NEGATIVE EMOTIONS IN CANCER CARE: DO ONCOLOGISTS' RESPONSES DEPEND ON SEVERITY AND TYPE OF EMOTION?

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Abstract

Objective—To examine how type and severity of patients' negative emotions influence oncologists' responses and subsequent conversations.

Methods—We analyzed 264 audio-recorded conversations between advanced cancer patients and their oncologists. Conversations were coded for patients' expressions of negative emotion, which were categorized by type of emotion and severity. Oncologists' responses were coded as using either empathic language or blocking and distancing approaches.

Results—Patients presented fear more often than anger or sadness; severity of disclosures was most often moderate. Oncologists responded to 35% of these negative emotional disclosures with empathic language. They were most empathic when patients presented intense emotions. Responding empathically to patients' emotional disclosures lengthened discussions by an average of only 21 seconds.

Conclusion—Greater response rates to severe emotions suggest oncologists may recognize negative emotions better when patients express them more intensely. Oncologists were least responsive to patient fear and responded with greatest empathy to sadness.

Practice Implications—Oncologists may benefit from additional training to recognize negative emotions, even when displayed without intensity. Teaching cancer patients to better articulate their emotional concerns may also enhance patient-oncologist communication.

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Keywords

Doctor-patient relations; communication; cancer; emotion

1. INTRODUCTION

Patients with advanced cancer often experience strong emotions such as sadness, anxiety, and fear which, if unaddressed, can impair function and emotional well-being and may negatively affect survival.[1–3] Many patients find relief in discussing emotional concerns with their oncologists and prefer seeing physicians who are willing to address such concerns.[4] Additionally, when oncologists attend to distress, patients receive tangible benefits; they report improved quality of life, adherence to treatment plans, overall satisfaction, and willingness to disclose future concerns.[1,5,6]

When patients discuss feelings with their oncologists, doctors can respond in a number of ways, including acknowledging the emotion by offering an empathic response or ignoring the emotion through blocking or distancing behaviors.[7] Empathic responses let patients know they have been heard and may allow, or even encourage, them to continue sharing their concerns. Unfortunately, research shows that oncologists often ignore rather than address the emotion.[8–10] There are several possible explanations. Oncologists may not recognize patients' emotions, worry that addressing emotions takes too much time, or fear becoming emotionally involved in patients' distress.[10]

In recent years, the medical community has focused on understanding and improving physicians' abilities to recognize and respond to patients' emotions.[11–13] However, there is a lack of data to document how oncologists respond to different types and severity levels of emotion, or whether various types of emotions trigger different responses from doctors. The current research on "empathic opportunities" treats all emotions equally, despite a wide range in both the type and intensity of emotions patients express. A patient's fear about her life ending before seeing her daughter graduate from high school likely warrants a different response than her frustration that low blood counts will postpone her chemotherapy treatment.

Further, existing literature has shown that empathic responses by physicians facilitate patient discussion of emotions;[14,15] however, there is little empirical evidence identifying which types of emotional disclosures prompt oncologists' empathic responses. We conducted this study to identify which negative emotions are most likely to elicit empathic language from oncologists, and to determine how the conversation proceeds after an oncologist responds empathically to a patient.

2. METHODS

2.1. Participants

Data for this report were collected as part of the Study of Communication in Oncologist-Patient Encounters (SCOPE), a three-site project analyzing audio-recorded conversations between advanced cancer patients and their oncologists from Duke University Medical Center (DUMC), the Durham Veterans Affairs Medical Center (DVAMC), and the University of Pittsburgh Medical Center (UPMC). Results reported in this manuscript represent data collected in the clinical trial portion of the SCOPE study. Detailed methods of SCOPE are reported elsewhere. [16] SCOPE was approved by each study site's institutional review board (IRB).

Oncologists—We approached all medical, radiation, and gynecological oncologists who saw patients in the Radiation Oncology, Surgical and Medical Oncology, Obstetrics and

Gynecology (OB-GYN), Brain Tumor, and Bone Marrow Transplant clinics to participate in the study. We recruited 110 oncologists from the three institutions. Of the seventy-four oncologists who consented, eight withdrew voluntarily because they moved outside the study area, while an additional eighteen withdrew due to a lack of eligible patients. Forty-eight oncologists completed all phases of the study.

Patients—Eligible patients: 1) had advanced-stage malignancy; 2) spoke English; 3) were receiving primary oncology care at DUMC, UPMC, or DVAMC; and 4) had access to a telephone. Oncologists and their mid-level providers were asked to identify outpatients that met these eligibility criteria and about whom the oncologist "would not be surprised if the patient died within one year." Patients' loved ones (i.e., family members, friends and caregivers who accompanied patients into the examination rooms) occasionally expressed negative emotions about the disease on behalf of patients. Because oncologists responded to these loved ones as equal partners in the clinical communication, disclosures of negative emotion by loved ones were included in our sample and were counted together with patient disclosures. All study participants provided written, informed consent.

2.2 Measures

For this analysis, we selected the sub-sample of audio-recorded visits in which patients expressed at least one negative emotion to their oncologist (N=135 patients from conversations with N=44 oncologists). Negative emotions were defined as instances in which patients revealed distress about the cancer or related topics (e.g., "This cancer has made my life miserable!"). All instances of negative emotion presented empathic opportunities for the physician. Both verbal (e.g., "I've been depressed") and non-verbal (e.g., patient crying in response to bad news) expressions were coded and analyzed. We transcribed all instances of negative emotion and the discussion that followed and recorded the length of time the oncologist and patient spent discussing the negative emotion before the conversation topic returned to medical content.

A codebook was developed to analyze the empathic opportunities presented and the oncologists' responses. We established rules and examples pertaining to three analytic goals: 1) identifying the emotion expressed; 2) measuring the severity of the emotion; and 3) rating the quality of the oncologist's response to the emotional disclosure (Table 1). First, each empathic opportunity was labeled as comprising one of eleven emotions, which were later collapsed into three categories: Anger, Sadness, and Fear. Second, emotional disclosures were evaluated for level of severity (least severe, moderately severe, and most severe), based on preset rules analyzing tone of voice, topic of disclosure, and word choice. Third, coders determined whether oncologists' responses were empathic. Coders assigned responses to one of six categories, depending on the extent to which the oncologist acknowledged the disclosure and attempted to understand or support the patients' emotions. Non-empathic responses were given a score between 1 and 3, depending on the degree to which discussion about that emotion was blocked. Empathic responses that acknowledged the patient's emotion were scored between 4 and 6, depending on the degree to which the oncologist invited the patient to continue expressing the negative emotion. An example of an empathic statement might be, "Yeah, I understand. You just never thought this was going to come back" (response score=6). In contrast, non-empathic responses included oncologists' attempts to steer the conversation away from the negative emotion, either by reverting to medical discussion or negating or joking about the emotion. For example, "Oh, come on! This isn't that bad; lots of people have it even worse," (Response score=2).

Finally, coders analyzed how conversations proceeded after oncologist responses, specifically looking at whether oncologists' empathic responses extended discussion of the patient's

emotional expression and whether non-empathic responses steered the conversation away from discussion about that emotion back to medical topics.

Two coders trained using a sample set of conversations not included for final analysis. A 20% random sample of the conversations was double-coded to ensure reliability of the coding system. Cohen's kappa was used to calculate inter-rater reliability for each code using Landis and Kock's classification (0.21–0.40=fair agreement; 0.41–0.60 = moderate agreement; 0.61–0.80 = substantial agreement; 0.81–1.0 = near-perfect agreement).[17] All Kappa scores fell into the "near perfect agreement" or "substantial agreement" categories (Type of emotion = 0.93, 95% CI: 0.8, 1.0; Severity of emotion = 0.72, 95% CI: 0.6, 0.9; Oncologists' responses rating = 0.86, 95% CI: 0.8, 1.0).

2.3. Statistical Analyses

Analyses were performed using the SAS for Windows Version 9.1 (SAS, Cary, NC, USA). Because these data were collected during a clinical trial, half of these oncologists had completed an interactive CD-ROM educational program that used didactic presentation and samples of the oncologists' own conversations to teach them better communication skills, including how to respond to patients' negative emotions. Recordings from an equal number of control and intervention oncologists were used in the final analysis. Because the outcome of interest was the type, not the number of emotions expressed by patients and the role played by oncologist response, we combined all recordings into one dataset for analysis.

All of the analytic variables in this manuscript were categorical and were described with frequencies in contingency tables. The primary outcome variable was empathic versus non-empathic responses from the oncologist to the empathic opportunities presented by the patient. Chi square tests and odds ratios were used to investigate the relationships between the oncologists' responses and type and severity of emotion separately. Mantel-Haenszel statistics were used to examine the relationship between the oncologists' responses and type of emotion while controlling for the severity level of the emotion. Several empathic opportunities could be presented to a single physician within each encounter with a patient and across encounters with various patients. Statistical methods including multilevel mixed effects models were used to investigate the presence of clustering,[18,19] but the data did not indicate intra-patient and intra-physician correlations.

3. RESULTS

3.1. Demographics

Forty-eight oncologists completed the study. We recorded a range of 1–7 conversations from each oncologist (mean=5.5) with a total of 264 patients (one recording per patient). One hundred thirty five of these patients disclosed at least one negative emotion to their oncologist. Patient and oncologist background characteristics are presented in Table 2.

3.2. Empathic Opportunities

We identified 275 empathic opportunities in a total of 264 conversations. About half of the conversations (N=135) had at least one empathic opportunity. Most empathic opportunities (67%) were expressions of fear (e.g., worried=104, fearful=43, anxious=26, overwhelmed=12); 17% of empathic opportunities expressed sadness (e.g., disappointed=19, discouraged=12, sad=6, depressed=6, hopeless=4), and 16% expressed anger (e.g., frustrated=40, angry=3). Emotions were further rated based on level of severity. Twenty-one percent of emotions were least-severe, 60% moderately-severe, and 19% most-severe.

3.3. Responses to Empathic Opportunities

Oncologists responded to empathic opportunities with empathic statements 35% of the time. The greater the severity of the negative emotion, the more likely oncologists were to respond empathically (least severe 21%, moderately severe 38%, and most severe 41%; χ^2=6.72, p-value=0.03). Oncologists were more likely to respond empathically when the patient disclosed either a most severe (OR=2.7; 95% CI: 1.2, 6.2) or moderately severe emotion (OR=2.3; 95% CI: 1.2, 4.8) compared to a least severe emotion.

The type of emotion expressed by the patient was also significantly associated with oncologist response (χ^2=13.80, p-value=0.001). Oncologists were most likely to respond with empathy (response scores=4–6) when patients expressed sadness (OR = 3.4; 95% CI: 1.7, 6.5) compared to expressions of fear. This could partially be explained by the higher percentage (28%) of sad emotions that were rated most severe compared to 17% of fearful and 14% of angry disclosures. However, when oncologists responded with empathy to these sad disclosures, their responses were most often weak examples of empathy (response score=4), and many conversations moved quickly back to medical topics, as in the following example:

Patient "I'm not happy."

Oncologist "Well it's not easy. Dr. Jones was telling me how you're coming along with the new medicine, and…"

In contrast, empathic responses to disclosures of anger and fear received more in-depth demonstrations of empathy:

Patient "This is mostly kinda unreal. It's scary."

Oncologist "Yeah, I understand. You just never thought this was going to happen."

In response to disclosures of fear and anger, oncologists most often addressed the underlying biomedical cause of the fear or anger (response score=3) rather than attending to the emotion itself (response scores=4–6). For example, in a situation where a patient discloses that he is scared of the bone marrow transplant failing, the oncologist was more likely to present transplant statistics to reassure the patient than to empathize with the patient's fear and offer support during the patient's scary experience.

After controlling for level of severity of the emotion, a significant association between the type of emotion and the oncologist's response remained (Q_{GMH}=13.9, p-value=0.001). Looking at all moderately severe patient disclosures, oncologists were more than twice as likely to respond with empathic language to moderately severe disclosures of sadness compared to fear (64% vs. 31%; χ^2=10.40, exact p-value=0.006). The same association exists for the most severe disclosures; oncologists were most empathic in response to severe expressions of sadness compared to severe expressions of fear (69% vs. 34%; χ^2=6.32, exact p-value=0.037). There was not a significant association between the type of least-severe emotions and the oncologist's response (See Table 3).

3.4. Patient responses to oncologists' statements of empathy

Most (82%) oncologists' empathic responses led to further discussion about the emotional topic. The length of discussion about the emotion was recorded from the time oncologists finished responding to the emotional disclosure until the conversation moved to a different topic. When oncologists responded empathically to patients' emotions, discussions lasted an average of 21 seconds before moving on to a different topic (range=0–180 seconds). Nearly all empathic responses that failed to continue the conversation about a patient's emotion were

weak examples of empathic responses (oncologist response score=4). When emotional disclosures were not addressed with empathy (response scores=1–3), nearly all (94%) conversation about emotion terminated immediately. For example:

Patient "I have this bad cancer, and it's eventually going to get me."

Oncologist "You had an excellent response in the beginning."

Patient "So when will you check me again?"

Twenty-three percent of the patients who presented at least one empathic opportunity raised the same emotion more than once, often after the oncologist had terminated the previous emotional disclosure. Yet, in these cases, repeated statements of negative emotion only elicited an empathic response 20% of the time.

4. DISCUSSION AND CONCLUSION

4.1. Discussion

We analyzed conversations between advanced cancer patients and their oncologists for discussions of negative emotion and made several observations. First, these patients most often expressed fear, and emotional disclosures were most often of moderate severity. Second, oncologists seemed to have trouble both in recognizing patients' expressions of negative emotion and in acknowledging and responding to the emotion; when they did respond empathically, they were most responsive when patients expressed sadness and had severe or moderate disclosures of negative emotions. Finally, as expected, empathic language almost always resulted in continued discussion about the emotion, whereas non-empathic language terminated such discussion.

Emotional disclosures by patients occur frequently during clinic visits; approximately half of the patients in our study shared at least one negative emotion with their oncologist, consistent with the findings by Levinson et al.[20] Two-thirds of the expressions were related to patients' fears. The large percentage of fear disclosures is not surprising considering the lack of certainty about disease progression and recurrence and the few curative options in advanced cancer care.

As in previous studies, we found that oncologists often missed opportunities to respond empathically to emotional disclosures.[7,20,21] While patients expressed fear most often, oncologists responded empathically to fear least often compared to the other emotions. When patients disclosed fearful emotions, oncologists more often addressed the topic causing the fear instead of addressing the emotion itself. It may be that oncologists are more comfortable dispensing medical knowledge to quell the patient's fear than offering emotional support. For example, in response to a patient's fear about prognosis, the oncologist might relay the statistical success of chemotherapy or radiation rather than support the patient's courage despite the unknown outcomes.

When oncologists responded empathically, they were most likely to respond to patients' disclosures of sadness, which may be due to the fact that these disclosures tended to be more severe than either fear or anger. Further, sadness is an emotion that perhaps draws more sympathy from oncologists, making them more inclined to respond empathically to patients. However, there was a difference in the quality of their responses depending on whether the patient presented sadness, fear, or anger. For instance, even when faced with severe patient sadness, oncologists often spoke with an empathic tone or attempted an empathic statement but were quick to steer the conversation back to the medical topic, perhaps a more comfortable

domain. This is not surprising given that more oncologists self-identify as being scientific and technical than socioemotional.[10]

Oncologists were least likely to respond empathically to the least severe disclosures; either they did not recognize weaker empathic opportunities or deliberately chose not to address them. The greater response rates to intense emotions suggest oncologists may recognize the negative emotions better when patients express them with more intensity. Oncologists' empathic responses, however, demonstrate an inverse relationship, in which they responded with weaker empathic statements towards most severe emotions and stronger empathic statements towards moderately severe disclosures. This relationship is similar to the way that people respond to fear appeals,[22] messages intended to invoke fear to persuade behavior. Mild fear appeals are not strong enough to engender a response, and very strong appeals cause people to avoid the appeal. Oncologists seem to be responding to emotional expressions in a similar manner. It also could be that oncologists were overwhelmed by the intense emotional disclosures or did not feel qualified to address these issues with the patients and, instead, were more comfortable reverting to more biomedical-based discussion after briefly acknowledging the intense patient emotion. Existing literature suggests physicians typically offer minimal empathy in response to patients' disclosures of emotions,[20,23] and our data suggests similar phenomena occur during clinic visits. For example, Ford et al. found that doctors offered reassurance to their patients, but the reassurance was more often related to biomedical issues than to psychosocial concerns.[23] So, while oncologists used empathy most often in response to severe expressions of emotion, their implementation of empathic language was not more successful in extending emotional discussions.

Our data show that patients responded as predicted to empathic responses. Empathic statements invited patients to elaborate about their negative emotion. Consistent with other communication literature, further discussion of the emotion averaged only 21 seconds before the patient or oncologist transitioned away from emotional topics.[14,24] We recorded only one instance in which discussion about the emotion lasted over two minutes, suggesting that oncologists can respond empathically without fearing that this will lead to long discussion of emotional topics. The instances in which empathic language did not facilitate further emotional expression were most often examples of weaker empathic responses, (e.g., "I know it's been hard. I want to ask you, though, how your appetite has been").

Finally, patients often presented more than one empathic opportunity during their visits, which is consistent with existing literature.[20,25] When oncologists failed to respond empathically, many patients raised a different negative emotion later, and several brought up the same emotion again. Two-thirds of the patients who received an empathic response to their first emotional disclosure did not raise another emotion during their visit. For oncologists who have limited time to spend with each patient, it might be advantageous to acknowledge the patient's emotion by expressing empathy towards their situation before moving back to the medical discussion.

Our study has several limitations. First, because these encounters were audio recorded, we can only comment on verbal communication. The oncologists may also have used nonverbal expressions of empathy. Second, as oncologists were aware of the recorder's presence in the room, they may have been more attentive to patients' concerns, falsely increasing our sample of empathic responses. However, if this is true, then these somewhat disappointing data represent behavior when physicians are trying to do their "best." Third, because the study was conducted with outpatients in academic research institutions, our findings may not be generalizable to all patients with advanced cancer. However, our patient population was diverse, and substantial numbers of patients receive care at comprehensive cancer centers. Fourth, we chose to include loved ones' disclosures (when they pertained to the patient), which

differs from other studies. In palliative care practice, family is the unit of care. We believe the inclusion of loved ones' concerns allowed us to analyze how oncologists communicate with the patient, as well as their family, about emotional distress related to advanced cancer. Finally, we did not gather data from patients about their reasons for revealing or concealing their negative emotions. Some may have learned during previous visits, as suggested in existing literature,[6] that their oncologists are either receptive or unreceptive towards emotional conversations, which may have affected patients' decisions about whether to raise emotional topics.

4.2. Conclusion

Patients' disclosures of emotion present many opportunities for oncologists to respond with empathic language. Unfortunately, many oncologists either recognize only a small proportion of the emotions or choose not to engage in emotional discussions with their patients. Communication may be improved if oncologists learn that responding to patients' emotions does not lengthen visit time excessively, and may in fact, prevent the re-expression of negative emotions later in the visit.

4.3. Practice Implications

These findings suggest a need for improved communication about negative emotions during advanced cancer care. Oncologists may benefit from training to better recognize when patients are expressing negative emotions. Because disclosures of fear are raised most frequently and disclosures of sadness are often the most intense, oncologists could be more prepared to address these particular emotions and provide empathy when necessary. This may involve helping oncologists themselves feel less overwhelmed and thus better able to respond to intense emotions. A second approach to improve communication may be to develop an intervention to help patients feel comfortable expressing their emotions clearly and requesting support from oncologists. Oncologists were least empathic when patients expressed mild emotions. Thus, patients may need to be direct and more expressive to get the oncologist's attention. While the goal of enhanced communication training for oncologists should be first and foremost, teaching advanced-cancer patients more effective methods of expressing emotions may also enhance communication about emotions between patients and oncologists.

Acknowledgements

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Table 1

Codebook Guidelines and Examples

CATEGORIES	EXAMPLES
Patient Emotion Type	
Fearful (including worried, fearful, anxious, overwhelmed)	"I worry about my two kids having no mother."
Angry (including angry, frustrated)	"It's just extremely frustrating to have this extremely vague prognosis."
Sad (including sad, disappointed, depressed, hopeless, discouraged)	"I thought I was in remission. When he looked at the bone marrow, it was still 40%. It was devastating to me. I wanted to be in remission."
Patient Emotion Severity	
1. Least severe	"I guess I have to put up with this every few weeks."
2. Moderately severe	"Last time I wasn't happy at all. I was upset because it didn't shrink."
3. Most severe	"I can't live my life…I'm not living a life! I can't do this! It's not good for me!"
Oncologist Response	
Non-Empathic (Response scores 1–3)	
1. Ignores or changes subject	"Let me just interrupt. What we are seeing is lymph nodes…"
2. Jokes or negates	(MD laughs), "You need to focus on the positive!"
3. On-topic, but only medical conversation	"Well, with the blood counts doing so well, I think she's fine."
Empathic (Response scores 4–6)	
4. Attempts empathic statement but reverts to medical talk	"Yeah, it's not easy. But before we talk about that, let's talk about how you're appetite has been."
5. Acknowledges emotion	"That would be very irritating. Yes, absolutely."

CATEGORIES	EXAMPLES
6. Explores emotion or provides support or respect	"I'm going to be with you. And I think your decision's a good one. And if you change your mind at any point, I'm here for both of you."

Table 2

Participant Background Characteristics

	Patients (n = 135)	Oncologists (n = 44)
Mean Age, in years (SD)	59.5 (13.8)	49.4 (8.1)
Gender		
Male	43.0% (58/135)	81.8% (36/44)
Race		
Caucasian	92.1% (116/126)	81.8% (36/44)
African American	7.1% (9/126)	0% (0/44)
American Indian or Alaskan Native	0% (0/126)	0% (0/44)
Asian-Pacific Islander	0% (0/126)	11.4% (5/44)
Other	0.8% (1/126)	6.8% (3/44)
Ethnicity		
Hispanic	3.2% (4/125)	9.1% (4/44)
Physician Specialty		
Med Onc (solid tumors)		40.9% (18/44)
Heme Onc (liquid tumors)		27.3% (12/44)
Med Onc (solid and liquid tumors)		20.5% (9/44)
Gyn Onc		9.1% (4/44)
Radiation Onc		2.3% (1/44)
Total previous visits with the oncologist		
0 to 2	23.8% (30/126)	
3–5	15.9% (20/126)	
6 or more	60.3% (76/126)	

Table 3

Results for Severity and Type of Emotion in Empathic Opportunities (n=275)[*]

Severity and Type of Emotion	Empathic Response (N=96)	Non-Empathic Response (n=179)	Chi Square, exact p-value
Least (21%)			
Fear (n=36)	6 (16.7%)	30 (83.3%)	χ^2 =1.17
Anger (n=13)	4 (30.8%)	9 (69.2%)	p=0.59
Sadness (n=9)	2 (22.2%)	7 (77.8%)	
Moderate (60%)			
Fear (n=117)	36 (30.8%)	81 (69.2%)	χ^2 =10.40
Anger (n=24)	11 (45.8%)	13 (54.2%)	p=0.005
Sadness (n=25)	16 (64.0%)	9 (36.0%)	
Most (19%)			
Fear (n=32)	11 (34.4%)	21 (65.6%)	χ^2 =6.32
Anger (n=6)	1 (16.7%)	5 (83.3%)	p=0.04
Sadness (n=13)	9 (69.2%)	4 (30.8%)	

[*] After controlling for level of severity of the emotion, there is a significant association between the type of emotion and the oncologist's response (Q_{GMH}=13.9, p-value=0.001).