-

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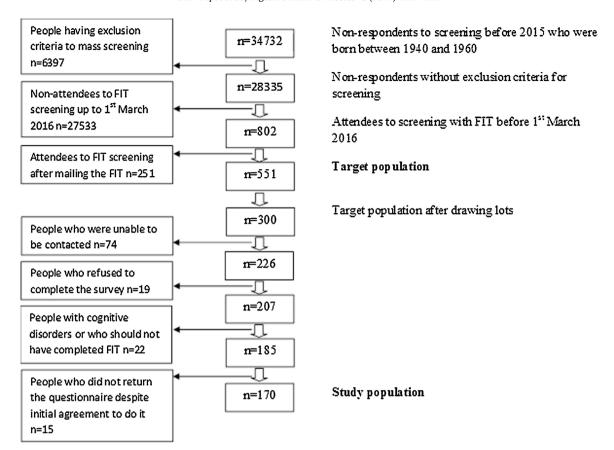


Fig. 1. Flow chart of target and study population.

FOBT screening have not been explored. Therefore, the present study was aimed to assess the reasons for FIT compliance by non-respondents who we have termed "converts". These findings might be useful for the improvement of the quality of a nationwide screening programme and thereafter to further increase the observed participation rates.

2. Populations and methods

2.1. Study setting

'Ille et Vilaine' was one of the first French districts to implement the national screening programme based on biennial g-FOBT. The target population for screening consisted of asymptomatic men and women aged between 50 and 74 years with no other risk factor for CRC. Individuals with a personal or family history of CRC or adenoma, those with inflammatory bowel disease, and those who had undergone total colonoscopy in the previous five years were excluded from the mass screening programme. When the screening programme was launched in 2003, the total population of 'Ille et Vilaine' was 908,449, and the target resident population was 213,635. In 2015, the respective figures were 1,019,923 inhabitants and 223,329 target residents. The participation rate for g-FOBT testing, which was satisfactory during the first campaign in 2003–2004 (51.2%), constantly decreased to 42% in 2013–2014 [11]. High rates (>90%) of compliance with colonoscopy following positive testing were registered during each campaign.

The shift from g-FOBT to FIT occurred in May 2015 in this district in France. The OC-Sensor test (Eiken, Tokyo, Japan), which consists of a single sampling tube, has been selected from various versions of FIT. Participants were instructed to scrape different parts of the surface of their stool with the test probe and to return the test by

mail to the central analysis center in a prepaid envelope as soon as possible. The maximum time between the fecal deposit and the processing of the test should be less than 6 days. The test was defined as positive at a cutoff of 150 ng hemoglobin per milliliter of sample solution, which corresponds to 30 μg hemoglobin per gram of feces.

The screening campaign began when each target subject was sent an information brochure and an invitation letter that invited the subjects to perform the screening test. The first 6 months of the screening campaign (May–November 2015) corresponded to the medical free-offer phase. People were invited to consult their general practitioners (GPs) who propose the screening test to eligible subjects seen at their practice. GPs were also asked to state the exclusion criteria, at which point they provided each eligible individual with one screening test. A reminder letter with the screening test along was sent 6 months later to non-respondents who were not excluded from participation. The screening strategy and the implication of GPs were similar for FIT and g-FOBT delivering. In both cases, their mission was to explain modalities and performance of the test, as well as its expected benefits.

2.2. Study sample

In the present study, non-respondents to g-FOBT were defined as individuals who were invited to two or more previous campaigns and never completed the test despite two reminder letters and tests that were sent to them during each campaign. Due to the one year gap between when the use of g-FOBT was stopped and when the use of FIT began in the district, people aged 75 years (one year over 74 years) were also invited during the campaign for FIT. Therefore, the target population for the study consisted of people aged from 55 to 75 years who were born between 1940 and 1960. Among the 28,335

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