

Brief Methodological Report

Validation of the Edmonton Symptom Assessment System in Korean Patients With Cancer

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Abstract

Context. The Edmonton Symptom Assessment System (ESAS) is a brief, widely adopted, multidimensional questionnaire to evaluate patient-reported symptoms.

Objectives. To develop a Korean version of the ESAS (K-ESAS) and to perform a psychometric analysis in Korean patients with advanced cancer.

Methods. We tested the K-ESAS in two pilot studies with 15 patients each. We assessed internal consistency, test-retest reliability, and concurrent validity in 163 Korean patients, who completed the K-ESAS along with the Korean versions of the M. D. Anderson Symptom Inventory (K-MDASI) and the Hospital Anxiety and Depression Scale (K-HADS) twice. A total of 38 patients completed the questionnaires again seven days later to assess responsiveness.

Results. The K-ESAS scores had good internal consistency, with a Cronbach's alpha coefficient of 0.88, indicating that no questions had undue influence on the score. Pearson correlation coefficients for K-ESAS symptom scores between baseline and after two to four hours ranged from 0.72 (95% CI 0.64–0.79) to 0.87 (95% CI 0.82–0.90), indicating strong test-retest reliability. For concurrent validity, Pearson correlation coefficients between K-ESAS symptom scores and

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Accepted for publication: January 28, 2013.

corresponding K-MDASI symptom scores ranged from 0.70 (95% CI 0.62–0.77) to 0.83 (95% CI 0.77–0.87), indicating good concurrent validity. For the K-HADS, concurrent validity was good for anxiety ($r = 0.73$, 95% CI 0.65–0.79) but moderate for depression ($r = 0.4$, 95% CI 0.26–0.52). For responsiveness, changes in K-ESAS scores after seven days were moderately correlated with changes in K-MDASI scores but weakly correlated with changes in K-HADS scores.

Conclusion. The K-ESAS is a valid and reliable tool for measuring multidimensional symptoms in Korean patients with cancer. *J Pain Symptom Manage* 2013;46:947–956. © 2013 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

Key Words

Advanced cancer, Edmonton Symptom Assessment System, ESAS, Korea

Introduction

Patients with advanced cancer often suffer from multiple moderate-to-severe symptoms, including physical and psychosocial distress.^{1,2} The prevalence of multiple symptoms in this patient population has been reported to range from 55% to 84%, with a median of 11 symptoms per patient (range 1–27).³

The Edmonton Symptom Assessment System (ESAS) is a 10-item, multidimensional assessment tool that was designed to obtain patient-reported symptom ratings. It uses a score range of zero to 10 to measure distress associated with both physiological and psychological symptoms. The ESAS has been translated and validated in multiple languages but not Korean.^{4–9} Thus, we developed a Korean version of the ESAS (K-ESAS) using pilot studies and performed a psychometric analysis to validate the assessment tool for use in Korean patients with cancer.

Methods

Patient Recruitment

To test and validate the K-ESAS, we recruited patients with advanced cancer (locally advanced, relapsed or refractory, or metastatic disease) who were undergoing treatment from nine oncology clinics at university hospitals or from a veteran's hospital in South Korea between May 7 and August 21, 2012. To be eligible, patients needed to be at least 20 years old and able to understand written Korean. Patients with symptomatic brain metastasis; uncontrolled psychiatric disease; and cognitive

dysfunction, including dementia or delirium, were not eligible to participate. Patient demographics were collected on enrollment; patients completed the initial questionnaires on the same day. This study was reviewed and approved by the institutional review boards of each Korean institution and by The University of Texas M. D. Anderson Cancer Center Institutional Review Board. All patients provided written informed consent; the informed consent form was approved by each institutional review board.

Instruments

Edmonton Symptom Assessment System-Korean Version. The ESAS uses numerical scales ranging from zero to 10 to assess the average intensity of the following symptoms experienced during the previous 24 hours (10 indicates highest intensity), namely pain, fatigue, nausea, depression, anxiety, drowsiness, loss of appetite, decreased well-being, dyspnea, and sleep disturbance.^{4,10,11}

To validate the Korean version of the ESAS that we developed in pilot studies (see below), we compared patient responses to K-ESAS questions with their responses to similar questions on Korean versions of the M. D. Anderson Symptom Inventory (K-MDASI) and the Hospital Anxiety and Depression Scale (K-HADS).

M. D. Anderson Symptom Inventory-Korean Version. The MDASI uses a scale ranging from zero to 10, with zero being “not at all” and 10 being “as bad as you can imagine,” to assess the highest intensity experienced of each of the 13

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