

Health Services Research Committee

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Quality of Life Among Cancer Patients in Hong Kong

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Validation of the Functional Assessment of Cancer Therapy – General (Chinese) scale for assessing quality of life in patients receiving cancer-related treatment

Fielding R¹, Yu CLM¹, Chan CLW², Sham JST³.

¹ Department of Community Medicine, The University of Hong Kong

² Department of Social Work & Social Administration, The University of Hong Kong

³ Department of Clinical Oncology, The University of Hong Kong

INTRODUCTION

Quality of life (QoL) has been used to evaluate costs and benefits of treatment alternatives and to facilitate care.^{1,2} Most QoL instruments have been developed for use in English speaking populations. It is necessary to have cross-culturally valid QoL measures for use in Chinese communities. Yet, no Chinese QoL scales that were well-validated with large samples have been found (Medline Express search from 1966 to 1999).

The Functional Assessment of Cancer Treatment-General (FACT-G) scale is among the few available cancer-specific QoL measures for which psychometric properties have been systematically and extensively reported.² The authors translated the FACT-G into Chinese and validated the translated scale (FACT-G (Ch)) with a large cohort of Chinese cancer patients.

AIMS and OBJECTIVES

The aim of this report is to describe a translation into Chinese and validation of the FACT-G (Ch).

SUBJECTS AND METHODS

Three groups of cancer patients aged 18 years and over were recruited consecutively or systematically from patients referred to one of five regional hospitals for a face to face interview to test the factor structure, internal consistency, convergent and divergent validity, and cultural equivalence of the FACT-G (Ch).

The FACT-G (version 3) was double back translated by a team of language specialists, health care professionals and social workers. Cultural equivalence of the FACT-G (Ch) was tested by focus-groups exploring components constituting quality of life and the meaningfulness of the FACT-G from a Chinese perspective. The 28-item generic Hong Kong Chinese Version World Health Organization QoL Measure Abbreviate version (WHOQOL-BREF(HK)/BREF) was used to assess convergent validity with the FACT-G (Ch).³ Three single item four-point measures of socially desirable personality attributes (Tolerance, Satisfaction and Perfectionism) were used for the preliminary divergent validation of the

FACT-G (Ch).

The internal consistency of the translated scale was tested by Cronbach's *alpha*.¹ The factor structure was tested with factor analysis employing oblique rotation, forcing a five-factor solution to duplicate the original work.^{1,2} Convergent and divergent validity were tested with Pearson correlations.¹

RESULTS

Of the 69.3% (2,517/3,633) eligible new cases sampled 49.3% (1,243 / 2,517) were recruited to test the factor structure, internal consistency and divergent validity of the FACT-G (Ch) (Sample 1). An additional 141 / 293 (48.1%) patients were recruited from 882 eligible cases to test convergent validity (Sample 2); and an thirteen patients were recruited to test cultural equivalence (Sample 3) .

Sample 1 and 2 comprised 60% male and 40% female, having a mean age of 55.8 (SD=13.5) and 52.7 (SD=12.3) years respectively. Both samples included cancer of the breast (18 to 23%), nasopharynx (NPC) (21 to 35%), lung (29 to 34%) and liver (18 to 20%) and differed in that more lung and breast patients were recruited in Sample 1 and more NPC patients in Sample 2. Sample 3 included patients with cancer of a range of sites, dominated, however by those with NPC.

Internal consistency

Table 1 shows alpha values of the FACT-G sub-scales and overall scale. Though the total scale alpha for all 28 items was high at 0.85, sub-scale alphas ranged from a low 0.37 (Doc) to 0.75 (Phy and Fnt). The overall and sub-scale alphas were not as high as those in the original study.

Table 1 Subscale and overall scores of the FACT-G (Ch) (n=1108)

Sub-scale	Item	Score Range	Mean \pm SD	α	% Variance
Phy	7	0-28	21.8 \pm 5.5	0.75	19
Soc/Fam	7	0-28	19.3 \pm 4.6	0.53	8
Doc	2	0-8	4.8 \pm 1.8	0.37	5
Emt	5	0-20	13.7 \pm 4.0	0.65	7
Fnt	7	0-28	13.7 \pm 5.9	0.75	5
Total	28	0-112	73.4 \pm 14.4	0.85	44

FACT-G (Ch): The Functional Assessment of Cancer Therapy-General (Chinese Version); Phy: Physical; Soc/Fam: Social/Family; Doc: Relationship with doctor; Emt: Emotional; Fnt: Functional; SD: standard deviation.

Factor analysis

Factor analysis was performed with the FACT-G (Ch) items, where the forced five-factor solution accounts for 44% of the explained variance (Table 1). The pattern and strength of factor loadings in the current study was comparable with the original work.¹ The item loadings parallel those of the original validation¹, with several notable exceptions: “*I have accepted my illness*” (loaded highest at 0.51 on the Emotional rather than on the Functional scale); “*I am sleeping well*” (loaded highest at 0.35 on the Physical rather than on the Functional); “*I have trouble meeting the needs of my family*” (loaded highest at -0.28 on the Functional rather than on the Physical scale); “*I feel distant from my friends*” (loaded highest at -.34 on the Relationship with doctor rather than on the Social/Family scale); “*Family communication about my illness is poor*” (loaded highest at -.43 on the Relationship with doctor rather than on Social/Family

scale); and “*I am proud of how I’m coping with my illness*” (loaded highest at .51 on the Relationship with Doctor rather than on the Emotional scale).

Convergent and divergent validation

Pearson correlation (r) of the FACT-G (Ch) total score with Tolerance was 0.06 ($p=0.16$), with Satisfaction was 0.11 and with Perfectionism was 0.03 ($p=0.40$). All subscale correlations were less than 0.15, indicating satisfactory divergent validity. FACT-G (Ch) – WHOQOL-BREF(HK)/BREF total score correlation was reasonable ($r=0.72$), supporting convergent validity.

Cultural equivalence

Important aspects of QoL suggested by focus-group participants included living environment, food, stress, harmonious family relationships, no relapse, being happy, doctor’s suggestions, sleep, treatment side-effects, having a companion, children, and care from family members, activity level and stigma. Classification of QoL domains suggested showed close correspondence to those given by the original FACT-G. About 60% of the FACT-G items corresponded to items generated by the focus-group participants. The FACT-G was rated as “Somewhat adequate and sufficient” as a measure to the impact of cancer treatment on QoL by six out of seven participants, the other rating it as “Very relevant and sufficient”. The FACT-G was rated as “Somewhat relevant” to QoL by five out of seven participants, the other two rating it as “Very relevant”.

DISCUSSION

The FACT-G (Ch) has acceptable psychometric properties of internal consistency (excepting the Relationship with doctor sub-scale), convergent and divergent validity. The matched five-factor solution demonstrates that, with these

items, the conceptual distribution constituting a measure of quality of life in the original study is somewhat different with a Chinese sample.

There is more uncertainty about the adequacy of the scale’s coverage in Chinese populations. From a Chinese perspective, sub-scale items may not be coherent in a manner comparable to the original. There may be more unwillingness to report on sexual relationships in Chinese culture.⁴ Also, doctors in Hong Kong are usually less accessible. This is generally accepted and does not necessarily affect confidence in one’s doctor.

Intuitively, the notable differences in the present factor structure compared to the original one may reflect cultural differences. For instance, “I feel distant from my friends” loaded more on Relationship with doctor, which may reflect the social isolation often seen in Chinese cancer patients as a result of having been stigmatized,⁵ forcing greater reliance on the doctor for social support. Yet demographic differences between the present (e.g. newly referred out-patients) and the original samples (both in and out, newly referred and follow-up patients) may also contribute to the notable differences in the two factor structures.

When interpreting the results of convergent validity, one should also take into account the difference between the BREF and the FACT-G (Ch), one being generic and the other cancer specific. Also, a full test of cultural equivalence of a translated scale requires more in depth research than was possible in this study.

As with all translated instruments, the FACT-G (Ch) is inevitably more limited in terms of its coverage and cannot have equivalence to the original one. As an interim measure however, it is better tested

than existing alternatives. The availability of this scale enables assessment of the impact of treatment on many aspects of QoL considered important by Chinese cancer patients.

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Key Messages

1. FACT-G was seen as a conceptually relevant and moderately sufficient QoL measure.
2. Although more work is needed to increase its adequacy FACT-G (Ch) has reasonable utility for use with Chinese populations in clinical settings.

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