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## Insufficient cross-cultural adaptations and psychometric properties for many translated health assessment scales: A systematic review

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#### Abstract

**Objectives:** If researchers want to assess reliably different aspects of general health in the migrant populations, they need translations of internationally used health assessment scales with appropriate cross-cultural adaptations and satisfactory psychometric properties. A systematic review was performed to assess the quality of the cross-cultural adaptations and the psychometric properties of health assessment scales measuring cognition, mood, activities of daily living, health-related quality of life, and loneliness. We focused on the scales that were adapted for use with Turkish, Arab, and Surinamese (Creole and Hindi) individuals aged 65 years and older.

Study Design and Setting: PubMed, PsycINFO, and EMBASE databases were systematically searched, and selected articles were cross-checked for other relevant publications.

**Results:** In total, 68 relevant studies of the Turkish, Arab, and Surinamese populations were identified. To arrive at an appropriate cross-culturally adapted scale, five steps are required. Six studies followed this complete process. Only a few studies assessed all the psychometric properties of the cross-culturally adapted scales. The studies in which these were best assessed primarily involved cognitive and functional scales.

Conclusion: Cross-cultural adaptations are insufficient, and psychometric properties are unknown for many translated health assessment scales. © 2013 Elsevier Inc. All rights reserved.

Keywords: Migrants; Cross-cultural adaptation; Systematic review; Psychometric properties; Assessment scales; Cognitive

### 1. Introduction

Most ethnic minority populations in Europe consist of labor immigrants who arrived in the 20th century and their descendants. Once they have aged, most of these so-called "first-generation immigrants" remained in their host countries. In the Netherlands, most immigrants came from Turkey, North Africa, and former colonies, and their proportion of the Dutch population will grow from 7.2% in 2003 to 14.6% by 2020.

In exploratory studies, a high prevalence of general health problems was found in older Turkish and Moroccan immigrants [1-3], and they reported more chronic diseases at a relatively younger age than the native Dutch population [4]. Immigrants also used health care services less frequently than natives because of their unfamiliarity with the systems

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[5], but their use of these services will increase because of the higher prevalence of chronic diseases, such as cardiovascular diseases and dementia, in the immigrant population than that in the native population [6,7]. Because 60% of first-generation immigrants lack proficiency in Dutch language [8], they are often underrepresented in general health surveys and clinical research, so appropriate therapy or care cannot be provided. The above-mentioned factors underscore the urgent need for reliable and valid health assessment scales that can address language and cultural barriers.

Cross-cultural adaptation of the existing health assessment scales is the appropriate method for developing reliable health assessment scales. Such scales enable professionals to assess each patient's health in the patient's own cultural context. In some cases, cross-cultural adaptation requires that descriptors be excluded, added, or changed. After cross-cultural adaptation, the psychometric properties of the revised scale should be tested; such testing provides important information about the utility of the adapted assessment scale. Combining cross-cultural adaptation and evaluation of psychometric properties of the newly adapted scale allows for the comparison of research conducted on different cultural populations.

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#### What is new?

### **Key finding**

 Cross-cultural adaptations are insufficient, and psychometric properties are unknown for many translated health assessment scales.

### What this adds to what was known?

This review provides the first overview of the quality of the cross-cultural adaptation and the psychometric properties of translated health assessment scales for elderly Turkish, Arabic, and Surinamese individuals. This allows professionals to use the highest quality health assessment scale in their clinical practice or research.

## What is the implication and what should change now?

• The application of international guidelines should be a *conditio sine qua non* before publishing the translated versions of health assessment scales.

Although some assessment scales are available in different languages, details about the quality of their cross-cultural adaptation and psychometric properties were difficult to obtain. We therefore performed a systematic literature review on the psychometric properties of cross-culturally adapted scales, assessing five domains of health: cognition, mood, activities of daily living (ADL), health-related quality of life (QoL), and loneliness. Because of its intended use in the Dutch population, we focused our search on scales developed for or studied in Turkish, Arab, and Surinamese (Creole and Hindi) populations aged 65 years and older.

### 2. Methods

### 2.1. Search strategy

The search strategies for this review were designed to retrieve references relating to the development and use of health assessment scales for cognition, mood, ADL, health-related QoL, and loneliness for older people of Turkish, Arab, and Surinamese descent.

We searched in three databases to retrieve relevant articles for this review: PubMed, PsycINFO, and EMBASE. PubMed was systematically searched for relevant articles in any language understood by the coauthors (Dutch, English, and Turkish) published between January 1990 and April 2009. In PubMed, our search consisted of All Fields, TIAB, and Medical Subject Headings (MeSH) terms for elderly population, five functional domains, and language, combined with the Boolean operator AND. The complete search string for PubMed with the complete number of hits

is shown in Appendix 1 (Appendix B at www.jclinepi.com). We adapted the search strategy for the other databases, but no new articles were found. The search strategy was determined by one of the authors (Ö.U.) with the assistance of a clinical librarian. Additionally, manual searches of the reference lists of selected articles were conducted to identify other relevant articles for this review.

The MEDLINE database was used to search MeSH for candidate search terms. The search terms were not limited by the study design. The methodological filter used was "clinical queries." In addition, the searches used the clinical study category "diagnosis" with the "broad, sensitive search" filter.

In this systematic review, older people were defined as aged 65 years and older and living either independently or with home care assistance.

### 2.2. Selection process

The studies selected for inclusion in this review were restricted to those with a primary focus on the development or use and the reliability and validity of the assessment scales concerning the domains of cognition, mood, ADL, health-related QoL, and loneliness. We excluded any descriptive reports that did not address methodology and measurement issues.

First, based on the title and abstract, articles were included if one of the following inclusion criteria was met: (1) title and/or abstract focused on one of the Turkish, Arabic, or Surinamese language groups and (2) title and/or abstract described one of the above-mentioned domains.

The retrieved studies were included if at least 25% of the participants in the study population were aged 65 years and older. All research designs were accepted, with the exception of case studies and reviews. Studies with assessment scales specifically developed for a defined (small) patient population were excluded because of a potential lack of generalizability.

If the studies included different scales that assessed different domains, we described each scale in its specific domain. In addition, scales involving more than one domain were included and described in the relevant domains.

We attempted to trace each reference to the original study, in which the specific translated scale was first described. The authors who published the first study about a cross-culturally adapted scale were labeled as the reference or original author.

### 2.3. Data extraction

All the retrieved articles were initially screened based on the title and/or abstracts (Fig. 1) by one author (Ö.U.), who selected 122 studies. These studies were then independently assessed in detail by three authors (Ö.U., J.L.P., and S.E.R.). Any disagreements were resolved by discussion. Next, the studies were categorized by sample size, patient

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