Patient cues and symptoms of psychosocial distress: what predicts assessment and treatment of distress by oncology clinicians?

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Abstract

Objective: Psychosocial concerns arise after a cancer diagnosis and during treatment requiring oncology clinicians to initiate discussions to identify distress. This study examined patient–clinician communication about psychosocial concerns and predictors of assessment and treatment/referral for distress.

Methods: Secondary analysis of existing dataset coded to explore patient–clinician communication during ambulatory visits in two comprehensive cancer centers was carried out. Sample included adult patients with various cancers and stages. Dataset included audio-recordings and symptom/QOL reports 4–6 weeks after starting treatment from all distressed patients ($n = 66$) in parent study and random sample of nondistressed patients ($n = 23$). Distressed patients had moderate-to-severe depression (Patient Health Questionnaire-9 scores ≥10) and/or poor emotional functioning (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire emotional function scores <50). Audio-recordings were coded to describe patient–clinician communication about psychosocial concerns using the coding scheme from the parent study plus Medical Interview Aural Rating System.

Results: The remaining patients gave 222 cues of psychosocial concerns: 183 from 46 distressed patients and 39 from nine nondistressed patients. Distressed patients were younger, were female, had higher symptom burden, and/or gave more cues. Significantly, more distressed patients had at least one cue/visit. Clinicians initiated 62% of discussions overall with no statistical difference between distressed and nondistressed groups. More explicit cues and more than four cues predicted treatment/referral for distress.

Conclusions: Distressed patients were younger, were female, had higher symptom burden, and/or gave more verbal cues. Clinicians responded to explicit and more frequent cues by providing treatment and/or referrals for distress. Further exploration is needed regarding clinician factors related to assessment of psychosocial concerns.
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Background

It is well accepted that communication between patients and health care clinicians is a vital component of providing quality cancer care [1,2]. In addition, patient–clinician communication has been linked to health outcomes and quality of life [3]. The diagnosis of cancer is known to cause patients distress, including treatable mood disturbances such as anxiety and depression [4–6]. Assessment of psychosocial concerns requires patient-centered communication that identifies treatable issues and fosters appropriate interventions and/or referrals for distress [7,8].

Framework

Patient–clinician communication involves complex processes, especially in cancer care. Two leaders in the field of patient–clinician communication, de Haes

and Bensing, developed a new model (the Model) to direct future investigation of healthcare clinician and patient communication [9]. The Model links elements of communication processes to specific goals and endpoints/patient-related outcomes. It describes six functions of communication to address doctor–patient communication that have applicability to other health care clinicians.

The sixth function of clinician communication within the model is *responding to patient emotions*. The Model describes the goals of this function as *enhance communication*, *support the patient*, and *referral when needed*. The endpoints are divided into immediate, intermediate, and long term. The immediate endpoints include clinician (*clinician explorative skills*) and patient behaviors (*patient expression of emotion*). Intermediate and long-term endpoints are patient-specific and are defined as *patient sense of support*, *patient emotional adjustment*, and *decreased*

psychological distress [9]. The Model provides specific patient and clinician behaviors and the communication processes that lead to specific goals/endpoints. These endpoints are in keeping with outcomes-driven research imperatives to improve cancer care [1,2].

Review of the literature

Communication about the psychosocial concerns of people with cancer has gained increasing attention from national organizations, particularly over the last 5 years. The National Cancer Institute monograph by Epstein and Street [1] highlighted the importance of communication in improving cancer care outcomes and decreasing suffering for people with cancer. The Oncology Nursing Society's 2009–2013 Research Agenda highlighted the need to design interventions that reduce negative psychosocial outcomes for people with cancer [10]. According to the National Comprehensive Cancer Network, 'distress should be recognized, monitored, and documented and treated promptly at all stages of the disease and in all settings' [11]. New standards for assessment of psychosocial concerns were written into the Standards for Safe Chemotherapy Administration Safety Standards written by the American Society for Clinical Oncology and the Oncology Nursing Society [12]. Additionally, in 2015, screening for and treatment/referral for psychosocial distress will be a required standard of clinical management for certification of cancer programs in the USA by the American College of Surgeons, Commission on Cancer [13]. Therefore, clarifying the communication processes that lead to assessment of psychosocial issues and the identification and treatment/referral for distress and other treatable conditions in people with cancer is crucial to ensuring quality cancer care.

Regardless of setting, specific clinician behaviors are known to influence patient outcomes such as well-being, adjustment, and quality of life. Clinicians have a responsibility to assess concerns by facilitating discussion and assessment of these concerns for potentially treatable issues such as distress [11]. Additionally, clinician responses to patient concerns influence subsequent patient disclosure or lack of disclosure and may affect patient outcomes including psychosocial well-being [14,15]. Specific communication behaviors including both acknowledgment and exploration of concerns are necessary to completely assess socioemotional concerns within the context of a cancer diagnosis [16] as well as other potentially life-threatening conditions including heart disease [17]. However, these concerns are often under-detected [18,19], resulting in patients with unresolved distress [20,4].

Patient self-report of symptom and quality of life issues, delivered to clinicians, is one mechanism to enhance clinician communication about these issues. The Electronic Self-Report Assessment-Cancer (ESRA-C) was developed to assess and deliver patient-reported cancer symptoms and quality of life issues (SQI) [21]. The results of the first ESRA-C clinical trial demonstrated that these patient-reported concerns were addressed significantly more often when clinicians received a summary report of SQIs prior to the visit than when no summary was delivered [22]. A second ESRA-C randomized trial [23] demonstrated that when patients were coached to report SQI systematically, provided with self-care instructions specific to problematic SQI and given the opportunity to self-monitor SQI, total symptom distress was reduced over the course of cancer therapy.

Two measures of social and emotional functioning were embedded in the ESRA-C II parent study: the Patient Health Questionnaire-9 (PHQ-9) and the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Emotional Functioning Scale (EORTC QLQ30-EF). The PHQ-9 is a well-known instrument for depression screening [24] and was found to be feasible and well accepted by patients with cancer [25]. PHQ-9 scores in the 10–14 range indicate possible depression and scores greater than 15 generally indicate a major depressive disorder.

The EORTC QLQ-C30 was created by the EORTC Quality of Life Group to assess quality of life in people with cancer [26]. The EORTC QLQ-C30 contains five functional scales including one for EF. Four items on the EORTC QLQ-C30 are used to calculate a score on the EF. Those participants whose scores are <50 (of 100) were considered at risk for poor emotional functioning.

The data from the ESRA-C II parent trial included SQI reports and audio-recordings of one clinic visit in ambulatory oncology settings. The SQI reports also contained information about patient-reported emotional functioning and depression that permitted identification of patients at risk for psychosocial concerns and distress. The associated audio-recordings provided verbatim communication data for the associated visit.

In a preliminary study, 30 audio-recordings, collected between 2005 and 2007 from the first ESRA-C clinical trial (D.L. Berry, PI) were coded with the Medical Interview Aural Rating System [27] in order to identify patient cues of psychosocial concerns and examine clinician responses to these concerns. The results indicated that while patients had an average of 4.6 cues of psychosocial concerns, more than half of patient cues for psychosocial concerns were not being explored by clinicians [18], a behavior seen in another study [28]. Building on the results of the preliminary work, our team coded the more recent trial data [23] and explored the elements of patient–clinician communication regarding psychosocial concerns, examined associated symptoms and quality of life issues, and identified predictors of discussions and treatment/referral of patients with distress.

The purpose of this study was to identify predictors of discussion of psychosocial concerns and treatment/referral

addressing significant distress in people with cancer during ambulatory oncology visits. The specific aims of this study were to:

1. Describe patient and clinician behaviors during discussion of psychosocial concerns by coding audio-recordings of distressed and nondistressed patients.
2. Identify predictors of clinician initiation of discussion of psychosocial concerns.
3. Identify predictors of clinician treatment/referral for patients with psychosocial concerns and/or distress.

Methods

Study design and sample

This secondary analysis used data from a randomized controlled trial [23] in which audio-recordings of a scheduled clinic visit between the participant and clinician were made approximately 3–6 weeks after the initiation of a new cancer therapy. All patients and clinicians gave written, informed consent for the audio-recording. The patients completed a symptom self-report regarding symptom and quality of life issues (SQIs) electronically within 24 h prior to each clinic visit. The study was conducted in two comprehensive cancer centers, and the details of the trial were reported elsewhere [23].

Embedded in ESRA-C II are measures of depression (PHQ-9) and emotional functioning (EORTC QLQ-C30) that were used to identify 'distressed' and 'nondistressed' patients. 'Distressed' patients are defined as those with PHQ9 scores ≥ 10 and/or < 50 on the EORTC QLQ-C30-EF scale. This study was designed with a preliminary identification of 92 patients reporting distress. A randomly generated sample of nondistressed patients equivalent to a approximately one third of the distressed sample was selected. Audio-recordings were available for 518 patients, of which 66 (13%) were classified as distressed and available for analysis. Additionally, 23 nondistressed patients were randomly selected from the data set. A total of 89 audio-recordings were used for this analysis.

Measures

All audio-recordings were coded with two coding schemes: (1) ESRA-C II coding tool to count aspects of any discussion of symptom and quality of life issues and visit outcomes; and (2) Medical Interview Aural Rating System (MIARS) to count and classify patient cues, clinician initiation, and exploration of psychosocial concerns. The ESRA-C II coding scheme has been developed during the research teams' experience with processing quantitative communication data [23]. The ESRA-C II coded for patient self-report of SQIs such as fatigue, appetite, appearance, insomnia, and fear/worry per the symptom distress scale (SDS); and emotional, social, and role functioning per the EORTC QLQ-C30. The audio-recordings also were coded for 26 SQIs: whether it was discussed, who initiated the discussion, if it was considered a problem, and

what action (treatment/referral) was taken. A research coordinator listened to the audio-recording and created time stamps and codes for particular aspects of each SQI addressed during the visit. For this analysis, coders were blinded as to patient-reported distress indications (PHQ-9 and EORTC QLQ30-EF scores) during coding with the MIARS scheme. Ten percent of the audio-recordings were double coded, and percent agreement on presence and levels of cues was calculated to establish inter-rater reliability. ESRA-C II and MIARS coding occurred separately. Coders for this study were trained in ESRA-C II coding with the ESRA-C II research team.

The MIARS [27] explores and codes clinician responses to patient cues or concerns and distress. In the MIARS, a *turn* is the unit of observation. Each *turn* is coded for both the patient and clinician to capture the sequential nature of the communication: for example, a patient cue and a clinician response, or a clinician question/initiation and a patient response. Patient cues are coded on three levels to record the depth to which feelings/concerns are disclosed (Level 1 = *hint at worry/concern*, Level 2 = *mentions worry/concern*, Level 3 = *clear expression of emotion*, i.e. crying).

MIARS coded for elements of patient–clinician communication and clinician responsiveness. Patient cues were coded for the level of explicitness on three levels (E1 = hint, E2 = direct expression of concern, E3 = outward expression of emotion, i.e., crying). Clinician behaviors were coded for initiation of discussion of psychosocial concerns and response to patient cues. Reponses include both positive behaviors (acknowledgement, exploration, minimal encouragement, or giving medical information) and negative behaviors (cue non-response or distancing).

Experimental variables

The primary coding scheme for this analysis was MIARS. However, MIARS only summarizes a discussion/initiation if a cue is given. It is possible for patient–clinician communication to occur with no cue; therefore, the ESRA-C II coding was used in the situation where no cue was given but a discussion occurred. The following details possible instances that either coding scheme was used:

- Psychosocial distress (PHQ-9 ≥ 10 and/or EORTC QLQ30-EF < 50)
- Patient cues of psychosocial concerns (MIARS Level I, II, III)
- Clinician assessment and exploration of patient psychosocial concerns (MIARS and ESRA-C II)
- Treatment/referral outcomes to address psychosocial concerns (ESRA-C II)

The SQIs considered related to those with psychosocial concerns included appetite, appearance, insomnia, fatigue, fear/worry, emotional functioning, role functioning, social functioning, and depression.

Statistical analyses

To verify that the random sample of nondistressed patients was representative of the patient population of the parent study, the random sample and remaining nondistressed patients were compared using baseline measurements; additionally, the random sample of nondistressed patients and the distressed patients were compared. Categorical variables were compared between groups using Fisher's exact test, and continuous variables were compared using the Wilcoxon rank sum test. All subsequent analyses used only the randomly selected sample of nondistressed patients.

The odds of at least one discussion of psychosocial concerns during a clinic visit were modeled using univariate logistic regression considering a list of pre-selected covariates including distress status, gender, total cues (none, 1–3, ≥4), cue level (none/E1, E2/E3), and study group. A model was only used when the sample size within the groups was deemed sufficient. The same analysis was conducted for the odds of at least one discussion resulting in a treatment/referral.

All analyses were conducted using SAS (version 9.2). One of the main goals of this analysis was to detect a difference between distressed and nondistressed patients. Because of the small sample size and exploratory nature of this study, all statistical tests are considered significant at the two-sided significance level of 0.1.

Results

Baseline demographic characteristics are provided in Table 1 for the entire analysis set ($n = 89$) as well as the remaining nondistressed patients ($n = 420$). Of the 89 patients in the analysis set, 66 (74%) were classified as distressed. The random sample of 23 nondistressed patients was deemed to be representative of the ESRA-C II nondistressed patients as the demographic variables of the nondistressed patients in the analysis set and the not included set from the parent study did not significantly differ (Table 1). In examining the differences in demographic factors between the distressed and nondistressed patients in the analysis set, women appear to be more distressed than men ($p = 0.09$), and the distressed patients tended to be younger ($p = 0.06$). There was no statistically significant difference between distressed and nondistressed patients by race/minority ($p = 1.00$), education ($p = 1.00$), marital status ($p = 1.00$), and employment status ($p = 0.80$). SQI scores were measured at time 2 (on-treatment) in Table 2 to identify distress during treatment. At time 2 (on-treatment), distressed patients had lower Global QOL ($p < 0.0001$), poorer emotional ($p < 0.0001$), role ($p < 0.0001$), and social functioning ($p < 0.0001$) and significant fatigue ($p < 0.0001$) and poorer outlook ($p < 0.0001$).

Interrater reliability was calculated by two coders on 10% of the audio-recordings ($n = 9$). Interrater reliability was 70% in agreement with coding in the presence of cues and emotional level of cues. On average, distressed patients gave 2.77 cues/visit; nondistressed patients had 1.70 cues/visit. In general, the proportion of patients with at least one cue was higher among the distressed compared with the nondistressed patients (70% vs. 39%, $p = 0.01$). Cues were coded for their level of intensity using the MIARS coding scheme. Overall, 55 patients gave a mean of 2.69 E1 cues, 25 patients gave a mean of 2.60 E2 cues, and 7 patients had a mean of 2.43 E3 cues (Table 3). Among the 89 patients, 34 (20 distressed, 4 nondistressed) gave no psychosocial cues during the visit. The remaining patients gave 222 cues: 183 from 46 distressed patients and 39 from 9 nondistressed patients.

Clinicians initiated communication about psychosocial concerns at least once per visit with 62% of all patients: 65% of distressed and 52% of nondistressed patients. At least one discussion, regardless of initiator, occurred within 81% of the patient visits: 85% of visits with distressed patients and 70% of visits with nondistressed patients. Clinicians initiated 64% of discussions with distressed patients with E2 cues and 33% of discussions with E3 cues (Table 3). The results from the univariate model (Table 4) suggest that the odds of at least one discussion were marginally higher for distressed patients than nondistressed patients ($p = 0.12$, OR = 2.5, 90% CI 1.0–6.2). At least one treatment/referral was given for 54% of patients: 64% of distressed patients and 30% of nondistressed patients. The higher odds of at least one treatment/referral were suggested for the distressed patients ($p = 0.008$, OR = 4.0, 90% CI 1.7–9.4), E2/E3 cues compared with no/E1 cues ($p = 0.0006$, OR = 6.7, 90% CI 2.7–16.8); the lower odds of at least one treatment/referral are associated with no versus more than four cues ($p = 0.01$, OR = 0.2, 90% CI 0.08–0.50; Table 4).

Discussion

Overall, we found differences on the patient expression and clinician detection of psychosocial concerns during ambulatory oncology visits. Younger patients with cancer were more apt to be distressed as measured by self-report on the embedded measures in the ESRA-C II (PHQ-9 +/or EORTC-QLQ30-EF). Women tended to be more distressed than men, a finding seen in another recent study of symptom clusters in cancer patients [29]. Distressed patients reported a significantly poorer quality of life and higher symptom burden, especially fatigue, outlook, and insomnia. Distressed patients gave more cues per visit. Distressed patients in this study had poorer overall QOL, a finding seen in other studies [30,31].

Provider initiation of discussions

Overall, clinicians initiated at least one discussion about psychosocial concerns only two-thirds of the time with distressed patients despite clinicians having summary

Table 1. Patient characteristics

| | Analysis set | | | | Not included | |
	Total N (%)	Distressed N (%)	Not distressed N (%)	p-value[a]	Not distressed N (%)	p-value[b]
N	89	66 (74)	23 (26)		420	
Age				0.62		0.81
≥50 years (1)	66 (74)	40 (61)	16 (70)		304 (72)	
<50 years (0)	23 (26)	26 (39)	7 (30)		116 (28)	
Age median (range)	55.6 (25.6, 86.4)	55.1 (27.0, 86.4)	61.6 (25.6, 83.8)	0.06	58.4 (21.8, 87.2)	0.34
Gender				0.09		0.83
Male	36 (40)	23 (35)	13 (57)		224 (53)	
Female	53 (60)	43 (65)	10 (43)		196 (47)	
Education				1.00		0.79
≤HS	20 (22)	15 (23)	5 (22)		84 (20)	
≥2-year college	69 (78)	51 (77)	18 (78)		336 (80)	
Minority status				1.00		1.00
Caucasian/non-Hispanic	72 (81)	51 (77)	21 (91)		342 (81)	
Other	9 (10)	7 (11)	2 (9)		38 (9)	
N/A	8 (9)	8 (12)	0 (0)		40 (10)	
Work status				0.80		0.36
Working	46 (52)	32 (48)	14 (61)		265 (63)	
Not working	35 (39)	26 (39)	9 (39)		114 (27)	
N/A	8 (9)	8 (12)	0 (0)		41 (10)	
Marital status				1.00		0.60
Married/partnered	65 (73)	48 (73)	17 (74)		335 (80)	
Single	24 (27)	18 (27)	6 (26)		85 (20)	
Study group				0.23		0.29
Control	46 (52)	37 (56)	9 (39)		213 (51)	
Intervention	43 (48)	29 (44)	14 (61)		207 (49)	

[a]Test excludes unknowns.
[b]Test excludes unknowns; tested against the not distressed in analysis set to see if the nondistressed group in the analysis set is similar to the nondistressed group not included in the analysis.

Table 2. Time 2 – on-treatment SQLI scores by distress status

	Total med (range)	Distressed med (range)	Not distressed med (range)	p-value[a]	Not included/ not distressed med (range)	p-value[b]
Patients	89	66 (74)	23 (26)		420	
Global QOL	50 (0, 91.7)	41.7 (0, 91.7)	66.7 (25, 91.7)	<0.0001	75 (0, 100)	0.03
Emotional functioning	50 (0, 100)	41.7 (0, 83.3)	75 (50, 100)	<0.0001	83.3 (50, 100)	0.19
Role functioning	50 (0, 100)	33.3 (0, 100)	66.7 (0, 100)	<0.0001	83.3 (0, 100)	0.13
Social functioning	50 (0, 100)	33.3 (0, 100)	66.7 (33.3, 100)	<0.0001	83.3 (0, 100)	0.14
PHQ-9 (n = 85)	10 (0, 24)	11 (1, 26)	5 (1, 8)	<0.0001	3 (0, 9)	0.02
Appetite	2 (1, 5)	3 (1, 4)	2 (1, 4)	0.07	1 (1, 5)	0.08
Appearance	2 (1, 5)	2 (1, 15)	1 (1, 4)	0.02	1 (1, 4)	0.19
Insomnia	3 (1, 5)	4 (1, 5)	2 (1, 5)	0.01	2 (1, 5)	0.30
Fatigue	3 (1, 5)	4 (2, 5)	2 (1, 4)	<0.0001	2 (1, 5)	0.31
Outlook	3 (1, 5)	4 (1, 5)	2 (1, 4)	<0.0001	2 (1, 5)	0.51

Caution: Not distressed analysis group is slightly different than the not included/not distressed group.
[a]Test excludes unknowns.
[b]Test excludes unknowns; tested against the not distressed in analysis set to see if the nondistressed group in the analysis set is similar to the nondistressed group not included in the analysis.

reports delivered prior to the visit that identified significant distress for that patient. One function of clinician communication within the deHaes and Bensing Model is *responding to patient emotions* with *clinician explorative skills* as an intermediate endpoint to promote *decreased psychological distress* [9]. In our study, about one third of significantly distressed patients did not have a clinician-initiated conversation about psychosocial concerns. This finding is similar to a Norwegian study of patient–clinician communication in cancer care. Patients in this study were randomized to receive a Web-based, interactive tailored patient intervention (Choice) [32]. Patients (distress status not specified) initiated 63% of discussions about concerns with their clinicians. However,

Table 3. Summary of the number and level of cues per patient and provider initiation by cue type

	No cues				E1				E2				E3			
	Cues given[a]		Provider initiate		Cues given[a]		Provider initiate		Cues given[a]		Provider initiate		Cues given[a]		Provider initiate	
	No. of patients	Mean	No. of initiation	%[a]	No. of patients	Mean	No. of initiation	%[a]	No. of patients	Mean	No. of initiation	%[a]	No. of patients	Mean	No. of initiation	%[a]
Total (N = 89)	34	—	18	53	52	2.69	33	63	25	2.60	15	60	7	2.43	3	43
Distressed (n = 66)	20	—	11	55	43	2.63	29	67	22	2.55	14	64	6	2.33	2	33
Nondistressed (n = 23)	14	—	7	50	9	3.00	4	44	3	3.00	1	33	1	3.00	1	100

[a]Patients with at least one cue/visit.

Table 4. Predictors of discussion and/or treatment/referral

	Discussion		Treatment/referral	
Variable	Odds (90% CI)	p-value	Odds (90% CI)	p-value
Distressed				
Yes vs. no	2.5 (1.0, 6.2)	0.12	4.0 (1.7, 9.4)	0.0008
Gender				
Female vs. male	1.9 (0.8, 4.6)	0.25	1.7 (0.8, 3.5)	0.22
Total cues				
None vs. ≥4	—	—	0.2 (0.08, 0.5)	0.01
1–3 vs. ≥4	—	—	0.4 (0.2, 1.1)	0.88
Cue level				
E2/E3 vs. none/E1	—	—	6.7 (2.7, 16.8)	0.0006
Study group				
Control vs. intervention	0.7 (0.3, 1.7)	0.51	1.1 (0.6, 2.3)	0.77

Overall type 3 analysis of effects $p = 0.02$ for referral/treatment.

the investigators found that patients were more descriptive about their concerns if a clinician initiated the conversation. Increasing clinical explorative skills of discussions about psychosocial concerns may be one way to increase in-depth assessment and identification of patients with significant distress and decreasing psychosocial distress.

Symptoms and QOL

Because distressed patients reported lower QOL and functioning at baseline, they need both baseline assessment and then more frequent assessments on treatment visits to identify worsening symptoms and declining function and QOL. Symptoms such as fatigue and fear or worry should be red flags for diagnosable and treatable conditions such as depression. Review of patient symptom and quality of life reports can focus patient–clinician communication on issues important to the patient and may facilitate more rapid identification of serious distress and initiation of appropriate treatment and referral. Onsite clinician- and nurse-led psychosocial interventions have been shown to improve QOL in cancer patients receiving radiotherapy [33].

Explicitness of concerns

Two studies have documented the efficacy of preparing patients for in-person clinician visits by self-report of

cancer symptoms and quality of life issues with a summary delivered to the clinician, plus raking of issues for which help is needed [32] and coaching patients to report specific parameters of symptoms [34]. In both trials, patients in the intervention groups reported significantly more explicit issues when face-to-face with clinicians. In the study by Heyn et al., patients in the intervention group expressed their concerns more explicitly (OR, 1.61; $p < 0.05$) [32]. In our study, patients who expressed their concerns more directly (E2/E3) were more apt to have treatment and/or referral. Therefore, patients should be encouraged to be direct about their concerns when talking with their clinicians. Additionally, in the Heyn et al. study, patients expressed more cues/concerns with nurses than with other clinicians [32]. Patients were more direct in their emotional expression of cues with nurses when compared with physicians. Although our study did not differentiate between professions of oncology clinicians, the findings from both studies suggest that clinicians should initiate conversations especially with distressed patients. Nurses may have a significant role in soliciting patient psychosocial concerns and identifying significant and treatable distress.

Limitations

Given the smaller number of patients classified as distressed from the parent study and the small number of confirmed

nondistressed patients sampled, this secondary analysis had about 80% power to detect an effect size of around 30% in the percentage of provider-initiated discussion, overall discussion, and treatment/referral at the two-sided 0.1 significance level. The data from the parent study included audio-recordings of patient–clinician communication during an ambulatory oncology visit and there was no information about nonverbal communication such as facial expressions, touch, or gestures. Audio-recordings do not capture nonverbal clinician responses such as nodding or patient E3 cues such as silent tears and may underestimate both the patient's emotional expression and the clinician's responsiveness. Presence of an audio recorder in the clinic room may have influenced verbal behaviors of all participants. While the *nondistressed* group included in this secondary analysis varied somewhat on variables of interest to the *not included nondistressed* comparison group in the parent study, the group was reasonably representative for the sample. Other communication occurring outside of the visit such as medical records, telephone, and email communication about patients' distress and psychosocial functioning was not available.

Conclusions

Although this study did not explore changes in QOL from baseline to the on-treatment visit, QOL indicators at baselines may be an indicator of patients at risk for future distress while on treatment. Further exploration is needed to understand clinician barriers to initiating discussions of psychosocial concerns and further assessment of identified distress. Younger patients and/or female patients with cancer may be at greater risk for psychosocial distress and symptom burden. Longitudinal studies are needed to understand the trajectory of distress from diagnosis, through treatment, and into survivorship. People, especially younger patients and women, may require baseline assessment in addition to more frequent assessments during treatment and survivorship to evaluate for changes in functioning, distress levels, and symptom burden. Further refinement of Web-based assessment tools and applications to the clinical encounters may improve face-to-face communication between patients and clinicians. Targeted interventions are needed to help patients directly express their concerns, especially during the early parts of an ambulatory on-treatment visit.

Given the new credentialing regulations for psychosocial assessment, clinicians would benefit from not just tools for assessment but also education on communication skills. Clinicians may also benefit from training to facilitate incorporation of Web-based assessment data into face-to-face visits. Interventions are needed at the clinician and patient level to improve the assessment, detection and treatment of psychosocial concerns in cancer care. Nurses play a key role in developing processes that build on their communication skills and accessibility and use the findings from their patient communication to promote assessment of psychosocial concerns and treatment and referral for distress in people with cancer.

Conflict of interest

The authors report no conflicts of interest.

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