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Patient Education and Counseling 105 (2022) 2137–2144

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.journals.elsevier.com/patient-education-and-counseling

Managing uncertainty and responding to difficult emotions: Cancer patients' perspectives on clinician response during the COVID-19 pandemic

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ARTICLE INFO

Keywords:
COVID-19 pandemic
Patient-centered communication
Managing uncertainty
Responding to emotions
Coping
Psychosocial distress
Cancer

ABSTRACT

Objective: Patients undergoing cancer treatment during the COVID-19 pandemic have experienced stress and uncertainty with respect to disruptions in cancer care and COVID-19 related risks. We examined whether clinicians' responsiveness to patients' uncertainty and difficult emotions were associated with better health and well-being.

Methods: Patients were recruited from cancer support communities and a market research firm. Respondents assessed clinicians communication that addressed uncertainty and difficult emotions. Health status measures included mental and physical health, coping during the pandemic, and psychological distress.

Results: 317 respondents participated in the study. Patients' perceptions of their clinicians responsiveness to patient uncertainty and negative emotions were associated with better mental health, physical health, coping, and less psychological distress (all p-values <0.001). Respondents with greater self-efficacy and social support also reported better health.

Conclusion: Even when controlling for patients' personal and health-related characteristics, clinicians' communication addressing patients' uncertainty and difficult emotions predicted better health, better coping, and less psychological distress. Access to social support and self-efficacy also were associated with better health status.

Practice implications: Clinicians' communication focused on helping with uncertainty and difficult emotions is important to cancer patients, especially during the pandemic. Clinicians should also direct patients to resources for social support and patient empowerment.

1. Introduction

People with cancer experience a considerable amount of uncertainty and emotional distress during and post treatment. If not properly managed, this distress leads to treatment burden, such as poorer functioning and well-being associated with treatment and self-care activities [1]; poorer symptom management; and poorer health-related quality of life [2–4]. The COVID-19 pandemic adds additional psychological burden as cancer patients worry about risk of COVID-19 infection and serious disease [5–8], social isolation, loss of social support [9–11], along with delays, disruptions, and postponement of needed procedures and treatment [10,12–14].

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https://doi.org/10.1016/j.pec.2022.03.029
Received 7 January 2022; Received in revised form 24 February 2022; Accepted 8 March 2022
Available online 31 March 2022
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To maintain continuity of care, a large proportion of cancer care services have transitioned from in-person to telehealth [15,16]. While surveys of oncology patients during the pandemic have indicated that patients are generally satisfied with their care and interactions with clinicians via telehealth [17,18], many patients and cancer care providers are worried that telehealth consultations may result in poorer communication experiences. Specifically, substituting telehealth for in-person visits may limit clinicians' abilities to be compassionate and caring [19,20], diminish rapport because of limited nonverbal cues [21,22], and result in delays in getting needed information [23].

Given the inordinate amount of stress and uncertainty cancer patients are experiencing due to their cancer, the pandemic, and significant disruptions in care, it is imperative that cancer care providers are equipped to provide sufficient patient-centered care during the crisis [24]. Because patient-centered care is manifested through patient-centered communication, the National Cancer Institute (NCI) in the United States has presented a model for patient-centered communication in cancer care that highlights the importance of effective clinician-patient communication across multiple domains, including facilitating information exchange, fostering healing relationships, making quality decisions, enabling self-care, managing uncertainty, and responding to difficult emotions [25]. Communication behaviors within these domains of patient-centered communication—such as clinicians providing timely information; expressing empathy; offering support; engaging in participatory decision-making; and patients asking questions, expressing concerns, and stating preferences—have directly or indirectly contributed to a variety of cancer care outcomes, including better emotional well-being [26,27], hopefulness [28], reduced symptom burden [29,30], less anxiety [31], and better health-related quality of life [30,32,33].

This investigation examines the association between cancer patients' self-reported health status and coping during the COVID-19 pandemic with perceptions of their clinicians' communication focused on managing uncertainty and responding to difficult emotions. This is an important topic for several reasons.

First, clinician-patient communication focused on these two domains of patient-centered communication are especially salient during the pandemic as worries about cancer treatment are coupled with COVID-19 related concerns, such as infection, social isolation, and disruptions in care [34,35]. While uncertainty may leave space for hope, as when patients with terminal disease believe there is at least a chance for cure [36], uncertainty also contributes to emotional distress and anxiety [37]. Uncertainty-induced anxiety among cancer patients may reflect uncertainty related to treatment probability, such as the likelihood a particular treatment will work; ambiguity, such as the treatment works in some cases but not in others; and complexity, such as conflicting information about treatment benefits and risks [38]. Additionally, cancer patients have experienced distress during the pandemic with the "unknowable unknown" of the future, such as whether one will get infected with COVID-19, whether this infection will be deadly, and when their cancer care will return to normal [39,40]. To mitigate psychological and emotional distress, it is imperative for clinicians to help patients find ways to cope with and tolerate uncertainty [41].

Second, clinicians must be responsive to the negative emotions experienced by many patients during cancer care—such as fear, sadness, and anger—that can contribute to greater symptom burden, poorer pain management, and lower health-related quality of life. This includes acknowledging, validating, and intervening as needed to address patients' emotional distress [42], actions that are even more important during the pandemic. For example, a recent study reported that elements of patient-centered communication, specifically empathic and understandable language, buffered the adverse effects of COVID-19 related fear on cancer patients' hopelessness [43]. In a study with breast cancer patient focus groups, most patients reported significant distress due to cancer and COVID-19, yet satisfaction with patient-physician communication was one of the key factors in patients' acceptance of their health situation [7].

Finally, cancer patients tend to give clinicians lower scores on managing uncertainty and responding to emotions compared with other patient-centered communication domains, such as information exchange, building relationships, and making decisions [30,44–46]. While cancer patients' capacity to cope and manage emotional distress may be influenced by other factors, such as one's ability to handle problems and access social support resources [47–49], clinicians' responsiveness to cancer patients' experiences with uncertainty and difficult emotions is critical for quality cancer care, especially during the pandemic.

This investigation had two aims. First, we examined how cancer patients undergoing treatment perceived their clinicians' communication with respect to managing uncertainty and responding to emotions. Second, we hypothesized that clinicians' communication responsiveness to patients' uncertainty and difficult emotions is associated with better self-reported health and well-being during the pandemic. Importantly, we test this hypothesis by taking into other factors that might also influence cancer patients' well-being and coping, such access to social support, self-efficacy in handling problems, and other health and sociodemographic factors.

2. Methods

2.1. Participants

In fall 2020 and prior to the availability of COVID-19 vaccines, the investigators partnered with two nonprofit groups—Cancer Support Community and Fight Colorectal Cancer—and a market research firm to recruit oncology patients to complete an online survey assessing their cancer care experiences during the COVID-19 pandemic. The Cancer Support Community (CSC) provides supportive programming and education for cancer patients and caregivers. CSC conducts psychosocial, behavioral, and survivorship research to advance scientific knowledge, inform policy initiatives, and support development of supportive care programming and education, which includes maintaining a registry of patients and caregivers called the Cancer Experience Registry® (CER). This survey was promoted to CER members who agreed to be contacted about research opportunities, via posts on social media and CSC's online patient community (*MyLifeLine*). Fight Colorectal Cancer (FCC) provides support and education for individuals affected by colorectal cancer. FCC also collaborates with researchers to conduct research including surveys and qualitative research about patient experience. FCC promoted the study opportunity through social media channels. Finally, we engaged a research organization that maintains a "consumer panel" of individuals who have agreed to be contacted about research opportunities. The organization sent the survey to panel members who indicated at the time they joined the panel that they had been diagnosed with cancer.

Eligibility criteria included having a cancer diagnosis (any cancer type), being aged 18 or older, speaking English, and having received any type of cancer treatment in 2020. The survey screener included the following question: Cancer treatment can include surgery, chemotherapy, radiation, bone marrow transplant, stem cell transplant, immunotherapy, biological therapy, hormonal therapy, target therapy, precision medicine, and others. Have you received any type of cancer treatment from January 2020 until today? Survey respondents were offered the chance to win a $75 gift card (20 survey respondents were randomly selected to receive gift cards). The study was reviewed and approved by the RTI International Institutional Review Board (IRB).

2.2. Measures

2.2.1. Clinicians' communication

The clinician *responsiveness to uncertainty and emotions* (RUE) measure was assessed by combining the Managing Uncertainty and Responding to Emotions subscales of the PCC-Ca 36, a measure of patient-centered communication in cancer care (see Table 1) [50] that is

Table 1
Items in the responsiveness to uncertainty and emotions measure.

PCC-CA 36 subscale	Item	Response options
Managing Uncertainty	How well do your doctors and other healthcare professionals help you deal with the uncertainties about your cancer?	Poorly, Not very well, Fairly well, Very Well, Outstanding, Does not apply
	How well do your doctors and other healthcare professionals help you understand what information is most important?	
	How much do your doctors and other healthcare professionals help you understand: (a) If you are getting better or worse? (b) The goal of your care? (c) What is likely to happen with your cancer? (d) How your symptoms may change?	Not at all, not very much, Somewhat, A lot, A great deal, Does not apply
Responding to Emotions	How often do your doctors and other healthcare professionals give the attention you need to your feelings and emotions?	Poorly, Not very well, Fairly well, Very Well, Outstanding, Does not apply
	How well do your doctors and other healthcare professionals talk with you about how to cope with any fears, stress, and other feelings?	
	How much do your doctors and other healthcare professionals: (a) Pay attention to how you are doing emotionally? (b) Show concern for your feelings, not just your illness? (c) Show concern for how your family is doing emotionally? (d) Make you feel comfortable to talk about your fears, stress, and other feelings?	Not at all, not very much, Somewhat, A lot, A great deal, Does not apply

grounded in the National Cancer Institute's 6-function patient-centered communication model [25]. Each item (e.g., How often do your doctors and other healthcare professionals give the attention you need to your feelings and emotions?; How well do your doctors and other healthcare professionals help you deal with the uncertainties about your cancer?) included in the PCC-Ca instrument consists of a question stem and five response options, which are scored from 1 to 5, with higher scores representing better communication; for example, where 1 = Never and 5 = Always. Some items have a sixth, unscored "Does not apply" option (see Table 1). Scores are averaged, not summed, across items and functions so that missing data do not result in an artificially low score. These two scales were combined into one measure because they are conceptually interconnected and demonstrated strong internal reliability (alpha =0.94).

2.2.2. Social support and self-efficacy

Self-efficacy was assessed with four items adapted from the Generalized Self-Efficacy Scale [51]. Respondents were instructed to rate their levels of confidence in managing the following four situations, problems, and events: "I can manage to solve difficult problems if I try hard enough," "I am confident that I could deal efficiently with unexpected events," "If I am in trouble, I can think of a solution," and "I can handle whatever comes my way." Response options include Not at all confident, A little confident, Somewhat confident, Quite confident, and Very confident.

Social support was measured with five items from the Patient-Reported Outcomes Measurement Information System (PROMIS) Emotional and Instrumental Support measure (https://www.healthmeasures.net/explore-measurement-systems/promis). Items include the following: "I have people who care about what happens to me," "I have people I can talk to about my health," "I get emotional support from my family," "I have someone to help me with daily chores if I don't feel well," and "I have someone to take me for medical appointments when needed." Response options include Never, Rarely, Sometimes, Often, and Always.

2.2.3. Sociodemographic, health, and healthcare-related variables

Additional measures in the survey included patient demographic and health characteristics, such as age, gender, education, race and ethnicity; time since diagnosis; cancer stage at diagnosis; and type of cancer. Number of telehealth sessions was measured with an item assessing the number of cancer care telehealth sessions respondents had experienced since the start of the pandemic. Response options include None, 1–5, 6 or more.

2.2.4. Outcome measures

Psychological distress was assessed with 4 items from the CancerSupportSource® (CSS) [52] distress measure: "Today, how concerned are you about (a) feeling nervous and afraid, (b) worrying about the future and what lies ahead, (c) feeling sad or depressed, and (d) feeling lonely or isolated." Response options include Not at all concerned, Slightly concerned, Moderately concerned, Seriously concerned, and Very seriously concerned.

Mental health and *physical health status* were measured using two items from the PROMIS measures [53]: "In general, how do you rate your mental health, including your mood and ability to think?" and "In general, how do your rate your physical health?" Response options include Poor, Fair, Good, Very Good, and Excellent.

Finally, *coping* was measured with a single item developed by the research team, "Overall, how would you say you are coping during the coronavirus pandemic?" Response options include I am not coping very well, I am coping fairly well, and I am coping very well.

2.3. Data analysis

Correlation (Pearson and Spearman) and ANOVA analyses were used to explore bivariate relationships of the health outcomes variables (mental health, physical health, coping, and psychological distress) with patients' sociodemographic characteristics (race/ethnicity, age, gender, education), health factors (type of cancer, cancer stage, time since cancer diagnosis), number of telehealth sessions during the pandemic, self-efficacy, social support, and clinicians' responsiveness to the patient's uncertainty and emotions.

Ordinary Least Squares regression (OLS) was performed to examine if social support, self-efficacy, and clinician responsiveness to uncertainty and emotions predicted health status outcomes (patients' mental health, physical health, coping, and psychological distress). The regression models controlled for demographic variables (e.g., race/ethnicity, education, age, gender) and potential confounding variables related to the study's context (e.g., time since diagnosis, telehealth experience, and cancer stage at diagnosis). Categorical variables, such as race (Non-Hispanic White vs. Others), gender (male vs. other), and telehealth experience (had telehealth experience vs. none) were dichotomized in the models, while other variables were treated as continuous. Cancer type was not included the model because (a) types of cancer varied greatly across the patient sample (see Table 2) and (b) cancer type was not significantly associated with the health outcomes. Data analyses were conducted in SPSS 28.0.

3. Results

From October to December 2020, 317 patients completed the survey. Table 2 reports the demographic and health-related characteristics of the sample. Sixty-five percent of the sample was female, and most

Table 2
Characteristics of survey participants (N = 317).

Characteristic	N	%
Gender		
Female	206	65.0
Male	109	34.4
Other/ or prefer not to answer	2	0.6
Age		
18–34	25	7.9
35–49	99	31.2
50–64	130	41.0
65+	63	19.9
Race/Ethnicity		
Hispanic	50	15.8
Non-Hispanic White	219	69.3
Non-Hispanic Black	31	9.8
Multiracial/Other	16	5.1
Education		
High school graduate or GED or Less	34	10.7
Some College	58	18.3
Associate degree in college or technical school degree	64	20.2
College or advanced or postgraduate degree	161	50.8
Cancer type*		
Colon or rectal cancer	120	37.9
Breast cancer	71	22.4
Lung	19	6.0
Leukemia and lymphoma	17	5.4
Other	90	28.3
Time since diagnosis		
< 1 year	103	32.6
1 year to less than 2 years	82	25.9
2 years to less than 5 years	71	22.5
5+ years	60	19.0
Stage at diagnosis		
Stage 0/1	45	14.2
Stage II	64	20.2
Stage III	82	25.9
Stage IV	89	28.1
Cancer does not have a stage/Other/Don't Know or not sure	37	11.7
Number of telehealth sessions		
None	90	28.4
1–5	151	47.6
6 or more	76	24.0

* Most recent diagnosis. "Other cancers" all less than 5% each.

respondents (60%) were aged 50 or older. Approximately seven inten respondents (69.3%) were non-Hispanic White and more than half (50.8%) were college graduates. More than one-third of respondents (37.9%) had been diagnosed with colon cancer, and more than one in five (22.4%) reported a breast cancer diagnosis. Cancer stage at diagnosis varied across respondents, of whom many (58.5%) had been diagnosed within the previous 2 years. More than seven in ten respondents (71.6%) reported experience with telehealth, of whom one-third (33.5%) had completed at least six telehealth sessions.

3.1. Bivariate relationships

Table 3 presents the results of the bivariate analyses of variables associated with the patients' health status. Better self-reported *mental health* was associated with being non-Hispanic White, higher education level, older age, having fewer telehealth sessions, higher social support, greater self-efficacy, and having clinicians more responsive to patients' uncertainty and emotions. Better self-reported *physical health* was higher for respondents who were non-Hispanic White, had higher education level, more social support, greater self-efficacy, and who interacted with clinicians more responsive to uncertainty and emotions. Better *coping during the pandemic* was associated with older age, being non-Hispanic White, having fewer telehealth sessions, more social support, greater self-efficacy, and having clinicians more responsive to patients' uncertainty and emotions. Greater *psychological distress* was reported by patients with less education, patients of color, younger age, having more telehealth sessions, less social support, less self-efficacy, and having clinicians less responsive to patients' uncertainty and emotions.

Scores of clinicians' *responsiveness to uncertainty and emotions* did not vary as a function of any of the patients' sociodemographic and health-related variables, with one exception. The longer the time since diagnosis, the more favorably patients rated their clinicians on these domains of patient-centered communication.

3.2. Regression analysis

Multivariate regression analyses are reported in Table 4. The results indicate that patients who reported better *mental health* perceived their clinicians as more responsive to their uncertainty and emotions (ß =0.324, $p < .001$), had stronger social support (ß =0.182 $p = .009$), and had greater self-efficacy (ß =0.403, $p < .001$). These three factors explained 35.7% of the variance in patient mental health. Similarly, better self-reported *physical health* was associated with having clinicians who were more responsive to uncertainty and emotions (ß =0.207, p = .001), stronger social support (ß =0.158, p = .023), greater self-efficacy (ß =0.254, $p < .001$), and more education (ß =0.116, p = .002). The model accounted for 23.6% of the variance in self-reported physical health.

Better *coping during the pandemic* was associated with higher education (ß =0.068, $p = .006$), fewer telehealth sessions (ß = −.179, $p = .014$), more social support (ß =0.089, $p = .047$), higher self-efficacy (ß =0.155, $p < .001$) and greater clinician responsiveness to patient uncertainty and emotions (ß =0.114, $p = .007$). These predictors explained 24.4% of the variance in how well patients were coping. Factors contributing to more *psychological distress* included longer time since cancer diagnosis (ß =0.054, $p = .031$), having more telehealth consultations (ß =0.335, $p < .001$), weaker social support (ß = −0.177, $p = .006$), lower self-efficacy (ß = −0.335, $p < .001$), and less clinician responsiveness to patient uncertainty and emotions (ß = −0.258, $p < .001$). These factors accounted for 36.4% of the variance in psychological distress.

4. Discussion and conclusions

4.1. Discussion

People with cancer often experience difficult emotions and face multiple uncertainties, such as treatment choices, treatment effectiveness, and disease recurrence, all of which have been magnified during the COVID-19 pandemic. The psychological stress associated with risk of COVID-19 infection [5,7], delays and disruptions in cancer care [10,13], and isolation from friends and family [11,48] have exacerbated preexisting distress among cancer patients. Such worry and uncertainty can lead to treatment burden, poorer symptom management, and poorer health-related quality of life [4,54]. This investigation examined cancer patients' perceptions of clinicians' responsiveness to their uncertainty and negative emotions during the pandemic and its relationship with several measures of self-reported health and well-being. Our findings have important implications for future research and clinical practice.

Our results indicated that clinician communication addressing patient uncertainty and difficult emotions was associated with better mental and physical health, better coping, and less psychological distress, even after controlling for patients' personal and health-related characteristics, self-efficacy, and access to social support. These findings align with previous qualitative research concerning cancer patients' beliefs about the importance of clinician communication to manage uncertainty and negative emotions, especially during a pandemic [24,55]. However, clinicians often score lower on these domains of patient-centered communication [30,46]. Communication strategies that clinicians can use to help patients manage uncertainty include exploring patient concerns, normalizing uncertainty, helping patients regain a sense of control, being clear about what is and is not known, bracketing ranges of possible outcomes, balancing uncertainty with

Table 3
Bivariate relationships among variables.

Variable	RUE[a]	Mental Health	Physical Health	Coping	Psychological Distress
Correlations	rho	rho	rho	rho	rho
Education (M = 4.32, SD = 1.31)	-0.062	.170 **	.221 **	.200 **	-0.175 **
Age Category (M = 2.73, SD =0.87)	0.08	.180 **	0.038	.170 **	-0.252 **
Stage (M = 2.56, SD = 1.153)	0.029	0.008	-0.09	-0.019	0.076
Telehealth Sessions	-0.107	-0.157 **	-0.082	-0.224 **	.369 **
Correlations	r	r	r	r	r
Time Since Diagnosis (M = 2.8, SD = 1.87)	0.182 **	0.057	0.055	0.067	0.04
Social Support (M = 4.19, SD =0.82, ∂ =0.854)	0.360 **	0.383 **	0.296 **	0.318 **	-0.40 **
Self-Efficacy (M = 3.67, SD =0.86, ∂ =0.898)	0.284 **	0.500 **	0.365 **	0.358 **	-0.449 **
Responsiveness to Uncertainty and Emotions (RUE) (M = 3.69, SD =0.824, ∂ =0.937)	1	0.393 **	0.277 **	0.274 **	-0.353 **
ANOVA#	F	F	F	F	F
Race: White	5.299 M(y)= 3.75 M(n)= 3.5	9.003*** M(y)= 3.25 M(n)= 2.84	8.794*** M(y)= 2.99 M(n)= 2.62	16.8***M(y)= 2.19 M(n)= 1.86	15.671*** M(y)= 2.43 M(n)= 2.93
Gender: Male	0.170 M(female)= 3.7 M(male)= 3.66	0.036 M(female)= 3.17 M(male)= 3.15	2.259 M(female)= 2.97 M(male)= 2.8	0.634 M(female)= 2.14 M(male)= 2.08	0.012 M(female)= 2.54 M(male)= 2.53

*: $p < .05$
**: $p < .01$
***: $p < .005$[b]
[a]RUE refers to the variable Clinician Responsiveness to Uncertainty and Emotion
[b]The p value for the ANOVA tests were Bonferroni corrected; only significant ANOVA tests were marked with "***".

Table 4
Results from multiple regression analyses.

	Mental health		Physical health		Coping		Psychological distress	
	ß	p	ß	p	ß	p	ß	p
Constant	-0.689	0.09	0.671	0.097	0.479	0.067	5.625	< 0.001
Race: REF: Non-Hispanic White	-0.047	0.701	0.054	0.655	0.122	0.121	-0.094	0.407
Education	0.059	0.123	0.116	**0.002**	0.068	**0.006**	-0.055	0.12
Age	0.103	0.084	-0.08	0.175	0.023	0.546	-0.104	0.059
Gender: REF: Male	0.016	0.874	-0.145	0.153	-0.046	0.48	-0.046	0.627
Time since diagnosis	-0.013	0.628	0.012	0.658	0.01	0.58	0.054	**0.031**
Had telehealth visits REF: No	-0.13	0.249	-0.111	0.322	-0.179	**0.014**	0.335	**0.001**
Cancer stage at diagnosis	0.01	0.815	-0.08	0.066	-0.006	0.844	0.042	0.299
Social support	0.182	**0.009**	0.158	**0.023**	0.089	**0.047**	-0.177	**0.006**
Self-efficacy	0.403	**< 0.001**	0.254	**< 0.001**	0.155	**< 0.001**	-0.335	**< 0.001**
Clinician responsiveness to uncertainty and emotion	0.324	**< 0.001**	0.207	**0.001**	0.114	**0.007**	-0.258	**< 0.001**
R^2	0.357		0.236		0.244		0.364	
p	< .001		< 0.001		< 0.001		< 0.001	

hope, and discussing aspects of managing cancer that can be controlled [56,57]. Additional communication practices can help patients cope with difficult feelings. For example, simply recognizing and validating patients' emotions in and of themselves has therapeutic value [42], which when coupled with empathy, reassurance, and emphasizing non-abandonment can contribute to better emotional well-being [27, 58].

The importance of clinician responsiveness to uncertainty and difficult feelings should be considered within the context of other factors that also were associated with better self-reported health. For example, respondents with more access to social support and greater self-efficacy in managing problems also reported better health and coping. This finding is consistent with a recent study indicating that patients with more social support and a sense of mastery (perceived control) in managing cancer also reported better health status and less anxiety since the start of the COVID-19 pandemic [47]. Additionally, our investigation revealed that patients' perceptions of clinicians' communication were moderately correlated with both self-efficacy and social support (see Table 2). In other words, patients who had *less* positive communication experiences with clinicians also faced other barriers to well-being such as lower self-efficacy and less social support. This was particularly true for patients of color in this study (see Table 3).

Patient-centered communication, social support, and self-efficacy likely do not operate independently of one another. For example, psychosocial factors, such as having less social support and less self-efficacy in dealing with emotions, may contribute to cancer patients having more difficult, less satisfying interactions with clinicians [59]. Conversely, clinicians' communication that engages cancer survivors in the care process also enhances patients' sense of personal control and helps reduce uncertainty, which in turn may foster better mental health [26, 60].

Regardless of the directionality of these relationships, an important component of patient-centered communication is to help patients access psychosocial resources [25], and future research should examine how

clinicians can leverage their communication skills to help patients develop greater self-efficacy and obtain social support. For example, clinicians themselves can be important sources of social support [61] by providing informational resources [62], reassuring their commitment to the patient's care [63], and engaging family and loved ones in care [64]. Clinicians can enhance patients' self-efficacy by offering educational resources for symptom and pain management [65], providing patients with survivorship resources to promote self-advocacy [66], and involving social workers or patient navigators to find ways to overcome barriers to cancer care such as lack of transportation, challenges scheduling, and coordinating care [67]. Clinicians can further support patients by directing them to groups and organizations that offer additional resources for patient empowerment [68] and social support [69].

Finally, as noted at the outset, many aspects of cancer care have transitioned to telehealth platforms since the start of the pandemic. One finding from our study is that patients who reported having to transition more of their cancer care to a telehealth platform reported poorer coping and more psychological distress (see Table 4). On the one hand, it may be that patients with more telehealth visits were simply coping worse or had more health-related challenges. Thus, they had a greater need for more visits of any kind, be they telehealth or in person (number of visits was not measured in this investigation.).

On the other hand, mediated interactions, either by phone or video, potentially lessen clinicians' capacity to respond sufficiently to patients' uncertainty and difficult feelings. For example, while the pandemic-induced transition to telehealth has been relatively well received [17,70], many clinicians and patients are concerned that telehealth visits can be a hindrance to effective clinician-patient communication [21,22,71]. Accordingly, cancer patients present mixed views of the utility of telehealth, as some hope it will remain an option for some cancer care services [70], whereas others hope to return to pre-pandemic, in-person cancer care [72]. Future research should examine ways in which clinicians can be sufficiently responsive to patients' uncertainty and emotions via telehealth, using strategies aimed to enhance a clinician's communicative effectiveness [73].

We acknowledge several limitations in this study. First, as a cross-sectional study, this investigation cannot determine definitively whether clinician responsiveness to patient uncertainty and difficult feelings directly contributed to better self-reported health and coping. Future research should use longitudinal designs to identify the causal ordering of the relationships between these domains within patient-centered communication and health outcomes. Second, we did not examine potential interrelationships among patient-centered communication, self-efficacy, and social support. A focus of future research is to explicate whether any of these factors might moderate or mediate the others in influencing cancer care outcomes. Third, the sample was disproportionally White, female, and college-educated, and consequently may not be representative of all cancer patients receiving treatment during the COVID-19 pandemic. Moreover, it is unknown to what extent our respondents were representative of their respective cancer support communities. Future research on communication and cancer care outcomes should recruit samples that are more representative of the population, with an emphasis on subpopulations that are traditionally underrepresented in research and more subject to health disparities. Finally, we focused on two domains of patient-centered communication. Their relative importance should be examined with respect to the importance of other patient-centered communication functions, such as making decisions and fostering healing relationships.

5. Conclusion

Two domains of patient-centered communication—helping patients manage uncertainty and responding to emotions—were associated with cancer patients' physical and mental well-being, as well as their ability to cope during the COVID-19 pandemic. Higher self-efficacy and access to social support also were linked with these outcomes, suggesting that clinicians' abilities in other domains of patient-centered communication, such as enabling self-management and fostering healing relationships, may help cancer patients access social and personal resources that in turn facilitate better coping and well-being.

5.1. Practice implications

These findings highlight the importance of clinician communication training programs that not only facilitate development of skills within the patient centered communication domains of effective information exchange, building rapport and trust, and shared decision-making, but also on helping patients work through uncertainty and difficult emotions [73]. A number of communication interventions have shown to be successful in this regard, especially within oncology settings [74,75]. Moreover, given that many cancer care services are and are likely to continue to be delivered via telehealth, clinicians will need to additional skills to enhance their "webside" manner. For example, suggested practices when having telehealth consultations include relying more on verbal cues (e.g., "Take your time, I'm here" or "that must be hard") and explicit nonverbal cues (e.g., leaning in to show intentional listening, placing one's hand over their heart) in order to convey empathy and connection [76].

CRediT authorship contribution statement

Richard L Street, Jr.: Conceptualization of study, Writing, Data analysis, Editing, Reviewing final submission. **Katherine Treiman:** Conceptualization of study, Writing, Data analysis, Editing, Reviewing final submission. **Luna Wu:** Data analysis, Writing of methods section. **Elissa C. Kranzler:** Writing, Data analysis, Editing, Reviewing final submission. **Rebecca Moultrie:** Data analysis, Editing, Reviewing final submission. **Nicole Mack:** Data analysis. **Reese Garcia:** Editing, Reviewing final submission.

Conflict of interest

The authors report no conflicts of interest.

Acknowledgments

This research was funded through a Patient-Centered Outcomes Research Institute (PCORI) Eugene Washington Engagement Award (EA # 14460). We also wish to acknowledging the generous support of the Cancer Support Community and Fight Colorectal Cancer support communities for their assistance in conducting this study.

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