Brief Methodological Report

Psychometric Properties of the Icelandic Version of the Revised Edmonton Symptom Assessment Scale

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Abstract

Context. The Edmonton Symptom Assessment Scale (ESAS) is a symptom assessment tool commonly used in both research and clinical practice. A revised version of the tool (ESAS-r) was published in 2011.

Objectives. To evaluate the psychometric properties and feasibility of the Icelandic version of ESAS-r.

Methods. The study was cross-sectional, and 359 cancer patients were screened for participation at inpatient and outpatient settings. The ESAS-r, M. D. Anderson Symptom Inventory (MDASI), demographic and feasibility questions were completed by 143 patients. The psychometric properties assessed for ESAS-r were internal consistency (Cronbach alpha) and concurrent validity (Pearson correlation).

Results. Reliability analysis of the ESAS-r showed good internal consistency (Cronbach alpha = 0.85). Validity analysis showed significant moderate-to-strong correlations between seven matching symptom scores on the ESAS-r and MDASI, ranging from $r = 0.64–0.86$. The majority of patients rated both tools easy to understand, but on the whole, significantly more patients found ESAS-r easier to complete and preferred its use over the MDASI.

Conclusion. The Icelandic version of ESAS-r is a valid and reliable tool for symptom screening in Icelandic cancer patients in both inpatient and outpatient settings. J Pain Symptom Manage 2016;51:133–137.

Key Words
Cancer, Edmonton Symptom Assessment Scale, ESAS, ESAS-r, symptom assessment, psychometric properties

Introduction

A systematic symptom assessment is an important part of effective symptom management.[1] Therefore, reliable and valid symptom assessment instruments are important in identifying and monitoring symptoms.[2] The Edmonton Symptom Assessment Scale (ESAS) was published in 1991 and has been widely used to assist in the assessment of common symptoms in cancer patients.[3–5] ESAS a self-rated tool includes nine common symptoms (pain, tiredness, drowsiness, nausea, appetite, depression, anxiety, shortness of breath, and well-being), with the option of adding a 10th patient-specific symptom. The severity of each symptom is rated on a 0–10 numeric rating scale. Validation studies of ESAS have reported reliability estimates,[6–8] content validity evidence,[9] concurrent validity evidence,[8,10–12] predictive validity evidence,[13] and sensitivity and/or specificity.[6,8,11]

In 2011, a revised version of ESAS (ESAS-r) was published.[14] ESAS-r includes the same nine symptoms as ESAS, but the order of symptoms has been changed and clarifications have been added to several symptoms. Related symptoms follow each other, for example, tiredness and drowsiness; nausea and appetite; depression and anxiety, and well-being is at the end of the instrument. Brief explanations have been added to clarify tiredness (lack of energy), drowsiness (feeling sleepy), depression (feeling sad), anxiety (feeling nervous), and well-being (how you feel overall). Appetite was changed to lack of appetite to

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express the concept as a symptom. The time frame for symptom ratings is specified as "now." Study results have indicated that patients significantly prefer ESAS-r over ESAS.[14,15]

The original version of ESAS was translated into Icelandic in 1997 by bilingual palliative care professionals and has been recommended for use in Icelandic palliative care guidelines.[16] Recently, ESAS-r was translated by the same group to replace the former version. The purpose of this research was to evaluate psychometric properties of the Icelandic revised ESAS (ESAS-r).

Methods

Participants and Setting

Using a cross-sectional sampling approach, cancer patients receiving treatment and care at inpatient and outpatient medical oncology and hematology units, a palliative care unit, and the radiation clinic at Landspitali University Hospital were invited to participate in the study. Eligible patients needed to be at least 18 years old, able to understand written Icelandic, be cognitively intact (based on clinical impression), and able to provide informed consent. Data were gathered between January and October 2013, and all patients at the participating units were screened for eligibility.

The study was approved by the bioethics committee of The National University Hospital (24/2012) and by The Data Protection Authority in Iceland (S6093).

Instruments

The Edmonton Symptom Assessment Scale—Icelandic Revised Version. The ESAS-r is a modified version of the original ESAS.[14] The symptoms are in following order: pain, tiredness (lack of energy), drowsiness (feeling sleepy), nausea, lack of appetite, shortness of breath, depression (feeling sad), anxiety (feeling nervous), and well-being (how you feel overall). The symptoms are rated on a 0 (absent symptom)−10 (worst possible) numerical severity scale, and the time frame is at the time of assessment.

M. D. Anderson Symptom Inventory Icelandic Version. The M. D. Anderson Symptom Inventory (MDASI) Icelandic Version was developed by the Pain Research Group at the University of Texas M. D. Anderson Cancer Center.[17] The MDASI measures the severity of 13 symptoms (i.e., pain, fatigue, disturbed sleep, dry mouth, lack of appetite, nausea, vomiting, drowsiness, shortness of breath, numbness, or tingling, problem with remembering things, feeling sad, and distress) and six interference items (i.e., general activity, mood, work, relations with other people, walking, and enjoyment of life). Each symptom is rated on a 0−10 numeric rating scale at its worst in the past 24 hours. The validity of the MDASI was determined using factor analysis, and internal reliability assessed with Cronbach alpha ranged from 0.82 to 0.87 for the symptom items and from 0.91 to 0.94 for the interference items.[17] MDASI was translated into Icelandic and validated in 2005 with Icelandic cancer patients showing good internal reliability (Cronbach alpha = 0.87) for all symptom items and all interference items (Cronbach alpha = 0.84).[18]

Feasibility Questions. Feasibility of each symptom questionnaire was assessed with four key questions, that were translated and adapted from a previous study by Watanabe et al.[19] The questions focus on the patient's familiarity with it, ease of understanding (words and instructions), ease of completion (answered on five-point Likert scale; others were closed questions), and which instrument they preferred to use to assess their symptoms.

Demographic and Disease-Related Data. Demographic data collected were age, gender, education, and marital status. Disease data collected were cancer type, time of diagnosis, and stage of cancer (localized or advanced).

Procedure

A research nurse assistant screened current and new patients at each unit for eligibility, introduced the study, and obtained informed consent. A total 359 patients were screened for participation, but 207 patients were not approached because of weakness of illness or cognitive impairment (both based on clinical impression), previous participation in this study, language barriers, or a noncancer diagnosis. Of 152 patients approached, seven refused to participate without being asked for a specific reason. A total of 145 patients completed and returned the questionnaires within the next two hours. The symptom instruments were not completed in random order because some patients were expected to have already been exposed to the ESAS during the course of care, thereby diminishing the value of randomization.

Statistical Analysis

Sample Size Calculation. A power analysis suggested that a minimum of 85 patients would provide 80% power (alpha = 0.5, $r = 0.3$).[20] Data were collected from 143 patients because the intention was also to compare symptom outcomes and feasibility of ESAS-r with demographics and background data.

Data Analysis. Descriptive statistics were used to describe the sample and to report means (SD) and