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Acceptability of narratives to promote colorectal cancer screening in an online community

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Abstract

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Objective—To assess the acceptability of narratives to promote colorectal cancer (CRC) screening among members of an online weight loss community.

Method—Members of online weight loss community completed an Internet survey in 2010. Multiple logistic regression models examined demographic and attitudinal correlates of interest in sharing and receiving CRC screening narratives.

Results—Participants (n=2,386) were 92% female with mean (SD) age 58 (6) years; 68% were up-to-date with CRC screening. Among those who were up-to-date, 39% were interested in sharing their narratives with other members. African-Americans were more likely than other racial groups to be interested in sharing narratives (adjusted OR 2.02, 95% CI 1.14–3.57). Older, married members and those with greater CRC screening worries were less likely to be interested in sharing narratives. Among those not up-to-date, 63% were interested in receiving narratives from online community members, and those with higher perceived salience of CRC screening were more likely to be interested in receiving narratives (adjusted OR 1.86, 95% CI 1.31–2.65).

Conclusions—Members of this online weight loss community expressed interest in sharing and receiving narratives for CRC screening promotion. Attitudes and demographic characteristics may predict successful recruitment of those who would share and receive narratives.

INTRODUCTION

The U.S. Preventive Services Task Force recommends colorectal cancer (CRC) screening for adults aged 50 to 75 years (U.S. Preventive Services Task Force 2008). However, only 53% of US adults aged 50 and older were up-to-date with screening in 2008 (American Cancer Society 2011).

Personal health stories – or narratives – have been recognized as a tool for promoting cancer screening (Kreuter et al. 2007). Narratives are thought to reduce resistance to messages, facilitate information processing, provide a “para-social” link between the audience and narrator, and influence social norms (Kreuter et al. 2007). Online health communities represent a new frontier for cultivating and delivering narratives to large audiences. It may be possible to identify members of an online community who are up-to-date with CRC screening and empower them to share their CRC screening narratives with unscreened members to promote screening.

The purpose of this study was to assess the acceptability of using narratives to promote CRC screening in an online weight loss community comprised mostly of overweight and obese individuals. We measured prevalence of CRC screening; attitudes and demographic characteristics correlated with interest in sharing or receiving screening narratives; and preferences for narrative format. A weight loss community was targeted because excess body weight increases the risk for developing and dying from CRC (Larsson and Wolk 2007; Adams et al. 2007; Calle et al. 2003) and obesity has been linked with lower screening rates (Rosen and Schneider 2004; Leone et al. 2010).

METHODS

The study was an online survey of members of the SparkPeople.com, a large online weight loss community. In June 2010, SparkPeople administrators sent a link to the online survey via email to members 50 years of age or older. Eligibility criteria were age 50 to 75 years, US residency, and no diagnosis of inflammatory bowel disease. A \$10 gift certificate was offered to all participants. The Committee for the Protection of Human Subjects for the University of Texas Health Science Center at Houston approved the study.

CRC screening status was assessed with items adapted from a validated questionnaire (Vernon et al. 2008). A participant was considered up-to-date with CRC screening if s/he had a fecal occult blood test within the past year, sigmoidoscopy within the past 5 years, or colonoscopy within the past 10 years.

Interest in sharing CRC screening narratives was assessed with the question, “Are you interested in sharing your colon cancer or colon cancer screening experience with other SparkPeople members?” Interest in learning about other members’ CRC screening experiences (“receiving narratives”) was assessed with the question, “If another SparkPeople member offered to share his or her experience related to colon cancer screening, would you be interested in learning about this experience?” The narratives were not specified as anonymous or identifiable. Answer choices for both questions were “definitely”, “probably”, “probably not”, and “definitely not.” Those who answered “definitely” or “probably” were considered interested. One item asked whether those interested in receiving narratives would prefer to view them via text, audio, or video format.

Narratives are thought to promote cancer screening by influencing certain attitudes (Kreuter et al. 2007). These attitudes were measured with scales specific to CRC screening: salience and coherence of CRC screening (importance of screening) (4 items), CRC worries (2 items), perceived susceptibility to CRC (4 items), response efficacy of CRC screening (belief that abnormalities found during screening can be treated) (2 items), social influence of family and health care providers on CRC screening (4 items) (Vernon et al. 1997), and self-efficacy for CRC screening (4 items) (Tiro et al. 2005). We added 2 items for social influence of other members of the online weight loss community, 3 items for worries about the screening process itself, and 3 items for self-efficacy for navigating the health care system for screening. The 6 social influence items were combined into a single scale. All items had 4 answer choices: strongly agree=4, agree=3, disagree=2, or strongly disagree=1 (Vernon et al. 1997). Other items addressed demographics, smoking status, height, weight, health insurance status, other cancer screening in the past year, primary care visit in the past year, and a health care provider’s recommendation for CRC screening.

Multiple logistic regression was used to identify attitudes and demographic characteristics associated with interest in sharing narratives (among those up-to-date with screening), and interest in receiving narratives (among those not up-to-date with screening). For each outcome, the initial model included all colorectal screening attitudes, adjusted for demographic variables that were associated with the outcome on univariate analysis. Given the exploratory nature of the study, variables were selected for the final model with

stepwise, backward selection ($p < 0.10$ retained in model). Analyses were conducted in STATA v. 10.1 (College Station, TX).

RESULTS

Sixty-eight percent (1,618 of 2,386) survey respondents were up-to-date with CRC screening (Table 1). Among members who were up-to-date with CRC screening, 39% were interested in promoting screening by sharing their narratives with other members. Interest in sharing narratives was positively correlated with African-American race and negatively correlated with age, being married, and CRC screening worries (Table 2). There was a marginal positive correlation between interest in sharing narratives and self-efficacy for CRC screening.

Among members who *were not* up-to-date with CRC screening, 63% were interested in receiving narratives about screening from other members. Ninety-three percent of these preferred text narratives rather than audio or video. Interest in receiving CRC screening narratives was positively correlated with perceived salience of CRC screening (Table 2).

DISCUSSION

This study suggests that there may be sufficient interest among members of this online weight loss community to justify developing and testing narrative-based interventions to promote CRC screening in this setting. Individuals encountering text narratives on a discussion forum could potentially benefit not only from reading the narratives, but also by receiving social support from the narrator and other readers. Others have found that having peers to discuss one's health has been linked with CRC screening (Ye et al. 2009).

The study had several limitations. First, CRC screening status was assessed by self-report. However, the questionnaire items were found to be reliable and valid in multiple administration modes, such as mail, telephone, and face-to-face (Vernon et al. 2008). Second, most respondents were white women. Although this profile is consistent with the general SparkPeople membership and samples from other online health communities (Idriss et al. 2009), the low response rate suggests that there may be important differences between responders and other SparkPeople members. Third, collapsing "probably" and "definitely" interested into a single category of positive interest (in sharing or receiving narratives) may be overly simplistic, as most respondents were "probably" rather than "definitely" interested. Lastly, it is possible that for some respondents, stated interest in CRC screening narratives reflected a general interest in narratives of any topic.

Given the expansive reach of online communities, cultivating and disseminating narratives within these communities to promote CRC screening could yield a substantial public health impact. Knowledge of attitudinal and demographic parameters may be useful in efforts to recruit narrators and identify subgroups that would be receptive to the narratives.

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Table 1Demographic and clinical characteristics of 2,386 members^a of an online weight loss community in June 2010

Characteristic	% or mean (SD)
Age, years, mean (SD)	57.9 (6.2)
Female gender, %	92.2
BMI ^b , mean (SD)	31.4 (6.9)
BMI categories, %	
Underweight or normal (BMI < 25)	17.2
Overweight (BMI 25 – 29.9)	30.8
Obese Class I (BMI 30 – 34.9)	25.9
Obese Class II (BMI 35 – 39.9)	14.6
Obese Class III (BMI ≥ 40)	11.5
Hispanic ethnicity, %	2.2
Race, %	
White	92.7
Black or African American	4.4
Other ^c	2.9
Married, %	64.0
Bachelor's degree education or higher, %	49.5
Working status, %	
Working full-time	50.0
Working part-time	13.2
Not working ^d	36.7
Current non-smoker, %	94.5
Has health insurance, %	93.4
Primary care visit in the past year, %	85.3
Mammogram or prostate specific antigen test in past year ^e , %	61.8
Health care provider recommended CRC screening, %	69.1
Up-to-date with colorectal cancer screening, any modality ^f , %	67.8
Colonoscopy	93.0
Sigmoidoscopy	15.9
Fecal occult blood test	13.9

^a: The email invitation was sent to 56,880 online members: 11,040 opened the email, 3,199 answered the screening questions, and 2,689 were eligible

^b: BMI (body mass index) in kg/m² calculated from self-reported height and weight, excluding outliers with BMI < 18 and > 60

^c: "Other" race includes Asian, Pacific Islander / Native Hawaiian, and American Indian / Alaska Native

^d: "Not working" includes retired, homemaker, out of work, unable to work, and student

^e: Mammogram in women and prostate specific antigen in men

^f: Some participants were up-to-date with multiple screening modalities

Correlates of interest in sharing and receiving colorectal cancer screening narratives among members of an online weight loss community in June 2010

Table 2

	Interest ^a in sharing narratives if up-to-date with colorectal cancer screening ^b			Interest ^c in receiving narratives if <i>not</i> up-to-date with colorectal cancer screening ^d		
	Adjusted OR	95% CI	p-value	Adjusted OR	95% CI	p-value
Perceived salience of colorectal cancer screening				1.86 ^e	1.31 – 2.65	0.001
Social Influence				1.48 ^e	0.98 – 2.25	0.063
Colorectal cancer worries				1.23 ^e	0.98 – 1.55	0.076
Colorectal cancer screening worries	0.74 ^e	0.60 – 0.91	0.005			
Perceived susceptibility to colorectal cancer	1.20 ^e	0.99 – 1.45	0.063			
Self-efficacy for colorectal cancer screening	1.23 ^e	1.00 – 1.51	0.05			
Age	0.82 ^f	0.74 – 0.90	<0.0005	0.87 ^f	0.74 – 1.02	0.082
African-American race	2.02	1.14 – 3.57	0.016			
Married	0.74	0.58 – 0.95	0.016			

^a: Among those who were up to date with screening, 7.7% were “definitely”, 31.5% were “probably”, 42.6% were “probably not” and 14.7% were “definitely not” interested in sharing narratives with other members. (3.5% answered “not applicable”). For the logistic regression model, interest was defined as “definitely” or “probably” interested.

^b: The initial model included all colorectal screening attitudes, adjusted for age, race, and marital status because those variables were associated with interest in sharing narratives on univariate analyses. Variables were selected for the final model with stepwise, backward selection (p<0.10 retained in model).

^c: Among those not up to date with screening, 15.4% were “definitely”, 47.2% were “probably”, 32.5% were “probably not” and 5.0% were “definitely not” interested in receiving narratives about screening from other members. For the logistic regression model, interest was defined as “definitely” or “probably” interested.

^d: The initial model included all colorectal screening attitudes, adjusted for age because age was associated with interest in receiving narratives on univariate analysis. Variables were selected for the final model with stepwise, backward selection (p<0.10 retained in model).

^e: Odds ratio for every one point increase in scale score

^f: Odds ratio for every year increase in age