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Coping with Pre-diagnosis Symptoms of Colorectal Cancer: A Study of 244 Recently Diagnosed Individuals

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Abstract

Background—Colorectal cancer (CRC) symptoms are often vague and vary in severity, intensity, type, and timing. Receipt of medical care is dependent on symptom recognition and assessment, which may impede timely diagnosis.

Objective—To describe and categorize how CRC patients coped with symptoms prior to seeking medical care, examine socio-demographic differences in these coping strategies, and determine the strategies associated with time to seek medical care and overall time to diagnosis.

Methods—244 Caucasian and African Americans in Virginia and Ohio diagnosed with CRC who experienced symptoms prior to diagnosis were administered a semi-structured interview and the Brief COPE questionnaire.

Results—83% used more than one coping strategy. Common symptom-specific coping strategies were to wait-and-see, self-treat, and rationalize symptoms. Males were more likely to ‘wait-and-see’ ($p < .001$); African Americans and Medicaid recipients were more likely to self-treat via lifestyle changes ($p < .01$). Younger individuals (< 50) had higher Brief COPE reframing, planning, and humor scores; those with lower education and income had higher denial scores ($p < .01$). Using more symptom-specific coping strategies and engaging in avoidance/denial was associated with longer time to seek medical care and overall time to diagnosis ($p < .01$).

Conclusions—Individuals experiencing CRC symptoms use multiple, diverse coping strategies which are influenced by socio-demographic characteristics. Denial is particularly relevant for delay in seeking care and timely diagnosis.

Implications for Practice—Public health campaigns could focus on secondary prevention of CRC by targeting at-risk groups like males, African Americans, or Medicaid recipients, who choose waiting or self-treatment in response to initial symptoms.

Keywords

Colorectal cancer; Coping; Pre-diagnosis symptoms; Appraisal delay; Diagnostic delay

INTRODUCTION

Early detection is especially beneficial for colorectal cancer (CRC). The 5-year survival rate is 91% among early CRC cases¹. Yet CRC remains the second leading cause of cancer death in the United States, with an estimated 142,820 new diagnoses and 50,830 deaths in 2013². Multiple factors contribute to delays and disparities in detection and diagnosis, including demographic characteristics, individual behaviors, physician-patient communication, social/environmental influences, and health system factors³⁻⁵.

CRC symptoms are often vague and vary in severity, intensity, type, and timing. Delayed care seeking for initial CRC symptoms, known as appraisal delay, is a significant contributor to overall delay in CRC diagnoses⁶. Receipt of timely medical care is dependent on patient recognition and assessment of the symptom(s). Patient responses to the experience of symptoms are different. Patient action may be impeded by feelings of fear, shame, or embarrassment⁷ as well as access factors such as lack of health insurance³. Such barriers may influence patient care seeking even for serious symptoms. In an Australian study, almost one out of five of respondents who reported having ever experienced the CRC symptom rectal bleeding never reported it to a physician⁸. Patients who do not immediately seek medical attention will likely cope with or manage their symptoms in some manner.

Few studies have addressed coping with cancer symptoms, and even fewer have focused on pre-diagnosis CRC symptom management. The general coping literatures indicates that socio-demographics, personality, and access to resources all influence coping strategies. Women cope using verbal expressions (e.g., rumination, positive self-talk)⁹, while men engage in problem-focused coping¹⁰. In the context of dealing with chronic disease, African Americans have been found to be more likely to engage in denial¹¹ and spirituality-based coping¹². Education level was associated with more instrumental-oriented coping in Norwegian women who had undergone a breast biopsy¹³.

Given the often vague nature of CRC symptoms in combination with known barriers to patient care seeking, we were interested in understanding the various coping strategies employed by individuals in an attempt to manage their physical symptoms prior to seeking medical care. The overarching aim of this study was to understand coping with CRC symptoms prior to diagnosis and its relationship with diagnostic delay. This study had three specific aims: (1) to identify and explore coping strategies used by CRC patients before seeking medical care, (2) to examine statistically significant differences in use of specific coping strategies by gender, race, age, education, income, insurance status, and marital status, and (3) to determine which coping strategies were significantly associated with appraisal delay (time from first symptoms to care seeking) and overall diagnostic delay (time

from first symptoms to CRC diagnosis). Because existing coping questionnaires do not sufficiently address cancer-symptom-specific coping strategies and there is a lack of data on coping with symptoms of CRC in particular, a qualitative approach was considered to be crucial to addressing these aims. The qualitative data was supplemented by the use of the Brief Cope questionnaire and a medical records review to quantify delay in this multi-methods study.

METHODS

Study methods including recruitment methodology, participants and interviews have previously been described¹⁴. In short, 252 interviews were conducted with CRC patients recruited from five academic and community oncology practices in Virginia and Ohio. To be eligible, patients had to be diagnosed with stage I–IV CRC within the previous 6 months, and had to report experiencing symptoms prior to their diagnosis. Patients whose diagnosis was the result of a screening test were excluded. Approval was obtained from all relevant Institutional Review Boards. Thirty nine individuals met eligibility criteria but did not consent to participate. After obtaining written consent, all medical charts were obtained for time period beginning 3 months prior to when symptoms were first noticed by the patient until the CRC diagnosis. In a pilot study of patients in the year following their diagnosis, medical records were obtained a full year prior to self-reported identification of their first CRC-related symptoms. Analysis of pilot data indicated that patients were fairly accurate and all patients had a medical visit with their first symptom documented in the charts within 3 months of their self-reported date of first symptoms. Information was abstracted from the medical chart using a standardized chart abstraction form.

Between 2008–2010 trained research assistants with degrees in psychology, anthropology, public health, and/or social work conducted semi-structured interviews. Using open-ended questions and standardized probes, interviews focused on patient: (a) socio-demographic and psychological factors, (b) symptom recognition, appraisal and coping, and (c) communication with health care professionals, friends, and family. The Explanatory Models^{15,16} concept described by Arthur Kleinman was the framework used to develop the questions. Interviews occurred approximately 4 months after receiving a CRC diagnosis, but not later than 6 months. Pilot study of patients in the year following their diagnosis indicated that patients were able to be more descriptive of pre-diagnosis symptoms, coping, and events in the 6 months following their diagnosis. Interviews were approximately 2 hours in length, were audio recorded and transcribed verbatim. To maximize patient recall of the events leading to CRC diagnosis the interview was specifically structured using several established methodologies including thinking aloud, anchor points and chronological story telling^{17–19}.

A coding manual was developed using Kleinman's Explanatory Models to guide the coding of all interview transcripts into frequency data for quantitative data analysis. This is a well-accepted approach successfully used by others^{14, 20–22}. The codes for each interview question were generated from iteratively coding interviews until thematic saturation was reached, which occurred after approximately 50 transcripts. All interviews were then coded using this code manual. Questions included the option of "other" to be used if a new code not previously identified were required. Twenty percent of the interviews were double-

coded. Disagreements and questions raised by coders were discussed until consensus was reached at weekly coding meetings.

MEASURES

Socio-Demographic Variables and Appraisal and Diagnostic Delay

Patient socio-demographic information of age, race, highest level of education attained, annual income, health insurance status, and marital status was self-reported during the interview. Delay was measured in months. Appraisal delay (AD) was defined as the period from which a patient first noticed symptoms to the initial disclosure of symptoms to a health care provider, while total diagnostic delay (DD) included the period from experiencing first symptoms to the date of diagnosis^{6, 23, 24}. Demographic information, cancer stage at diagnosis, and dates of medical visits were verified through chart review.

Coping

Coping with CRC Symptoms—Semi-structured interviews were used to explore in-depth how patients coped with symptoms prior to seeking medical care. Patients were provided the opportunity to describe how they experienced symptoms and the strategies they used to manage them. Using standardized questions and probes, patients described their initial reactions to symptoms, how they interpreted those symptoms and what actions they took (if any) to manage their symptoms. The following is an example of the standardized questions and probes used, “When you first started noticing these symptoms, what did you make of them? What did you think they were from? What did you decide to do about them?” (See codes in Table 2.)

The Brief COPE—The Brief COPE is a validated, shortened form of the COPE inventory comprised of 28 items grouped into 14 subscales and measures both positive coping responses (e.g., active coping, planning) and negative coping responses (e.g., denial, self-blame)²⁵. Other sub-scales include self-distraction, substance use, venting, use of emotional support, use of instrumental support, behavioral disengagement, positive reframing, humor, acceptance, and use of religion. Unlike the interview responses, which reflect coping strategies specific to the CRC symptoms experienced, the Brief COPE represents a global measure of usual or typical coping with stress. Respondents are asked to rate how often they engage in each coping response on a scale from 1 (*not at all*) to 4 (*very much*). Sub-scale scores, composed of two items, range from 2 to 8 and are calculated through summation. Internal reliabilities for the 14 sub-scales range from $\alpha=0.57-0.90$ ²⁶.

STATISTICAL ANALYSIS

Frequencies were conducted on the symptom-specific coping strategies identified via the interview and descriptive statistics were obtained for the Brief COPE sub-scales. Socio-demographic differences in coping were examined using U Mann-Whitney non-parametric tests or chi square analyses, according to whether the variables were continuous or categorical. Delay variables were log-transformed due to the non-normal distributions. The relationship between coping strategies and log-transformed delay variables was assessed

using analysis of variance (ANOVA) with post-hoc tests, independent t-tests, or Spearman rho correlations, as appropriate. Because of the numerous statistical analyses conducted in this exploratory work, the alpha level was set at 0.01.

RESULTS

The socio-demographic information for a sub-group of 244 Caucasian and African American patients is described in Table 1 (8 individuals in the sample were of other races and are excluded from this analysis). Approximately half were male, Caucasian, married, and had more than a high school education. Three-fourths were aged 50 or older, 44% held private insurance, 35% earned \$50,000/year or more, and 64% were diagnosed with later stage (III or IV) colorectal cancer.

Frequencies for each symptom-specific coping strategy identified from the interviews are displayed in Table 2. Representative examples of patient descriptions of these coping strategies are shown in Table 3. The majority of patients (n=147; 60%) initially adopted a 'wait-and-see' approach in response to their symptoms. Patients described this approach as a period of monitoring symptoms prior to taking action. To cope with their symptoms, many (n=144; 59%) engaged in a variety of self-treatments. While 43% (n=105) used over-the-counter medications such as pain medicines (Tylenol, Aspirin), creams/suppositories for hemorrhoids, and laxatives, others (n=80, 33%) reported making lifestyle changes (dietary, physical activity or stress management) or using dietary supplements, herbal remedies, or heat therapy (n=24, 10%). Fewer than 10% of participants discussed use of off-label prescription medications (n=4, 2%), discontinuing medications (n=3, 1%) or self-medicating (alcohol or other drugs) (n=3).

The third most common symptom-specific coping strategy (n=119; 49%) was rationalization. In this approach, in an attempt to explain away symptoms, patients attributed them to non-serious causes, such as the environment, diet, prior health conditions, comorbid medical problems, or secondary effects of medications. Other coping strategies included avoidance and denial, including attempts to distract oneself (n=62, 25%). This was done as a way to ignore symptoms and their potential implications or consequences. One quarter of the sample (n=61) sought medical attention for initial symptoms. Fewer (n=53, 22%) reported seeking support, including asking others for information, and/or emotional or physical assistance.

Patients frequently described using more than one strategy, with 17% (n=43) reporting only 1 strategy, 36% (n=87) 2 strategies, 34% (n=82) 3 strategies, and 13% (n=32) reporting 4 to 6 strategies. Of those who used a 'wait-and-see' approach (n=147), 66% (n=97) also engaged in self-treatment and 45% (n=66) of them also rationalized or explained away their symptoms. Of those who sought medical assistance for initial symptoms (n=61), 44% (n=27) also engaged in self-treatment.

Brief COPE

The results of the Brief COPE, a standardized measure of general coping with stress are summarized in Table 4. The four most common global usual coping strategies in use by

participants were emotional support, acceptance, active coping, and religion. Other commonly reported coping strategies included positive reframing, planning, use of instrumental support, and self-distraction.

Socio-demographic Differences in Coping

Symptom-specific coping was associated with gender, race, and insurance status, but not age, education or income. Males were more likely than females to use the wait-and-see approach (71% vs. 49%; $X^2=11.74$, $p=.001$). African Americans were more likely than Caucasians to engage in lifestyle changes in an attempt to self-treat their symptoms (43% vs. 24%; $X^2=10.10$, $p=.001$), which included active attempts to alter normal routines (e.g., improving dietary habits, reducing alcohol consumption, and increasing stress management). Those with Medicaid were more likely than those with private insurance to self-treat initial symptoms using lifestyle changes (48% vs. 27%, $X^2=9.41$, $p=.009$).

General coping strategies were associated with age, education, and income, but not gender, race, or insurance status. On the Brief COPE, those less than age 50 had higher reframing ($U=6502$, $p=.008$), planning ($U=6627$, $p=.004$), and humor ($U=6622.5$, $p=.003$) scores, indicating greater participation in these activities. Those with incomes of <\$30K had higher denial ($U=11.31$, $p=.003$) scores. Those with less than a high school education also had higher denial ($U=14.83$, $p=.001$) scores, and lower humor ($U=14.26$, $p=.001$) scores as well.

Coping and Appraisal and Diagnostic Delay

Median appraisal delay (AD), time from noticing symptoms to seeking medical care, for the sample was 2.3 months ranging from same day medical attention when noticing symptoms to 4.75 years. Median total diagnostic delay (DD), time from first symptoms to diagnosis, was 5.5 months ranging from 2 days to 5.85 years. None of the socio-demographic variables were associated with AD or DD. Those diagnosed with later stage CRC had significantly longer DD than those diagnosed with early stage ($t=2.27$, $p=.007$). As expected, those who sought medical attention for initial symptoms had significantly less AD ($t=2.59$, $p=.01$). Using more symptom-specific coping strategies to manage symptoms was associated with longer AD ($\rho=0.19$, $p=.003$) and DD ($\rho=0.25$, $p<.001$). Engaging in avoidance/denial was also associated with longer AD ($t=3.80$, $p<0.001$) and DD ($t=2.96$, $p=.003$). No Brief COPE sub-scales were associated with AD or DD.

DISCUSSION

The early manifestations of CRC symptoms are often vague and non-specific, thus contributing to patients delay in seeking medical attention (known as appraisal delay). In our sample, although 83% of participants used multiple coping strategies to deal with their symptoms, only one quarter sought immediate medical care. Patients commonly chose to self-treat (59%) and to wait and see if the symptoms would resolve themselves (60%). Using multiple symptom-specific coping strategies was associated with delay in seeking care. Socio-demographic differences in coping strategies were also identified. Most notably, African Americans and Medicaid recipients were more likely to change their lifestyle in efforts to self-treat and those with lower education and income reported more often using

denial to deal with stress. Avoidance or denial of symptoms as a form of symptom-specific coping was related to care delay and lack of timely diagnosis.

This study identified multiple methods of self-treatment used by patients to cope with their CRC symptoms prior to seeking medical care, including use of over-the-counter medications, lifestyle changes, dietary supplements, and herbal remedies. Prior research has found that assessment of symptoms, including perceived seriousness, prior experience, and symptom interference with daily living, influences the extent to which self-treatment is used²⁷. However, cultural beliefs and attitudes and economic constraints may also play role in the decision to self-treat CRC symptoms. Consistent with previous studies, we found that African Americans were more likely than Caucasians to change their lifestyle to cope with initial CRC symptoms. One explanation may be cultural beliefs about illness and health^{28–30}. Ashing-Giwa (1999) found that for many African Americans, the first line of treatment was self-treatment and home remedies rather than seeking advice and treatment from a physician partially because of (a) a historically rooted and longstanding mistrust of the medical system and (b) particularly for women, culturally-based attitudes regarding privacy, modesty, and touching the body³¹.

Regarding gender differences, the ‘wait-and-see’ coping strategy was more common in men than women. This finding contradicts a recent study of self-identification of melanoma symptoms in which men paid little attention to bodily changes, but once they became aware they took immediate action to seek an expert’s opinion³². It is possible that men may have been less knowledgeable about the typical CRC symptoms requiring care seeking behavior, have attributed pre-diagnosis CRC symptoms to other less serious causes, and/or had a higher threshold for symptom severity than women. Further investigation into the causes underlying gender differences in coping with symptoms, as well as and the influence of family members and significant others on care seeking behavior, is warranted.

Economic constraints are another important consideration when an individual must choose a method to cope with symptoms possibly serious enough to warrant medical attention. Issues of economic survival may be more important, and immediate, than health and health outcomes. We found that individuals on Medicaid were more likely than those with private insurance to attempt to self-treat using lifestyle changes. This form of self-treatment offers low cost strategies both to avoid the health care system as well as to conserve valuable economic resources³³. Evidence supporting the existence of economic barriers to accessing medical care, such as use of preventive services, are well-established^{34–36}. We also found that individuals using denial to cope with general stress had lower education and/or earned less than \$30,000/year, and reporting avoidance/denial of CRC symptoms was associated with longer time to seek medical care and overall diagnostic delay. When patients believe they cannot afford to seek medical care, they may be more likely to downplay the seriousness of their symptoms and self-treat³⁷. Additional research into the causal mechanisms behind the chosen forms of coping is warranted.

Using more than one symptom-specific coping strategy was associated with longer care seeking delay and overall diagnostic delay, as was denying the CRC symptoms. If an individual chooses to actively avoid or distract themselves from thinking about their

symptoms, they may be less likely to act on them and thus also less likely to engage in another coping strategy to manage those symptoms. Using multiple coping strategies may indicate that the symptoms are more severe, and likely that initial coping strategies are not effective. An examination of symptom-specific triggers of coping and care seeking may shed light on these relationships.

This study has numerous strengths. All participants experienced symptoms prior to diagnosis and none were diagnosed as a result of screening. African Americans were over-recruited, thus their symptom-specific coping strategies were adequately represented in our sample; we also had adequate power to detect differences in coping compared to Caucasians. Furthermore, the study was conducted in two states, each with different population compositions, resulting in a sample composed of a range of social and demographic factors. Such diversity increases generalizability. One limitation is that patients were interviewed after diagnosis and their retrospective reports of coping may have been related to their cancer diagnoses and/or treatment. Another limitation is that 70% of the sample used more than one coping strategy, but the exact time course of implementation was not clearly delineated in the interview. Finally, it is possible that some of the socio-demographic differences in coping may be due to the presence of other factors that were not measured in the present study. For instance, research has identified having chronic conditions and ease of access to care based on urban versus rural dwelling to be contributing factors to use of self-treatment via home remedies³³.

This study highlights the importance of socio-demographic differences in coping with CRC symptoms with an emphasis on the socio-cultural influences and economic constraints that impact decisions surrounding seeking medical care. The U.S. Affordable Care Act is expected to improve access to care, especially for low-income populations. However, it is likely that non-economic health beliefs and attitudes will also play a role. Indeed, even countries providing universal health insurance coverage still report low cancer screening participation³⁸ and delayed care seeking for breast cancer symptoms³⁹. Other public health approaches such as education through outreach programs will also be necessary. With some studies reporting almost 85% of those diagnosed with CRC in the US experience symptoms prior to diagnosis⁴⁰, efforts must be focused on those who delay. These findings suggest that males, African Americans, and those on Medicaid are at-risk groups who are more likely to self-treat or 'wait-and-see' in response to symptoms indicative of CRC. Providing regular care check-ups for these individuals and increasing physician questioning about CRC symptoms as a routine part of these visits may allow for earlier detection of this highly treatable cancer.

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Table 1Sample Socio-demographic Characteristics^a

Characteristic	Count (%)
Gender	
Male	126 (52%)
Female	118 (48%)
Race	
Caucasian	133 (55%)
African American	111 (45%)
Age	
< 50 years old	61 (25%)
50 years old	183 (75%)
Education	
Less than high school	48 (20%)
High school diploma	68 (29%)
Some college	81 (33%)
Bachelor's degree or higher	46 (18%)
Income	
< \$10,000	41 (17%)
\$10,000–\$29,999	61 (25%)
\$30,000–\$49,999	45 (18%)
\$50,000–\$74,999	24 (10%)
\$75,000–\$100,000	32 (13%)
> \$100,000	30 (12%)
Declined to answer/Don't know	11 (5%)
Health Insurance	
Private	108 (44%)
Medicare	69 (28%)
Medicaid ^b	67 (27%)
Marital status	
Married	128 (52%)
Divorced	48 (20%)
Single	40 (16%)
Widowed	28 (11%)
State	
Virginia	162 (66%)
Ohio	82 (34%)
Stage	
1	21 (9%)
2	62 (25%)
3	96 (39%)
4	62 (25%)

Characteristic	Count (%)
Unknown	3 (1.2%)

^aValues given are count (percent of total)

^bIncludes insurance provided for those who are uninsured but ineligible for Medicaid and the uninsured.

Table 2**Coping Strategies to Manage CRC Symptoms^a**

Coping Strategy	Count (%)
Wait-and-see approach	147 (60%)
Self-treatment of symptoms	144 (59%)
Over-the-counter medications	105 (43%)
Changed lifestyle	80 (33%)
Dietary supplements, herbal remedies, or heat therapy	24 (10%)
Off-label prescription medications	4 (2%)
Discontinued certain medications	3 (1%)
Self-medication using alcohol or other drugs	3 (1%)
Rationalization	119 (49%)
Avoidance, denial	62 (25%)
Seeking medical attention	61 (25%)
Seeking support, assistance, or information	53 (22%)
Spiritual or religious coping	9 (4%)

Abbreviations: CRC, colorectal cancer

^aValues given are count (percent of total); participants often identified more than one strategy

Table 3**Representative Quotes Describing CRC Symptom-specific Coping Strategies**

Wait-and-See	<i>"Well sometimes, like I said, it (the symptom) wasn't 100% of the time, so it looked like it would clear a little bit, and I'd give it another three weeks or so, you know, just a delayed process ... So it was a few, it happened two or three months before I said anything to her [his wife] about it, I guess, all total, and then once I said, 'Well damn, I've got to do something,' and then I went to my doctor, and not being 50 yet, I had to go see a Specialist. So he sent me to see Dr. X and then we just had a talk and he said, 'Okay, we're going to do a colonoscopy,' and I did that shortly thereafter, and then I was operated on in a week." (48-year-old Caucasian man)</i>
Self-Treatment	<i>"I didn't really have any idea. Maybe I thought it was just poor diet or something like that. I started trying to eat better, eat more fiber, you know stuff like that, a little healthier diet and stay away from junk food. Stayed away from alcohol, things like that, quit smoking. I mean I tried a lot of stuff." (59-year old Caucasian man)</i>
Rationalization	<i>"I have, uh, hemorrhoids, so initially I thought it [the symptom] was hemorrhoids I've also been taking hydrocodone with A-pap for about seven years, so I thought maybe stomach some stomach irritation. So I kind of put it [the symptom] to several different things... I would have a little pain here and there, you know when I would take the medication on an empty stomach. So I just really thought I had overdid it with taking it on an empty stomach and it irritated the bottom of the stomach." (53-year-old African American woman)</i>
Avoidance/Denial	<i>"I didn't know what to think of the blood [in my stool]. I was, I didn't want to think of it. I just put it out of my mind at that time. It was just, it was just maybe something I ate, or you know. I just I just didn't want to acknowledge it." (45-year-old Caucasian man)</i> <i>"Um, in the back of my mind I thought maybe it [the symptom] was something more serious. But I didn't want to think that. You always think about the less of two evils. Mm hmm." (62-year-old African American man)</i>
Seeking medical attention	<i>"What did I make of it uh, to be quite honest, cancer and things did cross my mind. That's why I went and got checked. But, uh, in my mind even thinking that it could be something like that I thought was probably alarmist. I thought it was probably something more in terms of a hemorrhoid, uh doing something, physical labor, jumping off the top of a building or something, who knows. Because I've even had blood I my pee before from doing different things." (38-year-old Caucasian man)</i>
Seeking support, assistance, or information	<i>"I thought maybe it might've been hemorrhoids or something like that, and which I never had problems with before, so I went online. At that period of time I went online and I had asked questions about it to people who have been through the hemorrhoids, the colonoscopy, where they had their polyps and stuff clipped, and I went online and looked and that's when I found out that, you know, that's probably what I have was colon cancer." (45-year-old Caucasian man)</i>

Abbreviations: CRC, colorectal cancer

Table 4Use of General Coping Strategies while Experiencing CRC Symptoms^a

Sub-scale	Mean $\pm$ SD
Emotional support	7.12 $\pm$ 1.31
Acceptance	7.11 $\pm$ 1.22
Active coping	6.58 $\pm$ 1.47
Religion	6.50 $\pm$ 1.84
Positive reframing	5.86 $\pm$ 1.93
Planning	5.74 $\pm$ 1.94
Use of instrumental support	5.70 $\pm$ 1.78
Self-distraction	5.13 $\pm$ 1.83
Humor	3.87 $\pm$ 2.05
Venting	3.65 $\pm$ 1.58
Denial	3.26 $\pm$ 1.64
Self-blame	3.05 $\pm$ 1.42
Behavioral disengagement	2.33 $\pm$ 0.86
Substance use	2.33 $\pm$ 1.03

Abbreviations: CRC, colorectal cancer; SD, standard deviation

^aValues given are mean $\pm$ SD.