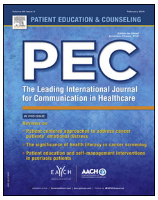
Patient Education and Counseling 97 (2014) 370–375

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou



Intervention

Communication preference moderates the effect of a tailored intervention to increase colorectal cancer screening among African Americans

Ken Resnicow[a,*], Yan Zhou[b], Sarah Hawley[b], Masahito Jimbo[b], Mack T. Ruffin[b], Rachel E. Davis[c], Deirdre Shires[d], Jennifer Elston Lafata[e]

[a] *University of Michigan School of Public Health, Department of Health Behavior & Health Education, Ann Arbor, USA*
[b] *University of Michigan, Ann Arbor, USA*
[c] *University of South Carolina, Columbia, USA*
[d] *Henry Ford Health System, Detroit, USA*
[e] *Virginia Commonwealth University, Richmond, USA*

ARTICLE INFO

Article history:
Received 17 February 2014
Received in revised form 4 July 2014
Accepted 18 August 2014

Keywords:
Colorectal cancer screening
Tailored intervention
African Americans

ABSTRACT

Objective: Test the impact of tailoring CRC screening messages for African Americans (AAs) using novel theoretical variables and to examine moderating effect of communication preferences.

Methods: Participants were randomized to receive two minimally tailored or two enhanced tailored print newsletters addressing CRC. The enhanced intervention was tailored on Self-Determination Theory and other novel psychological constructs. Minimal tailoring only used information available in the patient's EHR. The primary outcome was CRC screening based on EHR. Participants were AA members aged 50–74 of an integrated health care delivery system not up to date on CRC screening.

Results: We enrolled 881 participants. CRC screening participation rates at 1-year follow up were 20.5% and 21.5% in the minimally and enhanced tailored groups, respectively. Communication preferences moderated the impact of the intervention. Specifically, among those with an autonomous communication preference, screening rates in the minimally and enhanced tailored groups were 17.1% and 25.9%, respectively, while no intervention effect was evident among those with a directive preference.

Conclusion: Future research is needed to explore the impact of communication preference tailoring for other health behaviors and among other populations.

Practice implications: Tailored communications should consider communication style preference to help guide the content and tone of messages.

1. Introduction

African Americans (AAs) have higher rates of colorectal cancer (CRC) incidence and mortality, and are more likely to be diagnosed at a later stage of the disease than whites [1,2]. CRC screening rates among AAs are only slightly lower than whites [3–7] and appear to be nearing parity [3,8]. Like other Americans, however, only around 2 out of 3 AAs age 50 and older are up to date on CRC screening.

Many prior interventions to increase CRC screening have been conducted, with most utilizing clinical reminders and/or educational materials [9]. Several CRC screening interventions have been tested with AAs but with mixed results [10].

Several studies have tested tailored motivational and educational messages to improve CRC screening uptake [11–21]. Most of these studies have not shown significant effects on screening behavior [13–17,19–22], however, most have shown effects on mediators of screening behavior in subsets of the full sample, such as participants with increased CRC risk [13–17,21,22]. Only two tailored interventions for AAs [12,23] have been reported. In one, significant effects were reported for knowledge and attitudes, although screening rates were not reported [12] and in the other, results of the tailored intervention were marginally significant for increasing fecal occult blood tests (FOBT) but not for other

---

[*] Corresponding author at: University of Michigan School of Public Health, Department of Health Behavior & Health Education, 109 Observatory Street, Room 3867 SPH I, Ann Arbor, MI 48109-2029, USA. Tel.: +1 734 904 3888.
E-mail address: kresnic@umich.edu (K. Resnicow).

http://dx.doi.org/10.1016/j.pec.2014.08.013
0738-3991/© 2014 Elsevier Ireland Ltd. All rights reserved.

screening tests [23]. Rather than simply targeting AAs with interventions tailored only on the group level, there is a need to design and test interventions that account for within-group variation among AAs and other ethnic/racial groups.

Interventions that include decision aid components that help patients clarify their CRC tests preferences and communicate them to their providers have shown promise in predominantly white samples, although no decision aid interventions have been tested exclusively in AAs [14,24–26]. In summary, the efficacy of tailored interventions and decision aids to increase CRC screening uptake remains equivocal for the general population and understudied among AAs.

One limitation of previous tailored CRC screening interventions is that the theoretical models used although exclusively focused on similar constructs, e.g., stages of change, perceived benefits, barriers, attitudes and knowledge [12,16,22,23]. More recent tailored programs conducted outside of CRC screening have begun to incorporate other theoretical perspectives, such as Self-Determination Theory as well as personality factors, e.g., decision making style and communication preferences [27]. More recent tailored programs from our group conducted outside of CRC screening have begun to incorporate other theoretical perspectives, such as Self-Determination Theory as well as personality factors, e.g., decision making style and communication preferences [27]. This is the approach we employed here.

Prior studies on CRC screening and other health behaviors suggest that AAs may have unique cultural beliefs, preferences, and attributes that offer opportunities for tailoring. These include medical mistrust, perceived racism, gender roles, spirituality [28], racial identity [28,29], time orientation, and perceived CRC screening norms [28–36]. The impact of tailoring CRC screening messages on these variables or constructs has not been tested.

Communication preference is one attribute that merits additional exploration. In a prior study of a tailored print dietary intervention designed for AAs, conducted in the same health care delivery system used herein, communication preferences, defined as how much participants preferred patient versus provider-driven communication, moderated the intervention effect [27]. The extent to which this finding may generalize to other health behaviors such as CRC screening has not been examined.

The aims of the proposed study were twofold;

(1) Test the impact of tailoring CRC screening messages for AAs using constructs based on Self-Determination Theory and personality attributes such as communication preferences compared to minimally tailored messages, based on electronic health record (EHR) information only, and,
(2) Examine potential intervention moderators, particularly communication preferences, i.e., autonomous versus directive communication style.

We hypothesized that individuals preferring autonomous communication would be more responsive to the enhanced intervention which was written in a more autonomy supportive tone and designed to increase autonomous motivation. For those preferring directive communication, messages were written in the same tone for the minimal and enhanced-group participants.

2. Methods

2.1. Overview

AA members, aged 50–74, from an integrated health care delivery system who were not up to date on CRC screening, were randomized to receive two minimally tailored or two enhanced tailored print newsletters addressing CRC screening. The primary outcome was CRC screening based on electronic health records supplemented by self-reported CRC screening for participants who left the health system during the trial.

2.2. Setting and participants

Eligible participants were AAs aged 50–74 receiving primary care from an integrated health care delivery system serving greater Detroit, Michigan. Health system patients were identified by EHR as study eligible if they: (1) were continuously enrolled in the health system-affiliated health maintenance organization (HMO) for the prior three years; (2) had a visit to a health system-owned primary care clinic in the same time period; and (3) were overdue for CRC screening (i.e., no evidence of colonoscopy screening in the past 10 years, flexible sigmoidoscopy or double contrast barium enema in the past 5 years, and FOBT in the past year). Individuals with a history of CRC, bowel resection, inflammatory bowel disease, or polyps were excluded. A small number of individuals ($n = 42$) were also excluded at the discretion of their primary care physician (PCP).

2.3. Recruitment procedures

Study procedures were reviewed and approved by Institutional Review Boards at each participating institution. Participant recruitment took place between February 2011 and May 2012. Eligible individuals were sent a letter stating they would receive a telephone call from study staff within 2 weeks, a response option card to aid in the upcoming telephone survey, and a $2 bill pre-incentive. Individuals could opt out of study participation by signing and returning the letter. Trained research assistants called eligible individuals who did not opt out to confirm study eligibility and determine interest in participation.

Each individual was called up to 8 times at varying times of the day and days of the week. Those who reported having a colonoscopy appointment scheduled, not living in the state of Michigan or intending to move out of state within the next 12 months, having a family history of familial adenomatous polyposis or hereditary nonpolyposis CRC, personal history of CRC, prior adenomas, or inflammatory bowel disease, or not speaking English were excluded. The baseline survey was administered by trained interviewers using computer-assisted telephone software. Participants were randomized by computer to one of the two study arms. In addition to the baseline survey, study participants were also contacted to complete a follow-up survey approximately 12 months following their baseline survey. Those who completed the baseline survey were mailed a $15 gift card and those who completed the follow-up survey were mailed a $20 gift card.

2.4. Interventions

Both interventions entailed 1–2 printed newsletters, sent via mail, promoting CRC screening. All participants received their first newsletter around one month after completing their baseline telephone interview. Participants whose EHR data indicated that they had not completed CRC screening at six months post-baseline were mailed a second tailored newsletter at approximately eight months that provided additional messages to get CRC screening. Participants who had completed a CRC screening test by six months post-baseline did not receive a second newsletter.

Both intervention groups received newsletters of equal length and graphic appearance. The first newsletter was eight pages in length and was inserted into the interior pocket of a colorful folder. The folder also included informational inserts, a pen, and a car magnet, which drew upon the overall journey/car theme of