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Research report

Adaptation and validation of the Spanish version of the Clinical Impairment Assessment Questionnaire ☆

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ABSTRACT

The Clinical Impairment Assessment (CIA) assesses psychosocial impairment secondary to an eating disorder. The aim of this study was to create and validate a Spanish-language version of the CIA. Using a forward–backward translation methodology, we translated the CIA into Spanish and evaluated its psychometric characteristics in a clinical sample of 178 ED patients. Cronbach's alpha values, confirmatory factor analysis (CFA), and correlations between the CIA and the Eating Attitudes Test-12 and the Health-Related Quality of Life in ED-short form questionnaires evaluated the reliability, construct validity, and convergent validity, respectively. Known-groups validity was also studied comparing the CIA according to different groups; responsiveness was assessed by means of effect sizes. Data revealed a three-factor structure similar to that of the original CIA. Cronbach alpha coefficient of 0.91 for the total CIA score supported its internal consistency and correlations with other instruments demonstrated convergent validity. The total CIA score and factor scores also significantly discriminated between employment status, evidencing known-groups validity. Responsiveness parameters showed moderate changes for patients with restrictive eating disorders. These findings suggest that the CIA can be reliably and validly used in Spain in a number of different clinical contexts, by researchers and clinicians alike.

Introduction

Eating disorders (ED) are serious psychiatric illnesses that impair health-related quality of life (Hay & Mond, 2005; Stice, Marti, Shaw, & Jaconis, 2009) and have other profoundly negative effects on patients' lives (Bohn et al., 2008). As it is often the repercussion and the negative aspects of ED that motivate people to seek treatment (Petersen & Rosenvinge, 2002), functional impairment secondary to ED symptoms is important to consider during assessment (Rø, Bang, Reas, & Rosenvinge, 2012). As well, the alleviation of this impairment is an important goal of treatment (Bohn et al., 2008). Several ED-specific measures of health-related quality of life (HRQoL) have been developed: Quality of Life for Eating Disorders – QOL ED; Eating Disorder Quality of Life Scale – EDQLS; Eating Disorders Quality of Life – EDQOL; Health-Related Quality of Life for Eating Disorders – HeRQoLED (Abraham, Brown, Boyd, Luscombe, & Russell, 2006; Adair et al., 2007; Engel et al., 2006; Las Hayas et al., 2007), but none of these is entirely satisfactory as a measure of impairment secondary to ED psychopathology (Bohn et al., 2008). The Clinical Impairment Assessment (Bohn & Fairburn, 2008) was developed as a brief self-report questionnaire to specifically assess psychosocial impairment secondary to ED. The CIA is distinguished from other ED-related quality of life measures in that it emphasizes the severity of impairment across important domains of functioning that occur as a direct consequence of an individual's ED (Vannucci et al., 2012).

Previous studies of the psychometric properties of the CIA support its use. Data have been provided on Norwegian students (Reas, Rø, Kapstad, & Lask, 2010), and another "high risk" sample of college-age women (Vannucci et al., 2012). Two additional studies have been

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reported: one providing normative data from a Swedish population study (Welch, Birgegard, Parling, & Ghaderi, 2011), and another by Becker et al. (2010) (Becker et al., 2010) on Fijian adolescents. Only the original study of the CIA (Bohn et al., 2008) and the recent study of Jenkins (2013) have investigated psychometric properties in a clinical ED sample. Results from these studies have provided evidence for the use of the CIA, and have supported the original factor structure of the measure.

To the best of our knowledge, there were no previous studies focusing upon the validation of CIA in the Spanish translation. The CIA has not been adapted and validated in Spanish. Given the clinical utility of the CIA and the fact that several studies have provided evidence of the reliability and validity of the instrument, and taking into account the need of cross-cultural studies of individual differences and self-report measures, the aim of this manuscript is to create and validate a Spanish version of the CIA, assessing several psychometric properties of the questionnaire (validity, reliability, and responsiveness, which is the ability of a scale to detect change) (Fayers & Machin, 2007), and also to contribute with the cross-cultural literature on ED and CIA. We hypothesized that the CIA would show strong evidence of construct validity. Specifically, for the hypothesis "convergent validity", we hypothesized that the social impairment factor of the Spanish CIA would correlate higher with EAT-12's factor 2 (bulimia and food preoccupation). A support for this expectation comes from studies of Gilbert and Meyer, who found that social comparison predicted bulimic symptoms (Gilbert & Meyer, 2003) and that fear of negative evaluation (i.e., the fear that one's social self will be judged negatively) predicted bulimic attitudes over time (Gilbert & Meyer, 2005). We also hypothesized that the social impairment factor of the Spanish CIA would correlate higher with the social maladjustment domain of the HeRQoLED-s than with the other factor, while the cognitive impairment factor of the CIA would correlate higher with mental health function of the HeRQoLED-s. For the hypothesis "known groups validity", we hypothesized unemployed and disabled patients would have higher global and factor 3 (cognitive impairment) scores in the Spanish CIA questionnaire. Finally, having in mind the type of compensatory behaviors (Martín et al., 2011), we hypothesized for the responsiveness goal of the study that the restrictive group would have a greater improvement than the other types of compensating behavior.

Methods

Participants

We conducted a prospective study of all patients diagnosed with and treated for an ED in the Eating Disorders Outpatient Clinic of the Psychiatric Services at the Galdakao-Usansolo Hospital, in Bizkaia, Spain. This institution, which serves a population of 300,000 inhabitants, is part of the Basque Health Care Service, which provides free, unrestricted care to nearly 100% of the population. Outpatients were eligible for the study if they had been diagnosed with anorexia nervosa, bulimia nervosa, or an eating disorder not otherwise specified (EDNOS) by psychiatrists based on criteria established in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (American Psychiatric Association, 1994), and provided written informed consent to participate. They were recruited between January 2010 and January 2011. Patients were excluded if they had a malignant, severe organic disease, could not complete the questionnaires because of language barriers, or did not give written informed consent to participate in the study. The diagnosis was verified via chart review. Throughout the 2-year study period, each patient received a psychopharmacologic and psychotherapeutic treatment program consisting of cognitive-behavioral treatment; nutritional orientation and counseling; psycho-education; motivational therapy; social skills training; and therapy to modify distorted perception of body image. These interventions were adjusted to each patient's needs by a multidisciplinary team.

Sample size was calculated according to the recommended 10:1 ratio of the number of subjects to the number of test items (Kline, 1998). The study was approved by the institutional review board of Galdakao-Usansolo Hospital.

Measures

CIA questionnaire

The CIA (v. 3.0) (Bohn et al., 2008) is a 16-item self-report measure of psychosocial impairment secondary to features of an eating disorder. This questionnaire measures three domains of impairment – personal, social, and cognitive – attributable to eating habits, exercising, or feelings about eating, shape, or weight over the previous 28 days. Items are rated on a four-point Likert scale, ranging from 0 = "Not at all" to 3 = "A lot." A global CIA score ranging from 0 to 48 is calculated to provide a global index of the severity of psychosocial impairment due to eating disorder pathology during the past 28 days. A higher score indicates greater impairment. Subscale scores can be calculated to determine the three domains of impairment (personal, social, and cognitive). The original report of the CIA's psychometric properties supported adequate reliability and validity of the measure within a clinical sample of patients with eating disorders (Bohn et al., 2008).

Eating Attitudes Test-12 (EAT-12)

Eating problems were measured by the EAT-12 (Lavik, Clause, & Pedersen, 1991). It uses a 4-point scale, from *never* (score 0) to *always* (score 2). The EAT-12 yields three factors: dieting, bulimia and food preoccupation, and oral control. Previous studies have supported its validity as a measure of disordered eating (Wichstrøm, 1995; Wichstrøm, Skogen, & Øia, 1994). The internal consistency was a 0.71.

Health-related quality of life in ED-short form (HeRQoLED-s)

ED patients' quality of life was evaluated using the Health-Related Quality of Life in ED-short form (HeRQoLED-s) (Las Hayas, Quintana, Padierna, Bilbao, & Munoz, 2010; Las Hayas et al., 2007). This questionnaire consists of 20 items distributed into two domains: social maladjustment and mental ($\alpha = 0.91$) and functional health ($\alpha = 0.90$). The higher the score, the lower the quality of life. This measure has been used successfully with Spanish-speaking populations (González, Padierna, Martín, Aguirre, & Quintana, 2012; Las Hayas et al., 2006; Martín et al., 2011; Muñoz et al., 2009; Padierna et al., 2012).

Procedure

Data collection started in 2010; one year follow-ups were conducted through 2011–2012. Psychiatrists collaborating in the study informed personally their patients about the objectives of the study, and recorded the sociodemographic information, including age, gender, marital status, level of education, employment status, and people with whom the patient lived. Those who agreed to take part were also sent the questionnaires and informed consent form by mail. They were asked to return these by mail using an enclosed, pre-stamped envelope. Two reminders also were sent at intervals of 15 days to those who did not respond to the first mailing.

Adaptation of the CIA

Adaptation of the CIA into Spanish was performed using the backward–forward translation process, which ensures conceptual equivalency (Aaronson et al., 1992; Brislin, 1970). Forward translation into Spanish was carried out by two independent native Spanish-speaking translators who were fluent in English. The