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Psychometric Properties of the FACIT-Pal 14 Administered in an Outpatient Palliative Care Clinic

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Abstract

Background—The FACIT-Pal 14 instrument measures quality of life in palliative care patients, but its psychometric properties are not well characterized.

Objectives—To establish the reliability and validity of the FACIT-Pal 14 in an outpatient palliative care clinic population.

Methods—The FACIT-Pal 14 was administered to 227 patients in an outpatient palliative care clinic at a large, urban academic medical center. Internal consistency reliability was assessed with Crohnbach's alpha, and principal component analysis was used to investigate for multiple underlying latent variables. Construct validity was tested by comparing mean scores in various subgroups.

Results—The FACIT-Pal 14 has Crohnbach's alpha of 0.76, which increases to 0.79 if two items are removed. Principal component analysis supports a single latent variable underlying the instrument. Significantly lower mean scores were found in patients with Eastern Cooperative Oncology Group (ECOG) functional status 3-4 compared with patients with ECOG functional status 1-2 (p=0.007), in patients with life expectancy under 6 months compared to those with 6 months or greater (p=0.003), and in patients referred to clinic for pain and symptom management compared with patients referred for other reasons (p=0.038). Instrument scores did not significantly differ between men and women or between white and non-white patients (p=0.525 and p=0.263, respectively).

Conclusions—In an outpatient palliative care clinic population, the FACIT-Pal 14 has good internal consistency, but removal of two items would improve consistency. One latent variable underlies the instrument, and there is evidence of construct validity.

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Keywords

quality of life; palliative care; FACIT; validation; consistency

Palliative care has been defined as a medical specialty whose goal is to improve the quality of life of patients with serious illnesses. Accordingly, measuring quality of life is essential to evaluating palliative care. A number of instruments have been developed to measure quality of life in palliative care patients, and one of the most popular is the Functional Assessment of Chronic Illness Therapy-Palliative (FACIT-Pal), part of the FACIT measurement system.(1) The FACIT-Pal is a 46-item questionnaire that has been shown to have good consistency and validity in measuring the quality of life in patients undergoing palliative care for a serious illness.(2,3)

Nevertheless, the length of the instrument limits the use of FACIT-Pal in clinical practice. Accordingly, a shorter version, the FACIT-Pal 14, has been developed. This 14-item questionnaire is scored on a single scale to measure quality of life (See Table 1).(4,5) To this point, data on the consistency and validity of the FACIT-Pal 14 are lacking. Here we report on the psychometric properties of the FACIT-Pal 14 from its administration in an outpatient palliative care clinic at a large, urban academic medical center.

Methods

The outpatient palliative care clinic at our institution is staffed by a board-certified palliative care physician and a nurse practitioner, who see a variety of patients with malignant and non-malignant conditions, most referred from another provider at our institution. Part of the routine patient intake for each new patient is the patient's self-administered answers to the FACIT-Pal 14 questionnaire completed in paper form. Results of these questionnaires from 2015 to 2017 are entered in a prospectively maintained database of all palliative care clinic patients, a database which also includes demographic information as well as information about diagnosis, prognosis, and functional status.

With IRB approval, we queried this database to extract relevant information about all patients who completed the instrument at their initial palliative care clinic visit from 2015 to 2017. In addition to their scores on each item we extracted data on patients' sex, age, race/ethnicity, estimated life-expectancy, functional status, and reason for referral to our clinic. Based on prior literature and our experience, we a priori hypothesized that quality of life would differ between patients based on functional status, life-expectancy, and whether they were referred for pain and symptom management.(2,6,7) We hypothesized that there would be no relationship between quality of life and race or gender. Using R version 3.3.3, these data were evaluated to measure the internal consistency reliability and the construct validity of the FACIT-Pal 14. Two-sided t-tests were used to assess differences in group means. Principal component analysis with multiple imputation for missing item scores was used to assess the construct(s) underlying the instrument.

Results

FACIT-Pal 14 questionnaires were completed by 227 patients. Demographic information for patients are given in Table 2. The Crohnbach's alpha statistic for the FACIT-Pal 14 was 0.76, indicating good internal consistency for the instrument as a whole. However, 2 items (Pal5 and B1) had low correlations with the rest of the instrument (0.09 and 0.21) and removing either of them improved the alpha (to 0.78 and 0.77 respectively), indicating that these items detracted from the internal consistency of the instrument. Removing these two items from the instrument results in a 12-item instrument with an alpha of 0.79, higher than the alpha for the 14-item instrument. To assess for the possibility of multiple latent variables underlying the instrument, a principal component analysis was undertaken on the data, which supported a one factor solution with one principal component accounting for 28% of the total variance. The items that loaded most strongly on this principal component were GE6 ("I worry that my condition will get worse"), GF7 ("I am content with the quality of my life right now"), and GP4 ("I have pain").

To analyze construct validity, we tested whether the scores differed among groups that we expected to have different quality of life based on our a priori hypotheses. Patients with an Eastern Cooperative Oncology Group (ECOG) functional status of 3 or 4 (bedbound more than 50% of the day) had significantly lower FACIT-Pal 14 scores than patients with better functional status, consistent with our hypothesis. Similarly, scores were significantly lower for patients with life expectancy less than 6 months compared with those with a life expectancy 6 months or greater and for patients referred for pain and symptom management compared with patients referred for other reasons, also consistent with our hypotheses. We also tested whether FACIT-Pal 14 scores significantly differed by race or by gender since we did not expect quality of life to differ among these groups, and we found no significant differences. (Table 3).

Discussion

To our knowledge this is the first report of consistency and validity of the FACIT-Pal 14 in the outpatient palliative care population. The results show an instrument with good internal consistency. Nevertheless, its internal consistency could be improved by removing items Pal5 and B1, which relate to constipation and dyspnea. It may be that these symptoms are not particularly strong drivers of quality of life in our outpatient palliative care setting. Most of our patients do not have primary lung disease, which perhaps explains why dyspnea was not highly associated with the other quality of life measures in the scale. It is more difficult to speculate why constipation was not strongly associated with other items in the scale as many of our patients are on chronic opioids. It is possible that constipation did not greatly impact overall quality of life. Confirmation of these findings will require further data from other populations.

The principal component analysis confirmed that scoring on a single scale is appropriate for this instrument. Single-scale scoring for this instrument is the recommended technique by the FACIT measurement system, and this study provides evidence in favor of that recommendation.

Convergent validity of the instrument is supported by the significantly lower scores in patients with short life expectancies, limited functional status, or referral for pain and symptom management. Discriminant validity is supported by the lack of a statistically significant difference in scores between men and women or between white and non-white patients. These findings of convergent and discriminant validity support the construct validity of the instrument.

This study suffers from several limitations. Most obviously, the study uses data from a clinical practice, not a prospective, protocolized evaluation of the instrument. Accordingly available patient factors for construct validation are few, limiting the conclusions that can be drawn about construct validity. Moreover, this population may not be representative of other patient populations for whom this instrument might be applicable.

Despite these limitations, this study gives valuable insight into the psychometric properties of this relatively new instrument to measure quality of life in the palliative care setting. We have found it very useful in our practice in identifying particular patient needs. For instance, quickly scanning a patient’s answers before the clinic visit can reveal which complaints are relatively more severe, which can be helpful in focusing a visit when a patient has multiple complaints. Moreover, we also use the scale to monitor progress over multiple visits, and it can be helpful to see what issues are improving and what issues still need more attention during a clinic visit. Finally, this scale can alert the provider to issues that need to be addressed that might not be obvious in the context of a routine follow-up visit. For example, we can change our focus for a patient who presents for symptom follow-up, but who rates feeling of burden on family highly. The data generated from our experience can serve as preliminary findings for more robust investigations of the FACIT Pal-14.

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Table 1

FACIT-14 Instrument

Item Code[*]	Item Wording[**]
GP1	I have a lack of energy
GP2	I have nausea
GP4	I have pain
GE6	I worry that my condition will get worse
GF3	I am able to enjoy life
GF5	I am sleeping well
GF7	I am content with the quality of my life right now
GS2	I get emotional support from my family
Sp21	I feel hopeful
GE1	I feel sad
Pal4	I feel like a burden to my family
Pal5	I am constipated
Pal14	I am able to openly discuss my concerns with the people closest to me
B1	I have been short of breath

[*] Each item in the FACIT system is assigned a code that is consistent across the various instruments

[**] Answers for each question are on a five-point scale ranging from “not at all” to “very much”

Table 2

Demographic Information

	n=215[*]
Sex	
-Male	114 (53%)
-Female	101 (47%)
Mean Age in Years (+/− Standard Deviation)	67 (+/− 15)
Race	
-White	197 (92%)
-Other Race	17 (8%)
-Not identified	1 (0%)
Primary Diagnosis	
-Malignancy	75 (35%)
-Neurologic/Dementia	39 (18%)
-GI/Hepatic	30 (14%)
-Cardiac	33 (15%)
-All Other Diagnoses	38 (18%)

[*] 12 of 227 patients had missing data on demographics

Table 3

Relationships Between FACIT-Pal 14 and Patient Factors

Group	**Mean (Standard Deviation) FACIT-Pal 14 Score**	**p**
ECOG Functional Status		0.007
-1 or 2	33.5 (9.0)	
-3 or 4	30.2 (8.8)	
Estimated Life Expectancy		0.003
-Less than 6 months	30.0 (8.7)	
-6 months or greater	33.9 (8.8)	
Reason for Referral to Palliative Care Clinic		0.038
-Pain and symptom management	31.1 (8.4)	
-Other reasons	33.9 (9.8)	
Gender		0.525
-Male	32.5 (8.7)	
-Female	31.7 (9.5)	
Race		0.263
-White	31.9 (9.1)	
-Non-white	34.2 (7.6)	