The West Haven Yale Multidimensional Pain Inventory: Reliability and validity of the Turkish version in individuals with cancer

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A B S T R A C T

Purpose: Pain is a complex, multidimensional and subjective phenomenon that is common in patients with cancer. The translation of existing pain measurement scales is considered important in producing internationally comparable measures for evidence based practice. In measuring the pain experience, the WHYMPI is a widely used instrument to measure assessment of clinical pain, and it has not been validated in Turkey. The present study aimed to assess the reliability and validity of the Turkish version of the West Haven Yale Multidimensional Pain Inventory (WHYMPI).

Method: In this methodological study, the scale was translated into simplified Turkish by the cross-culture translation method, and 520 participants with cancer were assessed. The internal consistency, item analysis, and test-retest methods were used to determine the reliability of the Turkish WHYMPI. Content validity, criterion validity, convergent/divergent validity, and exploratory factor analysis were used to test the construct validity of the Turkish WHYMPI.

Results: Cronbach's alpha and item-total correlations results suggested that there was good internal reliability. The Cronbach's alpha for internal consistency of the pain experience, responses by significant others, and daily activities were 0.85, 0.60, and 0.83, respectively. The internal consistency coefficient for test-retest reliability of the pain experience, responses by significant others, and daily activities were acceptable: 0.82, 0.66, and 0.81, respectively. Factor loadings were significant, with standardised loadings ranging from 0.40 to 0.92.

Conclusions: WHYMPI is reliable and valid instrument for the measurement of pain in patients with cancer in Turkey. Its use is recommended for clinical and research purposes.

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Introduction

Cancer is the second highest cause of death among adults and the mortality rate for all cancers was 163 per 100 000 people in 2008 in Turkey (World Health Organization, 2012). Patients with cancer often experience multiple symptoms related to the disease itself and its treatment. Throughout this period, patients with cancer suffer from multiple physical and psychological symptoms like pain, nausea, anorexia, fatigue, mucositis, to feelings of sadness, worrying, anxiety, and irritability (Smeltzer et al., 2010; Yarbro et al., 2011).

Pain is among the most prevalent symptoms experienced by patients with cancer (Cherny, 2000). The experience of pain in people with cancer is highly variable and subjective. It consists of several dimensions such as physiologic, sensory, affective, cognitive, behavioural, sociocultural, and is affected by many factors (McGuire, 2004). Pain is not a trivial symptom of cancer. It can interfere with all aspects of a patient's life, such as their sleep, work, leisure and relationships (Potter et al., 2003). Cancer pain is known to be a multidimensional and complex experience that can cause severe suffering and can lessen the quality of life (Dedeli and Karadeniz, 2009). It can affect the quality of life in physical (decreased functional capability, diminished strength, endurance, nausea, poor appetite, poor or interrupted sleep), psychological

(diminished leisure, increased anxiety, fear, depression, personal distress, difficulty concentrating, loss of control), social (diminished social relationships, decreased sexual function, affection, altered appearance, increased caregiver burden) as well as spiritual ways (increased suffering, altered meaning, reevaluation of religious reliefs etc.) (Gehdoo, 2006).

Despite numerous education programs, intervention strategies and multidisciplinary pain societies, approximately 60% of patients with cancer are experiencing pain (Yıldırım and Uyar, 2006). Up to 80% of patients with cancer experience significant pain as a result of their disease and/or its treatment (Potter et al., 2003). These unacceptably high prevalence rates exist in spite of great medical, pharmacological and technological advances, supplemented by the increased interest in pain assessment methods (Hjermstad et al., 2009). Treatment of pain is, therefore, a vitally important component in the management of the patients with cancer (Potter et al., 2003).

In spite of being the most common reason for which people seek healthcare, pain measurement is a complex issue. Unidimensional measurement scales such as the visual analogue scale, the verbal rating and the numerical rating scales have been successfully employed in recording the intensity of pain sensation. However, they are not adequate tools to collect information on the affective component or other dimensions of the painful experience (de C Williams et al., 2000; Georgoudis et al., 2000). The complexity of assessing the sensation of pain has led to the development of multidimensional pain measures. The West Haven Yale Multidimensional Pain Inventory (WHYMPI) scale was developed based on cognitive-behavioural concepts applied to chronic pain, which allows researchers to evaluate the cognitive, behavioural and emotional aspects of pain (Kerns et al., 1985; Lousberg et al., 1999; Laliberte et al., 2008). Moreover, this tool has been used with a variety of pain conditions such as fibromyalgia, whiplash-associated disorder, systemic lupus erythematosus, chronic pelvic pain, pain associated with cancer and chest pain (Turk et al., 1998; Andreu et al., 2006). The research in the literature with WHYMPI and patients with cancer was the eight-item Multidimensional Pain Inventory-Screening Chinese version (MPI-sC), and in this study MPI-sC was used to examine multidimensional pain-related experiences of 106 terminal cancer patients in Taipei (Lai et al., 2009). Zaza et al. (2000) examined the generalizability of the non-malignant pain patient profiles based on the Multidimensional Pain Inventory (MPI) to patients with cancer-related pain.

The WHYMPI has been validated in English (Kerns et al., 1985) and has been used cross culturally. The WHYMPI has been translated into several languages including German (Flor et al., 1990), Swedish (Bergstrom et al., 1998), Dutch (Lousberg et al., 1999), Italian (Ferrari et al., 2000), and French (Laliberte et al., 2008). No reports on translation or validation of WHYMPI to Turkish language has been reported earlier. The need is felt for a concentrated, well-defined attempt to identify the WHYMPI determinants among patients with cancer.

The validation of translated scales improves cross-cultural utility of the source tool. The purpose of this study was to examine whether the Turkish version of the WHYMPI is a valid and reliable tool to assess pain and to be used as a clinical and research instrument. This study was carried out to translate the WHYMPI into Turkish and to test the reliability and validity of pain in patients with cancer.

Methods

A methodological design, specifically psychometric testing was used to address the purpose of the study.

Translation

A permission to conduct a Turkish version, reliability and validity study and make changes found to be necessary for Turkish culture was personally obtained from Robert Kerns and his collegues via internet correspondence. After obtaining a consent from the authors' of WHYMPI, employing standard 'forward-backward' translation procedure, the English version of the inventory was translated into Turkish by four health professionals. The Turkish translations were then compared for inconsistencies. The final Turkish version was then given to three native English speakers who were unaware of the English version, to translate back to English. The English translation was then compared with the original English WHYMPI by seven bilingual experts, including two PhD lecturers and five academic members in the field of medical oncology and nursing faculty, who were independent from the research team. They selected the most appropriate translation for each item from the reconciled or independent forward translations or provided alternative translations to improve items with inadequate pre-existing translations and to determine the cultural appropriateness of the tool. To ensure that the adapted version still retains its equivalence in an applied situation, the last stage of the adaptation process is to test the pre-final version in a pilot study. The translated instrument was pilot-tested for understandability with a 10-patients with cancer and at the conclusion the instrument's language and content validity was approved. In this pilot study, it was determined that the questions could be understood and no changes were made. The patients in the pilot test were not included in the research.

Questionnaires

The West Haven Yale Multidimensional Pain Inventory

The original version of the WHYMPI was developed by Robert Kerns and his colleagues, and it is a self-administered rating scale designed to assess cancer pain. The WHYMPI comprises 52 items contains 12 scales divided into 3 parts: 1) pain interference, support and self control, pain severity, pain perception, and negative mood; 2) punishing responses, solicitous responses, and distracting responses; and 3) household chores, outdoor work, activities away from home, and social activities. The first section was designed to be the most comprehensive and focused especially on the evaluation of perceived pain intensity and the impact of pain on various aspects of the patients' lives. The second section was designed to evaluate patients' perceptions of the responses of significant others to their communications of pain. The final section evaluated the frequency of patients' performance of common activities. The respondents record their response to each item on a 7-graded scale. The response scale has fixed scores between 0 and 6, where 0 corresponds to 'no, not at all, never' and 6 corresponds to 'yes, very much, very frequently'. Individual WHYMPI factor scores are obtained by summing the responses to the items that load on that particular factor. A score was calculated for each section. In the first section of the WHYMPI, for the pain interference, pain severity, and negative mood subscales, higher scores indicate worse pain interference, pain severity, and negative mood, respectively. However, for the support and self control, and pain perception subscales are scored in the opposite direction; higher scores indicate better life control, and pain perception. In the second section, solicitous responses, and distracting responses subscales, higher scores indicate better response, but punishing responses subscale is scored in the opposite direction, and higher scores indicate worse responses. In the third section, high scores in each sub-scale indicate better performance of common activities. The instrument is recommended for use in conjunction with behavioural and