Published in final edited form as:
Psychooncology. 2008 December ; 17(12): 1216–1224. doi:10.1002/pon.1350.

The Cancer Communication Assessment Tool for Patients and Families (CCAT-PF): A New Measure

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Abstract

Purpose—Caregivers and cancer patients frequently have conflicting and unmet communication needs. The Cancer Communication Assessment Tool for Patients and Families (CCAT-PF) is a new instrument that assesses congruence in patient-family caregiver communication for both research and clinical purposes.

Methods—The scale was developed using a sample of 190 lung cancer patient - caregiver pairs. Standard psychometric procedures were used to develop and test the scale including qualitative item pool development, item reduction and ascertainment of scale properties.

Results—The multiple correlation of the 18-item CCAT-PF scale with the longer 30-item scale was .94. All but four items had less than 20% variance accounted for when each item was regressed on the remaining 17, indicating responses to an individual item were not readily predicted by the remaining items. Test re-test reliability was 0.35 and Cronbach's alpha was 0.49 as the CCAT-PF scale represents the sum of mostly independent items. Higher CCAT-PF scores were significantly correlated with greater patient depression, greater patient perceived family conflict, lower patient-caregiver assessment and well-being, and less expressiveness and family cohesion. For both patients and caregivers, physical, functional and emotional well-being were not associated with CCAT-PF scores.

Conclusion—The CCAT-PF is a brief but reliable and valid tool. Although administering both family and patient versions is optimal, administering it to a patient or family caregiver only also produces reliable information.

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Introduction

Diagnosis of cancer frequently leads to increased involvement of family members as caregivers and, ultimately, decision-makers.[1, 2] The shifting of care from in-patient to outpatient settings, and the complexity of treatment, has increased the importance of the dynamics between cancer patients and their family caregivers. While some families are well suited to assume the responsibilities of a caregiver, others lack the social, emotional, and economic resources to do so.[3–6] Models of family function, such as the Circumplex Model, [9] the Beavers Systems Model, [10] and others, [11,12] all include communication as an important organizing construct, positing that cancer is a family experience. Moreover, several studies have highlighted that communication is an important factor in levels of patient and caregiver coping and emotional distress.[7, 8]

Communication between cancer patients and their family caregivers is often suboptimal.[13–16] Caregivers and patients frequently have conflicting and unmet communication needs. The importance of patient-caregiver communication is indicated by its strong predictive power of family and patient adjustment to cancer and healthcare outcomes. For example, regular communication significantly predicts the extent to which they can cope with the tremendous stressors of living with cancer.[13,16,17] Studies link patients' facility for emotional expression with reduced pain[18] and information sharing among family members with better overall adjustment and higher rates of psychological well-being.[19] Several studies report that avoidance in discussing the cancer experience has negative consequences for patients' mental health outcomes and that the quality of communication among family members is a strong predictor of adjustment to cancer and caregiving burden.[14,19,20, 27, 28] Other outcomes that may be associated with good patient-caregiver communication are better pain management, [18,29] fewer conflicts between the family and physician, and improved decision making.[12,16, 30] Finally, , most patients and caregivers express a desire for better and more concordant communication.[20–26]

Another important area of patient-family communication is treatment and care decisions. Disagreement within the family about which treatment options are most appropriate for the patient can cause excessive stress for both patients and caregivers resulting in diminished quality of life.[27,31,32] In addition, some cancers may pose special challenges. For example, lung cancer patients' families may experience unresolved anger toward patients who continue to smoke, which can hinder communication and create conflicts.[28] Finally, younger caregivers have been found to experience greater stress and caregiver burden.[33, 34]

Instrument development on cancer caregiving has been focused on assessing family caregiver burden[35–37] and needs[38,39] and tools in these areas contribute greatly to psycho-oncology research.[40] However, aside from Mester et al's early development of a scale to assess cancer communication openness in the nuclear family,[41] little attention has been given to the conceptualization and measurement of cancer communication in family caregiving. A recent survey of instruments to measure aspects of cancer communication,[42] did not identify any tools that assess the level and types of communication and treatment decision making discord that may exist between cancer patients and their family members, other than our own work in press. Furthermore, there are no clinical screening tools available to identify level of family risk for communication problems. To our knowledge, this is the first instrument that may fill this important gap in our assessment toolkit for cancer communication and caregiving.

The Cancer Communication Assessment Tool for Patients and Families (CCAT-PF©) was developed to measure congruence in patient-family caregiver communication. This tool measures the level and types of communication concordance/discordance between caregivers and patients and has potential as a clinical screening tool to assess level of family risk for communication problems and to target interventions accordingly. Our primary aim in this paper is to report a final, shorter version of the CCAT-PF and new confirmatory evidence of its psychometric properties and potential use in cancer research.

Methods

Data Collection

The scale was developed and validated with a case series of 190 patients with advanced stage (III and IV) non-small cell lung cancer and the caregivers identified by patients. Caregivers are defined as the individuals (non healthcare providers) patients primarily relied on for help with care, treatment and decision making. Patients received care at the Case Comprehensive Cancer Center and its community affiliates in Cleveland, OH. Most patients were taking treatment or had recently completed treatment consisting of surgery and/or radiation and at least one course of chemotherapy. Stage of disease was confirmed through chart review. Patients were identified through their physicians' offices and contacted by letter. A follow-up telephone call ascertained that at least one family caregiver was available to participate in the study, and informed consent was obtained as approved by the IRB. All interviews were audiotaped and transcribed. Subject response rate was 76%.

Patients completed a semi-structured interview to help validate the results of the scale, including several well accepted measures of depression (the CES-D),[43,44] quality of life (patients completed the FACT-L, a measure of lung cancer patient quality of life,[45,46] and caregivers the Medical Outcomes Study short Form-20).[47] Several measures of family function were administered including the Family Environment Scale (FES)[48] and the Family Relationship Index (FRI),[49] a measure of dysfunctional family relationships. In addition, we used an observer rating of family function based on Kissane et al's tool to assess risk for poor outcomes in bereavement.[2]

The development of the initial 30-item scale has been detailed in a previous publication[50]. The original scale development plan was to reduce the 30 item scale, if possible, to a shorter, more convenient final version. We computed four item statistics to aid in reducing the item pool. We required items for the final scale to differ between patients and caregivers in mean absolute value, show evidence of low concordance in item response and for each to contribute independently to the final scale score. Item reduction was accomplished in several stages.

The first step in item reduction was to compute the raw patient-caregiver differences for each item to indicate the magnitude rather than the direction of the difference. The difference scores were converted to absolute differences and the mean absolute score was tested for departure from zero using a one-sample t-test. Only items with mean scores significantly greater than zero were retained. The second step computed the multiple correlation of each item with all other items. A high multiple correlation indicates item redundancy. Kendall's coefficient of correlation was computed to measure the extent to which patient responses are proportionally reflected in the caregiver's response. A Kappa statistic was computed to indicate the exact degree of concordance of responses between patient and caregiver corrected for chance assignment. Scores below 0.20[51] are an indication of poor agreement and indicate potentially useful items for the final scale, whereas high coefficients identified items that are candidates for deletion. Finally, we conducted a series of backward elimination regression analyses using the total score derived from the sum of the 30 absolute item difference scores as the dependent variable to further identify redundancy. Analyses were conducted one item at a time by eliminating the most redundant item in the pool at each step as indicated by a non-significant regression coefficient, $p< 10$. The analyses continued until no further items could be eliminated and all remaining items made significant independent contributions to the prediction of the 30-item total score.

Once all of the analyses were completed, a panel comprised of the 4 authors and a data analyst met to complete the item reduction. Each panelist independently rated whether to keep an item by considering the psychometric properties of each item using the analyses described above and theoretical considerations. The panelists then met and were initially in complete agreement about retaining 11 of the 30 scale items. Another round of discussion settled on the next five items where disagreement centered on choosing between equivalent items that measured the same domains. Lastly, it was agreed to retain 2 items for content purposes. The final scale consisted of 18 items with 8 domains; a high sum total of the 18-item absolute difference scores (CCAT-PF) indicating disagreement between patient and caregiver. In addition, a simple raw sum of the 18 items for patients and caregivers separately was also computed. The patient-specific scale is the CCAT-P and the caregiver-specific scale the CCAT-F.

The psychometric properties of the scale were examined by testing the reliability and validity of the 18-item CCAT-PF scale as well as the patient and caregiver specific scales. Reliability was assessed by computing Cronbach’s internal consistency reliability and test re-test reliability as the scale was readministered to subjects at an interval of 2 months. Concurrent validity was assessed by correlational analysis, using the Pearson correlation statistic, to assess the degree of association between CCAT-PF, patient specific, and caregiver specific scores and scores on the standard outcome measures selected for this study. All three 18-item scores were correlated with the same participants’ responses to the other established scales administered to subjects.

Results

The 30-item CCAT-PF was tested with 190 patient-caregiver pairs. Overall, patients were older (mean 65 years vs. 55 years) than their caregivers and a slight majority were male (54%). 67% were married and most (86%) were white and had at least a high school education (85%) with 59% reporting income >$25,000 per year; almost half had Stage IV cancer (49%). Caregivers were predominately female (75%) and were most commonly patients' spouses (57%) followed by adult children (26%). Only 8% of caregivers reported having less than a high school education (see Table 1).

Item Reduction and Scale Properties

The CCAT-PF’s 18 items and their specific content areas are displayed in Table 2. The multiple correlation of the 18-item CCAT-PF with the longer 30-item scale is .94 (R^2=0.89), suggesting that the 18-item scale behaves similarly to the 30-item scale. Each of the 18-item mean difference scores was found to differ significantly from zero (p=.001) indicating non-chance disagreement between patient and caregiver. The low values (<0.20) [51] of the correlation item statistics in Table 2 indicate that patients and caregivers did not agree in rating each item. Moreover, the square multiple correlations of each item regressed on the remaining 17 items show that all but four items had less than 20% variance accounted for, indicating responses to an individual item were not readily predicted by knowledge of responses to the remaining items.

Reduction of item redundancy ensures that the CCAT-PF covers a wide range of content areas where families disagree resulting in a scale of relatively independent items. Item parsimony and independence, however, affect estimates of internal consistency reliability. Cronbach’s alpha for the CCAT-PF score was 0.49. This value of internal consistency is to be expected, as the CCAT-PF does not represent a typical summed scale of moderately correlated items, but the sum of mostly independent items. Reliability coefficients of the CCAT-P and CCAT-F scores were somewhat higher (see Table 3, Table 4).

Finally, we examined how the CCAT-PF performed over time. For 174 of the 190 patient-caregiver pairs, the family conflict measure was administered twice. Loss of patients to follow up was mostly due to patient mortality. The mean 18-item CCAT-PF score at baseline was 25.9 (SD=8.8) and 23.9 (SD=11.5) at the 2-month follow-up. The average decrease of two points was statistically significant (p=0.02). The correlation between time periods was r = 0.35 (p=.001). Thus, over a short period of follow-up, the average conflict between patient and caregiver decreased. More work needs to be done to understand this phenomenon.

Using and Scoring the CCAT-PF

Two other alternatives to scoring the CCAT-PF items were examined. These included computation of patient and caregiver summary scores based on individual responses to the 18 items. The correlation between the two individual summary scores was 0.3. The item statistics also reflect what was also observed in the item correlation matrix, that the different content areas of disagreement did not correlate with each other, i.e., conflict in one content area is not likely to be correlated with conflict in another area. Therefore, it may be useful to examine the 8 individual domain scores separately in addition to the total score.

Appendix A provides instructions for scoring the CCAT-PF, CCAT-P and the CCAT-F, and a list of items. A copy of the instrument is available from the corresponding author on request.

Association of Communication Concordance and Other Psychosocial Characteristics

We examined how family conflict was associated with patient and caregiver demographic characteristics. The CCAT-PF scores were not associated with the following patient or caregiver demographics: gender, race, marital status, education, or religion. However, significantly higher conflict scores were exhibited by younger caregivers (r=−.16, p=.02), adult children caregivers (p=.02) and patients with annual incomes of less than $25,000 (p=.001).

Evidence for the concurrent validity of the CCAT-PF and the individual patient score is displayed in Tables 3. Pearson correlations between the 18-item CCAT-PF score and “patient” outcomes reveal five statistically significant associations. High conflict CCAT-PF scores were associated with greater patient depression, lower patient-family-function risk assessment, lower patient social/family well-being, less patient expressiveness, and higher patient perceived conflict scores. High CCAT-P scores were associated with the same five outcomes plus lower patient reported cohesion, emotional well-being, and patient functional well-being.

Further evidence for the validity of the 18-item CCAT-PF score and evidence for the individual caregiver score are provided in Table 4. Correlations between the CCAT-PF score and “caregiver” outcomes reveal six statistically significant associations. High conflict scores were associated with lower scores on caregiver expressiveness, social functioning, and caregiver perceived family cohesion, and lower caregiver-family assessment. Higher caregiver perceived conflict and depression was also associated with higher CCAT-PF scores. High caregiver conflict scores (CCAT-F) were associated with four of the outcomes associated with the CCAT-PF score, but not caregiver’s social functioning and perceived family cohesion. Variables not found to be associated with the CCAT-PF score (i.e. divergent validity) were patient or caregiver physical, emotional and functional well-being.

Discussion and Conclusions

The CCAT-PF is a valid and reliable tool to assess cancer patient-family communication congruence about treatment and care decisions. The importance of developing this tool is underscored by the increased importance of the role of families in caring for cancer patients, including the shift of the therapeutic setting from in- to out-patient treatment. Patients who fail to communicate or who are experiencing communication discord with caregivers are at risk for poorer outcomes. The CCAT-PF identifies a range of sources for family conflict that have not been previously considered or measured.

The rigorous development process, ranging from item development to testing its statistical properties, in addition to its acceptance in a patient population of late-stage lung cancer patients and their families, emphasizes the usefulness of this new tool. The CCAT-PF had convergent and divergent validity across a spectrum of well-validated social and physical status instruments.

The study found that patients at increased risk for patient-caregiver communication are those with incomes of <$25,000 per year. Interestingly, caregivers who are younger or who are the adult children of older patients also reported higher discord scores. This may in part be the result of a generational mismatch concerning expectations for care and approach to serious illness.[4–6]

The study revealed that family caregivers are more aware of and affected by communication problems than the patient.[4–6] A greater proportion of the variance in the conflict scores was contributed by the caregiver portion of the difference scores. The implications of this are two-fold. First, obtaining only the CCAT-F can provide an acceptable measure of discord on the part of the caregiver in the absence of the patient-completed portion of the scale. Second, this confirms the notion that cancer is a “family illness”. The implications for clinical care are that caregivers may be experiencing greater stress than patient. Provision of mental health and other supportive services to the caregiver may also indirectly benefit patient outcomes.

Finally, the higher CCAT-PF scores were found to be significantly correlated with greater patient depression, lower patient-caregiver assessment and well-being, and less expressiveness and family cohesion. These findings highlight the importance of identifying and ameliorating communication problems early.

The study’s limitations are several. First, the study was conducted at a single geographical location. Second, although the sample participants are diverse in terms of economic status, 85% were white and the remainder was African American; no Hispanics or Asians were included in the sample and all participants were English speakers. Third, a single diagnostic category, lung cancer, was included. However, a small pilot study was subsequently conducted with a sample of 52 hematological cancer patients. This patient sample was slightly younger than the original lung cancer patient sample and had a mean age of 56.5 (SD=14.2), 55% were male and 80% were White. The raw patient-only scores (n=52) on the 18-item scale were very similar to the lung cancer patients’ scores. Mean scores were 45.8 (SD=9.4) for the hematological cancer patients. Mean difference scores between patient-caregiver pairs were also similar, 26.0.

The CCAT-PF is a brief but reliable and valid tool that can be used for research. The tool was accepted by both patients and families. Although administering both family and patient versions is optimal, administering it to a patient or family caregiver only can produce reliable information. The next steps will be to test the CCAT-PF’s efficacy as a screening tool in clinical practice and with other cancer patient populations.

Acknowledgments

Acknowledgement of research support: This study was funded through a grant awarded to Laura A. Siminoff from the National Cancer Institute (Grant # R01-CA89513)

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APPENDIX

Instructions for Scoring the CCAT-PF, CCAT-P and the CCAT-F

Overview

The CCAT-PF is a valid and reliable instrument for obtaining information about communication concordance and conflict between cancer patients and their caregivers. It is comprised of two parts. The CCAT-P is an 18 item instrument completed by the patient about their preferences, values and experiences in making treatment and care decisions, with an emphasis on how family caregivers fit into this process. The CCAT-F is an 18 item instrument completed by the family that is exactly analogous to the CCAT-P. Together they make up the CCAT-PF.

The CCAT-PF is ideally used as a measure of discrepancy between the perceptions and expectations of patients as compared to those of a family caregiver. In general, it is recommended that the caregiver who is the primary caregiver (i.e., the person who provides most of the care and help with decision making) be the person who completes the CCAT-F instrument. Below are instructions for scoring the complete CCAT-PF. It is also possible to use the CCAT-P and CCAT-F instruments as stand alone measures. Scoring instructions for this are also provided.

Scoring Instructions for the CCAT-PF—A patient/caregiver discrepancy score is computed as follows:

1. Subtract the patient response from the caregiver response separately for each of the 18 items. This will produce 18 item differences, some positive and some negative.
2. Convert the 18-signed differences into 18 absolute difference values. It's not the direction of the discrepancy that's important, but the magnitude of that difference.
3. Sum the 18 item absolute difference values to create the overall or total patient/caregiver discrepancy score (CCAT-PF).

Interpreting the score

The maximum range of scores of the CCAT-PF is from 0 to 90 with higher scores indicating greater discrepancy or conflict.

Scoring Instructions for the CCAT-P and the CCAT-F—Patient-specific or caregiver-specific summary scores are based on the separate patient and caregiver responses to the 18 items. To compute a patient-specific or a caregiver-specific summary score, 13 of the 18 items must be reversed coded (i.e., if the original response to an item was 1 it is recoded to a 6; 2=5, 3=4, 4=3, 5=2 and 6=1).

Compute the CCAT-P or CCAT-F as stand alone instruments as follows:

1. The items that require reverse coding prior to creation of summary scores are items **5, 9, 10, 11, 12, 20, 21, 22, 23, 25, 27, 28 and 32**.
2. The 13 patient recoded responses and the 5 unchanged responses are summed to create a total patient-specific score (CCAT-P) or a total caregiver-specific score (CCAT-F).

Interpreting the score

The maximum range of scores for either the patient-specific or the caregiver-specific scale is from 18 to 108 with higher scores indicating greater conflict.

List of Items

Patient	Family
My family plays a big role in the decisions I make about my cancer treatment.	Our family plays a big role in making decisions about cancer treatment.
I hesitate to mention treatment side effects to my doctors or nurses.	My family member hesitates to mention treatment side effects to doctors or nurses.
In general, side effects are not really important when I consider my larger goals of treatment.	In general, side effects are not really important when I consider the larger goals of my family member’s treatment.
Medical science may find a cure for cancer so I am willing to take any treatment now to stay alive.	Medical science may find a cure for cancer so I want my family member to take any treatment now to stay alive.
If treatment caused financial hardship for my family, I would not take it.	If my family member’s treatment caused financial hardship, I would not want him/her to take it.
My family and I have different views about the goal of treatment.	My family member and I have different views about the goal of treatment.
If treatment made me sick everyday I would not take it.	If treatment made him/her sick everyday, I would not want him/her to take it.
I could see that there could come a point when taking treatment would not be worth the discomfort it causes.	I could see that there could come a point when taking treatment would not be worth the discomfort it causes.
I am willing to take treatment that causes me a significant amount of pain if I can live a few months longer.	My family member should be willing to take treatment that causes him/her a significant amount of pain if he/she will live a few months longer.
I value my family’s judgment about treatment decisions.	My family member values my judgment about treatment decisions.
My family’s acceptance of my treatment decisions depends on how much they like my doctor(s).	My acceptance of treatment decisions depends on how much I like the doctor(s).
It is important to base decisions about my cancer treatment on sources of information other than my doctor.	It is important to base decisions about cancer treatment on sources of information other than the doctor.
My family does not really listen when I talk about my cancer.	I can’t really listen when my family member talks about his/her cancer.
I avoid talking about cancer to my family because I don’t want to upset them.	I avoid talking about cancer to my family member because I don’t want to upset him/her.
I don’t tell my family about my problems because there is nothing they can do to help.	My family member does not tell me about his/her problems because he/she thinks there is nothing I can do to help.
I am frustrated when my family is overprotective of me because of my cancer.	My family member is frustrated when I am overprotective because of his/her cancer.
My family blames my cancer on my not having taken better care of myself.	I blame cancer on my family member not having taken better care of him/herself.

Patient	**Family**
I would feel uncomfortable if the doctor began to talk to me about hospice care.	I would feel uncomfortable if the doctor began to talk to my family member about hospice care.

Table 1

Demographic Characteristics of 190 Lung Cancer Patients and their Primary Caregivers

	Patient	**Caregiver**	**P-Values**	**Patient – Caregiver Differences**
Variable	**N (%)**	**N (%)**		**%**
Age (Mean±SD)	65±10	55±14	0.001	12±12
Religion:			0.10	
Protestant	90 (48)	82 (44)		4
Catholic	70 (37)	71 (39)		−2
Other	22 (11)	17 (9)		2
None	7 (4)	15 (8)		−4
Education:			0.08	
< High School	29 (15)	15 (8)		7
High School	70 (37)	64 (35)		2
Some Post HS	45 (24)	61 (33)		−9
>College	45 (24)	45 (24)		0
Income:				
<25,000	69 (41)	40 (24)	0.03	17
25-50,000	49 (29)	59 (35)		−6
50-100,000	32 (19)	42 (25)		−6
>100,000	18 (11)	28 (16)		−5
Marital Status:				
Married	127 (67)	158 (84)	<0.001	−17
Single/Widowed	38 (20)	22 (12)		8
Divorced/Separated	24 (13)	8 (4)		9
Gender:			,0.001	
Male	102 (54)	47 (25)		29
Female	88 (46)	143 (75)		29
Race:			0.2	
Caucasian	164 (86)	160 (85)		1
African American	26 (14)	28 (15)		1
Relation to Patient:			---	
Spouse	---	108 (57)		
Adult Child	---	50 (26)		
Other	---	32 (17)		

Table 2

Patient and Primary Caregiver Absolute Item Difference Scores by Content Category (n=190)

Items and Content Category	Difference* M (S.D.)	Sq. Multiple Correlation	Kendall Correlation	Kappa Statistic
General Communication and Interaction Style				
My family plays a big role in the decisions I make about my cancer treatment	1.57 (1.58)	.11	.16	.14
Reluctance to Report Side Effects				
I hesitate to mention treatment side effects to my doctors or nurses.	1.41 (1.49)	.14	.17	.05
In general, side effects are not really important when I consider my larger goals of treatment.	2.01 (1.76)	.08	.14	.09
Treatment and Care Goals				
Medical science may find a cure for cancer so I am willing to take any treatment now to stay alive.	1.35 (1.64)	.10	.19	.11
If treatment caused financial hardship for my family, I would not take it.	2.29 (1.83)	.10	.10	.01
My family and I have different views about the goal of treatment.	0.76 (1.12)	.11	.15	.09
Trade-Off between Side Effects and Quality of Life				
If treatment made me sick every day I would not take it.	1.76 (1.54)	.13	.21	.08
I could see that there could come a point when taking treatment would not be worth the discomfort it causes	1.68 (1.57)	.07	.17	.05
I am willing to take treatment that causes me a significant amount of pain if I can live a few months longer.	2.14 (1.70)	.13	.08	.02
Family Support of Decisions				
I value my family's judgment about treatment decisions.	0.85 (1.10)	.14	.28	.19
Patient and Family Perspectives about Physicians' Decisions and Communication				
My family's acceptance of my treatment decisions depends on how much they like my doctor(s).	1.69 (1.81)	.07	.12	.07
It is important to base decisions about my cancer treatment on sources of information other than my doctor.	1.55 (1.33)	.10	.14	.07
Family Communication				
My family does not really listen when I talk about my cancer.	0.48 (1.13)	.23	.21	.17
I avoid talking about cancer to my family because I	1.31 (1.44)	.23	.16	.09

Items and Content Category	Difference[*] M (S.D.)	Sq. Multiple Correlation	Kendall Correlation	Kappa Statistic
don't want to upset them.				
I don't tell my family about my problems because there is nothing they can do to help.	1.32 (1.42)	.20	.11	.03
I am frustrated when my family is overprotective of me because of my cancer.	1.38 (1.35)	.14	.25	.11
My family blames my cancer on my not having taken better care of myself.	1.10 (1.53)	.13	.27	.18
<u>Hospice Care</u>				
I would feel uncomfortable if the doctor began to talk to me about hospice care.	1.68 (1.62)	.16	.20	.14
Total: 18 Item CCAT-PF Scale	26.36 (8.75)			

[*] All mean differences significantly different from zero at p<.001.

Table 3

Pearson correlations between the cancer communication/decision-making assessment scale and **patient** outcomes

outcome **Patient Outcomes**		**Patient/Caregiver difference scores**	**Patient only scores**	**Patient Mean (SD)**
FACT-L:				
	Physical well being	.03	.12	9 (5.5)
	Social/family well being	.16*	.23**	4.5 (4)
	Emotional well being	.11	.23**	6.5 (4)
	Functional well being	.05	.18*	11 (6)
FES:	Conflict	.15*	.21**	10.5 (2)
	Expressiveness	.16*	.19**	11.5 (2)
	Cohesion	.13	.24***	9 (1.5)
CES:	Depression	.18*	.27***	14 (9)
Kissane	Family Assessment	−.20**	−.28***	9 (2.5)
Cronbach’s alpha reliability		0.49	0.57	

*p<.05

**p<.01

***p<.001

Table 4

Pearson correlations between the cancer communication/decision-making assessment scale and **caregiver** outcomes

outcome Caregiver Outcomes (SD)		**Patient/Caregiver difference scores**	**Caregiver only scores**	**Caregiver Mean**
SF 20:	Social Functioning	−.20**	−.09	11 (5)
	Mental Function	.08	.08	14 (3)
	Role Function	−.12	−.04	5 (1)
	Physical Function	−.03	.00	16 (3)
FES:	Conflict	.22**	.26***	10.5 (2)
	Expressiveness	.22**	.26***	11 (2)
	Cohesion	.18*	.09	9 (1.5)
CES:	Depression	.18*	.18**	11 (9.5)
Kissane	Family Assessment	−.24***	−.27***	9 (2)
Cronbach’s alpha reliability		0.49	0.57	

* p <.05

** p <.01

*** p <.001