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Meaning in life for patients with cancer: validation of the Life Attitude Profile-Revised Scale

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Abstract

Title. Meaning in life for patients with cancer: validation of the Life Attitude Profile-Revised Scale.

Aim. This paper is a report of a study to adapt the Life Attitude Profile-Revised Scale for Turkish patients with cancer and to evaluate its psychometric properties.

Background. Cancer is a life-threatening illness that can challenge the experience of meaning in life. Meaning in life is a multidimensional concept involving meaning and purpose in life, as well as the motivation to find meaning and purpose in life. As meaning in life may be influenced by culture, a culture-sensitive tool is needed for its measurement.

Methods. A convenience sample of 199 patients with cancer at a Turkish university hospital completed a structured questionnaire including demographic characteristics and the Life Attitude Profile-Revised Scale for Patients with Cancer in 2006. Item analysis, principal components analysis, internal consistency reliability and Cronbach's alpha were used to measure the psychometric properties of the items of the scale.

Findings. In the assessment of construct validity, identified four factors with eigenvalues greater than 1 explained 46·91% of the total variance. Internal reliability coefficients of these four factor-based scales were 0·73 and 0·82 respectively.

Conclusions. The present study provides evidence of the Life Attitude Profile-Revised Scale's validity, reliability and acceptability. This scale should be further evaluated with a larger sample, in different regions in Turkey and diverse populations of world. The scale has potential applications for use both in research and as a screening tool in clinical settings.

Keywords: cancer, instrument development, Life Attitude Profile-Revised Scale, meaning in life, nursing

Introduction

Cancer is a life-threatening illness that can challenge the experience of meaning in life. The need for meaning in life is universal and is well-established in a diversity of literature (Carter 1993, Thibodeau 1997, Jensen *et al.* 2000, Landmark *et al.* 2001, Richer & Ezer 2002). The diagnosis of an illness such as cancer is a pivotal life event that can transform an individual. Loss of a person's previous, more stable life situation can stimulate a psychological quest to make sense of a new existence marked by uncertainty and the possibility of premature death. Recent research suggests the importance of being able to make the connection between ascribed meaning and psychosocial outcomes. Tomich and Helgeson

(2002) compared survivors of breast cancer with age-matched healthy control participants for meaning of life, but there was little evidence that deriving something positive from the stressful experience was associated with the quality of life of survivors or controls.

According to Wong and Fry (1998), meaning in life refers to 'an individually constructed, culturally based cognitive system that influences an individual's choice of activities and goals, and endows life with a sense of purpose, personal worth, and fulfilment'. Wong and Fry (1998) argues that the experience of meaning in life may allow people to transcend intrusive, negative experiences and promote healthy, positive lives. In particular, severe losses may function as a trigger for a search for meaning because they challenge the general human desire to perceive the world as ordered, predictable and meaningful (Park *et al.* 1996, Davis *et al.* 2000). Patients with cancer have some specific characteristics that can challenge the experience of 'meaning in life'. The illness implies many uncertainties (e.g. about death, recurrence of the illness) and is accompanied by losses (e.g. health, job, friends, naturalness of life) (Alter *et al.* 1996, Van't Spijker *et al.* 1997, Cordova & Andrykowski 2003, Schroevers *et al.* 2004).

By better understanding the personal transformation that occurs in survivors of traumatic and life-threatening circumstances such as cancer, nurses can assist individuals, particularly those who may be most vulnerable, to achieve a state of harmony and balance during and after stressful experiences. An understanding of the psychological and spiritual experience of surviving cancer could offer direction for the development of holistic nursing interventions to enhance cancer survivors' quality of life. Most studies of patients with cancer have concerned quality of life and life satisfaction (Bauer-Wu & Farran 2005).

Many instruments measuring meaning have been developed for determining the life experiences of patients with cancer. Some focus on a single aspect of the construct. Other measures assess meaning in the context of a negative life event. Some measures include aspects that have been viewed as distinct from meaning, and it is unclear whether any measure offers more construct validity than others. The Life Attitude Profile–Revised (LAP-R) Scale assesses meaning in life independent of personal values, and is based on a conceptualization of meaning in life as a commitment to goals and one's feelings of fulfilment (Fife 1995).

Background

Several researchers have reported clinical levels of posttraumatic stress in patients with cancer (Cordova & Andrykowski 2003, Schroevers *et al.* 2004). Therefore, it may be that some people confronted with the diagnosis and treatment of cancer may be forced to change their former outlook on life, as it gives no longer enough direction to life. The threat to life can challenge people's beliefs about their life and sense of well-being. Positive moods may predispose them to feel that life is meaningful and may increase their sensitivity to the meaning relevance of a situation. Issues of meaning and spirituality are essential components of the experience of people facing serious illnesses (Folkman & Moskowitz 2000, Breitbart *et al.* 2004, Folkman 2008.

Life Attitude Profile-Revised

The LAP-R Scale has been used to measure meaning in life, a multidimensional concept involving discovered meaning and purpose in life, as well as the motivation to find meaning and purpose in life (Reker 1992). The LAP-R Scale was developed by Reker (1992) in Canada. The LAP-R Scale measures six dimensions. The first dimension, purpose, refers to having life goals and a sense of direction from the past, in the present, and toward the future. The second dimension, coherence, refers to having an integrated and consistent understanding of self, others and life. The choice or responsibleness dimension refers to the perception of freedom to make life choices. The death acceptance dimension refers to the absence of fear about death and the acceptance of death as a natural part of life. The existential vacuum dimension refers to a lack of meaning in life, lack of goals and lack of direction. The goal-seeking dimension refers to the desire to search for new and different experiences. The six dimensions are used to calculate two composite scales. The first scale, Personal Meaning Index, is defined as 'having life goals, having a mission in life, having a sense of direction, and having a consistent understanding of self, others, and life' (Reker p. 20). It is a composite of the purpose and coherence subscales of the multidimensional LAP-R. The LAP-R Scale is a 48-item self-report measure of discovered meaning and purpose in life and the motivation to find meaning and purpose in life. Content-related validity was established through expert consultation, rigorous construct development and careful review of the literature. Each item of the LAP-R scale is rated on a 7-point (1–7 anchors) from 1 (strongly disagree) to 7 (strongly agree) Likert-type scale of agreement. The LAP-R scale is profiled in terms of two composite scales. Cronbach's alpha reliability scores of the scale were 0·79 and 0·86 respectively in Reker's study. Meraviglia (2004) found that internal consistency reliabilities for the LAP-R subscales were acceptable except for the low existential vacuum subscale alpha. Thompson (2007) determined that Cronbach's alpha coefficients for the six

dimensions ranged between 0·72–0·87 and 0·80–0·92 for the composite scales.

Healthcare researchers who work with culturally diverse communities need to be aware that the measurement of meaning of life may vary in different cultural groups. Therefore, the LAP-R may be the best representation of the constructs of meaning in life from a Turkish perspective, and thus may be culturally sensitive. Because these commonly described Turkish cultural values may influence the measurement of meaning in life, this study was conducted to determine whether the scale structure of the LAP-R in its present form taps into these culturally salient values, and thus whether it is appropriate for use with Turkish patients with cancer.

The study

Aim

The aim of the study was to adapt the LAP-R Scale for Turkish patients with cancer and to evaluate its psychometric properties.

Design

The phases of the study were: (1) translation into the Turkish language from the English version and back-translation into English; (2) content analysis by a panel of specialists; and (3) pre-test and psychometric testing (factor analysis, a reliability coefficient and inter-item correlations). The data were collected in 2006.

Participants

The participants were 199 patients with cancer at a university hospital medical oncology department in Turkey. The patients were selected through convenience sampling. The eligibility criteria were: (1) being registered with a primary diagnosis of cancer in the oncology clinic; (2) aged 18 years or more, (3) able to read and understand the Turkish language and (4) no history of psychiatric illness.

Translation procedures

In the first instance, the LAP-R Scale was translated into Turkish. The Turkish version was then translated into English by two Turkish lecturers, who worked independently on the translation. The lecturers both worked as professors who teach English language at the Atatürk University. The two translated versions were compared by the author and analysed until there was a consensus about the initial translation. Their initial translation into Turkish was back-translated into English. The translation phase had the purpose of checking for discrepancies between the content and meaning of the original version and the translated instrument. All of the versions were evaluated by the author and a final version was formed.

Content validity

To test item clarity and content validity, the translated version was submitted to a panel of seven specialists. They were informed about the measures and concepts involved by the author. This multidisciplinary panel comprised two public health specialists, two experts who had published papers on cancer and three nurses who had conducted research in the oncology. Each of the panel members was asked to evaluate the content of the final translated version of the LAP-R Scale compared to the original instrument. The experts were asked to evaluate each item at the scale using a 7-point Likert Scale: 7 = strongly agree, 6 = agree, 5 = moderately agree, 4 = undecided, 3 = moderately disagree, 2 = disagree, 1 = strongly disagree.

Pre-test

The final version of the translated instrument was pre-tested with a pilot group of 30 patients from the medical oncology clinics. The pre-test was conducted at the outpatient and inpatient medical oncology clinics where the main study was to be carried out. To simplify the recording of doubts and suggestions about the scale, a questionnaire was used, requesting general information from the interviewee, such as gender, age, civil status and occupation. An open-ended question to record doubts and suggestions was provided for each of the items.

Data collection

The researcher visited the oncology clinic on five working days in every week and conducted interviews with the patients. The questionnaire was explained to the participants, who then read it and marked their answers on the sheets. The questionnaire took approximately 20 minutes to complete and could be understood by people with minimal reading ability. It was given to patients in a separate quiet room in the oncology clinic. All participants completed the questionnaire. Test–retest of the scale was conducted after 4 weeks.

Ethical considerations

The study was approved by the ethics committee at the Health Science Institute of Atatürk University and informed consent was obtained from each participant. The patients were informed about the purpose of the research, and assured of their right to refuse to participate or to withdraw from the study at any stage. Anonymity and confidentiality were guaranteed.

Data analysis

Internal consistency and homogeneity

Cronbach's alpha was calculated to determine internal consistency. Clark and Watson (1995) indicated that internal consistency may be a necessary condition for homogeneity or unidimensionality of a scale and Cronbach's alpha should be 0·70 or higher. Item-total correlations and mean inter-item correlations were included in the analysis. Clark and Watson (1995) recommend using the inter-item correlation as a criterion for internal consistency. This should be 0·15 or higher for independent and dependent samples of 30 and above. They pointed out that this average value could be biased and all individual inter-item correlations should be r = 0·15–0·50. Unidimensionality can only be assured if all individual inter-item correlations are clustered closely around the mean inter-item correlation.

Construct validity

The data were analysed using factor analysis (principal component analysis and varimax rotation). To attain the best fitting structure and the appropriate number of factors, the following criteria were used: eigenvalues higher than 1·0, factor loadings higher than 0·40 and the so-called elbow criterion for the eigenvalues (De Heus *et al.* 1995). Before conducting the factor analysis, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test were calculated to evaluate whether the sample was large enough to perform a satisfactory factor analysis. The KMO measures the sampling adequacy and the P value should be greater than 0·05 for a satisfactory factor analysis to proceed.

Table 1 The demographic and disease/treatment characteristics of the participants (n = 199)

Demographic characteristics	X ± SD	
Diagnosis duration (years)	3·5 ± 2·8	
Age (years)	52·2 ± 13·9	
Monthly income of family (US$)*	476·6 ± 262·9	
The number of children	5·4 ± 3·0	
	n	%
Gender		
Women	93	46·7
Men	106	53·2
Education level		
< Primary school (literate)	74	32·7
Primary school	88	44·2
High school	31	15·6
University	6	3·0
Marital status		
Married	183	92·0
Single	16	8·0
Occupation situation		
Employed	46	22·6
Unemployed	154	77·4
Cancer site		
Digestive system	73	36·7
Breast	26	13·1
Lung	35	17·6
Head-neck	10	5·0
AML. ALL. NHL	26	13·1
Gynaecologic	16	8·0
Urinary tract	3	1·5
Other	10	5·0
Treatment characteristics		
Radiotherapy	4	2·0
Chemotherapy	145	72·9
Radiotherapy and chemotherapy	14	7·0
Chemotherapy + surgery + radiotherapy	31	15·6
Chemotherapy + surgery	5	2·5
Stage of disease		
I	6	3·0
II	137	68·8
III	39	19·6
IV	17	8·5
Total	199	100·0

*1 US$ = £0·47 = 0·62 Euros.

Results

Participant demographics

The demographic and disease/treatment characteristics of the participants were shown in Table 1. The majority of the sample was at stage-II of cancer, 92·0% were married and 44·2% had graduated from primary school. The mean duration of cancer since diagnosis was 3·5 ± 2·8 years, and the majority of the patients had received chemotherapy.

Content validity

The translated scale, consisting of 48 items, was judged by the expert panel on relevance and phrasing of the instrument items. For each item, experts could suggest possible improvements in wording. Subsequent wording revisions of the

Turkish instrument were made and discussed each time by the panel members until agreement about the content was reached. The panel then reviewed the content of Turkish version until there was no further need to modify its translation and content.

Internal consistency

The LAP-R Scale was found to have an overall coefficient alpha of 0·71. Alphas of the four factors ranged from 0·73 to 0·82 (see Table 2). However, Cronbach's alphas of the two dimensions of death acceptance and existential vacuum were less than 0·70, and these dimensions were removed from the scale. The corrected item-total correlations were acceptable, except for one item (15), and the item-total correlations ranged from 0·29 to 0·72 for the remaining 47 items.

Construct validity

The calculated KMO was 0·76 with a P value $< 0{\cdot}001$, indicating that the sample was large enough to perform a satisfactory factor analysis. The first step of the factor analysis was a principal component analysis. Eigenvalues greater than one were used to determine the number of factors. The analysis revealed six factors with an eigenvalue of higher than one (Table 2). Factor loadings of four (6, 16, 21, 25) items were inadequate, and these items were removed from the scale. Factor loadings of 43 items remaining were above 0·30 and ranged 0·32–0·65. Items with inadequate factor loading were deleted and then alphas for the retained items were calculated. This showed that Cronbach's alphas for two factors were lower than 0·70, and these two factors had unacceptable alpha levels. Therefore these factors were removed from the scale. Thus, the scale was formed from four dimensions and 30 items. Principal components analysis was used to explain the variations in the total scale and its factors. The four factors together explained 46·91% of the variance. Internal consistency reliability was 0·71 for the whole scale. For the first factor, Cronbach's alpha was 0·73 and factor loadings were found to be related to the purpose subscale. This factor explained 23·25% of the variance. Item loadings for the second factor with an alpha of 0·77, were found to be related to the coherence subscale. This factor explained 9·50% of the total variance. The purpose and coherence together formed personal meaning. The third factor, with an alpha of 0·82, exclusively referred to items which referred to the choice/responsibleness subscale. The explained variance of this factor was 7·91% of the total variance. The fourth factor, with an alpha of 0·80, was the goal seeking subscale and explained 6·25% of the total variance. The stability of the scale was established by measuring the test–retest reliability, which was 0·76. Table 2 shows the principal components analysis, followed by varimax rotation factor loadings for the scale items.

Discussion

The results of this study showed that the psychometric characteristics of the Turkish version of the LAP-R Scale were promising. The panel review of the content of Turkish version of the LAP-R Scale indicated that there was no need to modify its translation and content. The Cronbach's alpha, range of individual inter-item correlations and the homogeneity of the LAP-R Scale seemed to be sufficient. Internal consistency and inter-item correlations had adequate criteria (Erefe 2002, Polit & Beck 2004). Factor analysis with varimax rotation indicated that, with regard to the content, six factors could be discerned: purpose, coherence, choice/responsibleness, goal seeking, death acceptance and existential vacuum dimension. These matched those in the original scale (Reker 1992). Bauer-Wu and Farran (2005) reported six dimensions: purpose, coherence, choice, existential vacuum, death acceptance and goal seeking.

In the present study, Cronbach's alphas were 0·73–0·82 for the four dimensions, together explaining 46·91% of the total variance. However, Cronbach's alphas for the two dimensions of death acceptance and existential vacuum were less than 0·70, and these dimensions were removed from the scale. Bauer-Wu and Farran (2005) reported an internal consistency reliability of 0·86 and 0·84 respectively for these two dimensions. Cronbach's alpha reliability of the total scale was 0·71 in the current study. Reker (1992) found that Cronbach's alpha reliability scores of the scales were 0·79 and 0·86 respectively in a study with middle-aged adults. Similarly, Vickberg *et al.* (2001) found an alpha reliability for the total scale of 0·91. In the same way, Thompson (2007) determined that Cronbach's alpha coefficients for the six dimensions ranged from 0·72 to 0·87. In the present study, internal consistency for four dimensions and the explained total variance had adequate criteria (Erefe 2002, Polit & Beck 2004). Unlike the current results, Meraviglia (2004) found that internal consistency reliabilities for the LAP-R subscales were acceptable except for the low existential vacuum subscale alpha.

Culture shapes the specific experiences that individuals regard as enriching and meaningful (Kitayama & Markus 2000). In addition, cultural variations in cognitive style have several implications for the co-occurrence of presence and search for meaning (Nisbett *et al.* 2001). The presence of meaning in life is inexorably linked to how people view themselves (Baumeister 1991), and cultural influences on the

Table 2 Principal components analysis followed by varimax rotation factor loadings and item-total correlations of items of the scale (n = 199)

Items of the scale and the items of factors	Factor loading	Item-total correlations	Alpha	Variance (%)
Factor 1: Purpose			0·73	23·25
1. My past achievements have given my life meaning and purpose	0·332	0·419***		
2. In my life I have very clear goals and aims	0·561	0·477***		
5. I have discovered a satisfying life purpose	0·416	0·299**		
18. Basically, I am living the kind of life I want to live	0·625	0·663***		
26. I know where my life is going in the future	0·600	0·705***		
31. In achieving life's goals, I have felt completely fulfilled	0·474	0·672***		
37. I have a mission in life that gives me a sense of direction	0·632	0·584***		
48. My life is running over with exciting good things	0·486	0·625***		
Factor 2: Coherence			0·77	9·50
7. The meaning of life is evident in the world around us	0·380	0·420***		
12. I have been aware of an all powerful and consuming purpose towards which my life has been directed	0·522	0·618***		
27. In thinking of my life, I see a reason for my being here	0·531	0·721***		
29. I have a framework that allows me to understand or make sense of my life	0·517	0·674***		
35. I have the sense that parts of my life fit together into a unified pattern	0·484	0·456***		
38. I have a clear understanding of the ultimate meaning of life	0·573	0·607***		
46. My personal existence is orderly and coherent	0·432	0·614***		
Factor 3: Choice/Responsibleness			0·82	7·91
3. I regard the opportunity to direct my life as very important	0·540	0·672***		
11. My accomplishments in life are largely determined by my own efforts	0·656	0·672***		
17. I determine what happens in my life	0·500	0·670***		
19. Concerning my freedom to make my choice, I believe I am absolutely free to make all life choices	0·523	0·687***		
23. It is possible for me to live my life in terms of what I want to do	0·484	0·602***		
30. My life is in my hands and I am in control of it	0·587	0·691***		
39. When it comes to important life matters, make my own decisions	0·484	0·710***		
45. I accept personal responsibility for the choices I have made in my life	0·405	0·611***		
Factor 4: Goal Seeking			0·80	6·25
10. New and different things appeal to me	0·472	0·668***		
14. I would enjoy breaking loose from the routine of life	0·349	0·630***		
24. I feel the need for adventure and "new worlds to conquer"	0·652	0·727***		
34. A new challenge in my life would appeal to me now	0·544	0·604***		
36. I hope for something exciting in the future	0·606	0·685***		
41. I am eager to get more out of life than I have so far	0·429	0·666***		
43. I am determined to achieve new goals in the future	0·451	0·633***		
Total			0·71	46·91

$^{**}P < 0{\cdot}01$.
$^{***}P < 0{\cdot}001$.

self may likewise influence presence of meaning. In addition, people in Turkish society have a fatalist approach to the events or, in other words, a subservient approach, because of their religious beliefs. Moreover, the majority of the sample in this study had low education level and the patients with low educational level may be particularly vulnerable. This may explain the Cronbach's alphas of less than 0·70 for two factors in the present study.

When the items in the Turkish scale were compared to the original scale, there were differences between them. The KMO was calculated and found to be 0·76, indicating that the sample was large enough to perform a satisfactory factor analysis and that further validation (factor solution) could progress with a similar sample size. Sample size in this study was adequate for factor analysis.

Factor analysis showed that all of factor loadings were above 0·30 and factor loading of the items ranged 0·32–0·65. Factor loadings have not been reported in other study of the scale (Reker 1992, Vickberg *et al.* 2001, Bauer-Wu & Farran 2005). The acceptable minimum point for factor loading is 0·30 (Burns & Grove 1993); in this study all items met these criteria and factor loadings were high.

What is already known about this topic

- Meaning in life has implications for patients with cancer.
- The Life Attitude Profile-Revised Scale has been found to be a valid measure in only a few populations. Cross-cultural influences on meaning in life in patients with cancer influence the reliability of the scale.

What this paper adds

- The Life Attitude Profile-Revised Scale may be a valid measure for Turkish patients with cancer.
- The Turkish version of the Life Attitude Profile-Revised Scale shows statistically acceptable levels of reliability and validity.
- Further research is needed to evaluate the scale with larger populations and in other regions of Turkey.

Test–retest reliability of the scale was 0·76. Vickberg *et al.* (2001) reported a test–retest reliability of 0·90. According to the present results, therefore, the scale had construct validity.

Study limitations

The findings must be interpreted cautiously because of the study limitations. Face validity was not tested with a panel of patients themselves and most of the patients low education levels (Literate 32·7%, primary school 44·2%).

The sample reflects only one area of Turkey and therefore cannot be generalized to all patients with cancer in Turkey. Future studies should include larger samples from different regions in Turkey.

Conclusion

The Turkish version of the LAP-R Scale should be further evaluated with a large sample size in different regions of Turkey and diverse populations in other in different cultures. Further validation of the Turkish version is needed to allow its use in research and clinical practice.

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