Cross-cultural adaptation of the spinal cord lesion-related coping strategies questionnaire for use in Iran

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ABSTRACT

Introduction: This study examined the validity and reliability of the Iranian version of the spinal cord lesion-related coping strategies questionnaire (SCL CSQ-I) in persons with spinal cord injury (SCI).
Methods: Consecutive patients with SCI ($n = 220$) were recruited into the study. A standard forward-backward translation procedure was used to translate the SCL CSQ from English into Persian. Participants also completed the Short Form Health Survey (SF-12), Hospital Anxiety and Depression Scale (HADS), Spinal Cord Independence Measure (SCIM III), Community Integration Questionnaire (CIQ), and SCL CSQ-I. Psychometric properties examined were internal consistency, test–retest reliability, convergent validity, discriminant validity, and construct validity.
Results: Cronbach alphas for the SCL CSQ-I subscales ranged from 0.68 to 0.89, indicating acceptable internal reliability, and intraclass correlation coefficients ranged from 0.74 to 0.89, indicating good test–retest reliability. The SCL CSQ-I subscales significantly correlated with scores on the SF-12, HADS, SCIM III and CIQ, indicating solid convergent validity. Each item of the SCL CSQ-I within a hypothesized dimension correlated strongly with the total score for that dimension. Exploratory and confirmatory factor analyses identified a three-factor model. The SCL CSQ-I subscales correlated significantly with clinical and socio-demographic characteristics.
Conclusion: The Iranian version of the SCL CSQ is a reliable and valid tool for measuring coping strategies in persons with SCI.

Introduction

Spinal cord injury (SCI) is a common cause of disability and death in the world. It is estimated that the annual incidence of the SCI is 2.1–57.8 cases per million [1]. SCI has been associated with dependency on caregivers, elevated levels of anxiety and depression, and lower quality of life. Persons with SCI are more prone to suicide than the general population [2]. These individuals are especially likely to have adjustment problems immediately after the injury when their lives are rapidly changing from being independent to dependent. Coping strategies have been identified as serving an important role in patients' adaptation to stressful events [3]. Despite the existence of several scales to assess coping strategies, such as the COPE Inventory [4] and Multidimensional Coping Inventory [5], there is only one scale that assesses coping specific to spinal cord injuries. Moreover, these commonly used measures are lengthy and difficult to complete. The spinal cord lesion-related coping strategies questionnaire (SCL CSQ) is a disease-specific tool that was developed by Elfstrom et al. to assess coping strategies in

persons with SCI [6]. SCL CSQ has been translated into several languages including Turkish and Spanish [7,8]. The psychometric properties of the SCL CSQ have been established in these contexts and found to be solid.

Coping and adjustment to any condition is related to the context and problems characteristic to the condition. Therefore, it is necessary to evaluate coping strategies specific to the conditions to which persons are exposed. Although, general coping scales may produce useful information about coping, developing and applying measures specific to a condition may provide unique information regarding the problems and issues that may arise. This information may provide a better understanding of how coping affects adjustment in a particular study population [9]. Therefore, the aim of the present study was to explore the validity and reliability of the Iranian version of the SCL CSQ in persons with SCI.

Materials and methods

Participants

From January to July of 2014, we approached 233 persons with SCI referred to the neurology centre of Qazvin University of Medical Sciences. The inclusion criteria were having SCI for more than 3 months, speaking Persian/Farsi languages, and agreeing to participate in the study. Those with cognitive impairment, concomitant brain injury, or difficulties communicating were excluded from the study. A total of 13 persons (5.6%) declined to participate. All participants provided written informed consent. Permission for the use of all measures was obtained from the developers of these tools. This study was approved by the research Ethics committee of Qazvin University of Medical Sciences (QUMS).

Measures

Socio-demographic and clinical characteristics were collected from participants' medical records.

Spinal cord independence measure (SCIM III)

Ability to perform daily living activities was assessed by the SCIM, which is comprised of 19 items that include three subscales involving self-care (feeding, bathing, dressing, grooming), mobility (transferring in and out of bed, indoor/outdoor activities), and respiration and sphincter management. The total score of the SCIM ranges from 0 to 100, with higher scores indicating greater independence. Among the three versions of the SCIM, the third version has been found to be the most reliable and valid in persons with SCI [10].

Hospital anxiety and depression scale (HADS)

The HADS is a brief (14-item) self-report measure used to assess anxiety and depression among medical patients. The HADS is composed of two subscales including anxiety (7 items) and depression (7 items). Each item is scored on a Likert-type scale ranging from 0 to 3 with higher scores indicating greater anxiety and depression. The psychometric properties of the Iranian version of the HADS have been established for patients with medical illness [11]. This scale has been used previously in persons with SCI and has been shown to be valid and reliable [12,13].

Short form health survey (SF-12)

The SF-12 is a well known measure used to assess general health-related quality of life. Responses are transformed into a 0–100 scale with higher scores indicating higher quality of life.

The 12 items are presented in two summary scores involving physical and mental components (PCS-12 and MCS-12). The SF-12 has been translated into Persian/Farsi and its reliability and validity established in a sample of 144 patients undergoing hemodialysis [14]. The SF-12 has been used in many studies among those with SCI and has good psychometric properties in this population [15].

Community integration questionnaire (CIQ)

The CIQ is a 15-item scale that assesses community integration. Each item is scored on 3-point Likert scale ranging from 0 to 2, with an overall score ranging from 0 to 29 with higher scores indicating greater integration. The Persian version of the CIQ has been reported to be reliable and valid in Iranian patients [16]. Gontkovsky et al. and Kratz et al. have used the CIQ to assess community integration among persons with SCI and found it to be a valid and reliable measure [17,18].

Spinal cord lesion-related coping strategies questionnaire (SCL CSQ)

The SCL CSQ was developed to assess coping strategies in persons with SCI. This brief 12-item scale covers three domains including Acceptance (5 items), Fighting Spirit (4 items), and Social Reliance (3 items). Responses are scored on a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). The mean of all items is used to calculate domain score, and ranges for each domain from 0 to 4 with higher scores indicating higher agreement [19].

Translation procedure

The revised English version of the SCL CSQ v1.0 was used in the translation [19]. The translation procedure followed Beaton's recommendations [20]. First, two bilingual translators with medical backgrounds translated the SCL CSQ into Persian/Farsi independently (forward translation). Second, the translators of the scale and the project manager synthesized the results and resolved discrepancies between the translations. This Persian version of the scale was then translated back into English by two native English speakers who were Iranian without medical backgrounds. These translators were blind to the original English version. Experts in scale construction, a health psychologist, nurse, neurosurgeon, general practitioner, the scale translators, and the project manager reviewed all versions of the questionnaire and consolidated them into a preliminary final version. This version was then pretested in a sample of 32 persons with SCI (21 males and 11 females). All subjects completed the questionnaire and were asked to comment on the items, response options, and instructions for completion. Based on these comments, changes were made and the final Persian version of the SCL CSQ was then administered to 220 Iranian persons with SCI.

Statistical analysis

Reliability of the SCL CSQ-I was determined using internal consistency and test–retest statistics. Cronbach alpha coefficients over 0.70 are considered satisfactory internal consistency. Test–retest reliability was determined using the Intraclass Correlation Coefficient (ICC) between two administrations of the scale two weeks apart. An ICC of 0.70 or higher is considered acceptable.

Convergent validity of the SCL CSQ-I was evaluated by calculating the Pearson product-moment correlation coefficient between the SCL CSQ-I and CIQ, SCIM III, SF-12, and HADS. Construct validity was examined by the Pearson correlation between each item and its own scale ($r > 0.40$).

The SCL CSQ-I subscales scores across demographic and clinical characteristics were compared using the student t-test and one-way analysis of variance (ANOVA).