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Decision-making in fecal occult blood test compliance: A quali-quantitative study investigating motivational processes☆

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ABSTRACT

The qualitative-quantitative study investigates the co-existence of barriers and levers to FOBT screening in 5894 individuals reluctant to be screened, identifying operational motivational patterns that may increase screening compliance. Co-occurrence analysis was performed according to three motivational conditions (barriers, levers, or both).Cluster analysis then identified motivational predictors of effective screening. One quarter of the individuals who had refused screening nevertheless expressed at least one motivation towards FOBT. As such, co-existence of barriers and levers within the same individual demonstrates ambivalence tendencies. Intrinsic motivations appear to be the most likely to increase FOBT compliance. This study finds that certain factors well-known to improve CRC screening compliance generally, may not have much impact on reluctant individuals due to ambivalence and contextual nuances. Several practical recommendations to encourage screening participation are offered, such as focusing on levers rather barriers, providing tailored education to improve awareness and readiness, and fostering intrinsic motivation with relevant approaches.

1. Introduction

With 1.2 million new cases per year, colon cancer (CRC) is the third most common cancer and the second leading cause of cancer deaths worldwide (Ferlay et al., 2013; Jemal et al., 2011). Regular screening enables early detection, leading to a cure rate of 90%, thus relieving the particularly high financial burden of digestive cancers (Hewitson et al., 2008).

In France, national guidelines recommend organized screening with biennial fecal occult blood test (FOBT) for people aged 50–74 years with average CRC risk, and an opportunistic screening with colonoscopy for high-risk individuals, at least every 5 years. The program is free, but is cost-effective only with high participation rates (Lejeune et al., 2004), which are currently insufficient in France (Jezewski-Serra and Salines, 2013) as in Europe (OECD, 2012) and the USA (Joseph et al., 2012).

Meta-analyses and meta-syntheses have isolated psychosocial variables predicting CRC screening compliance (Honein-AbouHaidar et al., 2016; Javanparast et al., 2010; Wools et al., 2016). “Female gender”, “low income/education” and “young age” have been demonstrated to have a negative impact on CRC screening uptake, while “past FOBT”, “other screening”, “personal/familial history of CRC” and “medical recommendation” generally increase FOBT compliance. According to Wardle et al. (2015), determinants of CRC screening also underline individual (e.g., knowledge, attitude, social norms) and thus motivational aspects (e.g., decisional balance of benefit-risk).

In parallel, studies that have used qualitative methodologies with semi-structured interviews or focus groups concur that the problem of screening participation is above all a matter of awareness and misunderstanding (Aubin-Auger et al., 2011; Dharni et al., 2016; Kimura et al., 2014).

According to psychosocial models of motivation (Hagger et al., 2002; Munro et al., 2007; Witte and Allen, 2000), perception of threat severity and vulnerability should increase awareness and, thus, motivation to adapt. Several conflicting motivations can, however, co-exist within a person (e.g., smoking and quit smoking, participate in FOBT or

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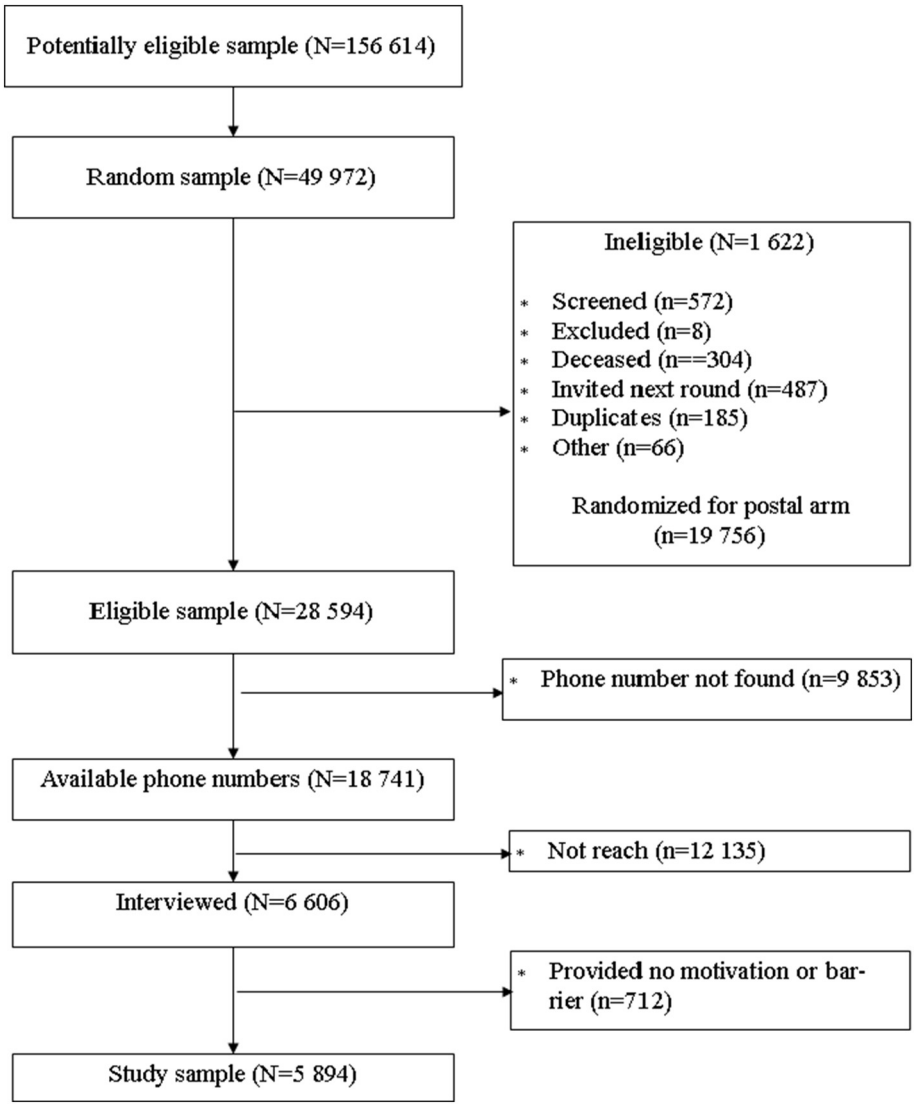

Fig. 1. Flow chart of the study sample.

not, etc.) and, as such, motivation is considered to be ambivalent rather than dichotomous (Miller and Rollnick, 2013). At the same time, volitional processes intervene in transitioning from intention to acts. Self-efficacy for change and cues to act have both been demonstrated to increase volition and thus, probability to act, while perceived inefficiency, constraints or danger of change strongly reduce the likelihood, as shown in CRC screening with FOBT (Cole et al., 2007; Senore et al., 2010).

In addition, Ryan and Deci (2000) argue that motivation determination falls within a continuum of extrinsic (i.e., determined by conditions) to intrinsic (i.e., spontaneous interest) motivations. The more motivation is self-determined, the more the person is in line with his or her principles, with the effect of increasing behavior maintenance. In the context of CRC screening, intrinsic motivation is desired because of ethical considerations to ensure autonomous decision-making (Smith et al., 2010), informed choice (Wardle et al., 2015) and the need to maintain screening program profitability by improving participants' loyalty and limiting ineffective and costly reminders.

While it is useful to identify populations with lower or higher probabilities of screening, this purely descriptive distinction between facilitators and barriers seems insufficient to capture the underlying motivations leading individuals to participate in screening. To provide support to individuals reluctant to screen, it is essential to better understand the decision-making processes that an individual goes through when faced with a screening decision and how s/he adapts to his/her contradictions.

The main objective of this mixed-study is to further investigate the issue of motivation, in particular, ambivalence and self-determination aspects overlooked in current FOBT literature, by using a robust and validated qualitativemethod. The secondary objective is to propose a quantitative description of factor patterns related to FOBT participation.

2. Materials and methods

The present analyses are a secondary analysis based on qualitative data collected during a large-scale telephone survey of people reluctant to be screened. The primary analysis evaluated the cost-effectiveness of tailored telephone counseling to increase FOBT participation in comparison with a standard postal mail-out. A randomized controlled protocol was used, as briefly described below, and has been described at length in a previous publication (Denis et al., 2017).

2.1. Procedure

The protocol adhered to the national requirements for inviting eligible subjects to the first round of any biennial campaign. If no response was obtained (neither refusal nor medical exclusion), the recipients