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Cross-cultural adaptation and validation of the Spanish version of the Client-Centred Rehabilitation Questionnaire (CCRQ)

Purpose: The aim of the study is to present the process of translation, adaptation and validation of the Client-Centred Rehabilitation Questionnaire (CCRQ) in the Spanish context.

Method: The process integrates two sequential phases. Phase 1 consists of a questionnaire translation and back-translation process conducted by a panel of experts, and a pilot study. In phase 2, CCRQ-e (Spanish version) was administered to 305 rehabilitation inpatients to collect evidence on the reliability and validity of the instrument.

Results: The exploratory and confirmatory analysis confirmed seven original domains, eliminating four items from the original scale. CCRQ-e has a good internal consistency. Discriminative construct validity distinguished significant differences based on age, educational level and severity of diagnosis. Criterion validity of the CCRQ and EQ-5D showed negative significant correlations between CCRQ-e and the general perception of health EQ-VAS, and a positive correlation between CCRQ-e and EQ pain and EQ anxiety (higher scores in CCRQ-e mean lower client-centered practice perceived).

Conclusions: The Spanish version of the CCRQ is suitable for evaluating person-centered rehabilitation from the person's perspective. It includes aspects related to the comfort, decision-making and participation of the client, as well as questions about the provision of service and the environment.

Keywords: cross-cultural adaptation, health assessment, validation, reliability, psychometric assessment, person-centred rehabilitation

Introduction

Client-centred practice is a concept with a humanistic approach proposed by Carl Rogers (1) that has been incorporated into global health policies and regulations in different fields and professions (2,3). The concepts of client-centred rehabilitation and client-centred practices are recognized by the Rehabilitation Competency Framework (2), and are used with different nuances by the professions that make up the rehabilitation teams (4–8). In any case, person-centredness is a philosophy that involves organizing and providing social healthcare based on the needs, values and preferences of the individual, while optimizing the intervention. Being more relevant and meaningful interventions for the individual, they provide greater adherence to treatment and effectiveness of the outcomes (4). This implies understanding the person in terms of his/her individuality, facilitating engagement in decision-making and promoting a quality care relationship at all times (9,10), bearing in mind that variables such as age, identity, culture, health policies and type of service can directly influence the subjective appraisal of the experience (7,8,11).

Person-centred interventions, where there is a client-professional collaboration to establish goals, design the planning and implement the intervention, have been related to better results in regard to satisfaction and treatment, reducing the periods of hospitalization, decreasing anxiety and offering a greater sense of control (7,12–14). These client- and family-centred approaches not only improve satisfaction but, by increasing adherence to treatment, functional outcomes are also improved (5). Similarly, it has been proved that client-centred occupational therapy enhances the satisfaction perceived by the individual in terms of their occupational performance (15). Moreover, pain control, together with improved functionality, offers a greater opportunity to actively participate in treatment, providing the patient with more positive experiences

(8), since, in diagnoses of greater severity, it is associated with poorer results and lower satisfaction in the rehabilitation experience (7). In Doyle's review (14), results show that patient experience is consistently and positively associated with patient safety and clinical efficacy in a wide range of diseases, study designs, settings, population groups and outcome measures. It seems that this type of intervention empowers people by helping them to take an active role in self-care, which provides them with the skills required for future management in the community (13).

For these reasons, to consolidate a client-centred practice, it is essential to have tools that allow monitoring the process or evaluating/tracking the quality of the client-centred practice. There are more than 200 validated instruments that assess client-centred practice (8,16). However, there is no single tool that evaluates all the dimensions that involve a person-centred practice and that allows obtaining evidence to make comparisons (16). Likewise, the published studies focus mainly on the opinion of professionals; however, in order to carry out a complete evaluation of practice, it is necessary to integrate the voices of all stakeholders, and especially those of the users or patients themselves, including measures that explore more complex dimensions that the concept itself encompasses (8,9,13,17,18). These dimensions include respect for the values, preferences and needs expressed by patients, as well as an integrated coordination that allows offering information, communication and education, ensuring physical comfort, emotional support, continuity and accessibility, involving the family and friends throughout the process (16). Although there are several instruments, the Client-Centred Rehabilitation Questionnaire (CCRQ) is one of the tools that collect users' own opinion in the field of rehabilitation and contemplates the largest number of dimensions about the concept (8,19,20). It encompasses aspects related to comfort and clients' decision-making or participation, as well as questions about the provision of

service and the environment. In the study of Cott et al. (19), the instrument shows strong internal consistency in the subscales (α = 0.72–0.87) and test-retest reliability (α = 0.74–0.75). The CCRQ has been adapted to and validated in different languages and contexts (11,21,22), but there is no adaptation to the Spanish context.

In the Spanish context, according to health and rehabilitation policies, the term "person-centred" is the most commonly used (over "client-centred" or "patient-centred") (2,23,24). Currently, integrating and evaluating a person-centred approach in rehabilitation services is a priority. To date, some assessment tools have been validated to ensure the implementation of person-centred practices, such as the Person-centred Care Assessment Tool (P-CAT) (25), the Staff Assessment Person-directed Care Questionnaire (PDC) (26) and the Person-centred Care in Gerontology Services for healthcare professionals (PCC-G-Staff) (27), and observational instruments aimed at the population with dementia, such as the List of Well-being Indicators (LIBE) (28) and Dementia Care Mapping (DCM) (29). However, there is currently no tool in Spanish aimed at knowing the perspective of the main agents involved: the users of the service. This lack of instruments that can be evaluated in a more direct and global way, and that are adapted and validated for use in the Spanish population, makes it difficult to evaluate the services and their evolution (23,30).

The aim of this work was to carry out the cultural and linguistic adaptation of the Client-Centred Rehabilitation Questionnaire (CCRQ) (19) to Spanish, in accordance with the standards proposed by the International Test Commission (31). The first goal was to provide qualitative evidence regarding conceptual and linguistic equivalence. The second goal was to examine the psychometric properties of adaptation in a Spanish population of patients admitted to rehabilitation centers. It is intended to provide evidence of reliability regarding internal consistency, evidence of criterion validity in

relation to health-related quality of life, and evidence of discriminant validity regarding age, educational level and people's pathologies.

Method

A process divided into two sequential phases was carried out (Figure 1). The first phase involved the process of translation and adaptation of the questionnaire and the qualitative study of conceptual and linguistic equivalence (31). In the second phase, the empirical application of the instrument was carried out to obtain quantitative evidence on the dimensionality of the instrument, its internal consistency, the discriminant construct validity and the criterion validity.

Participants

An expert committee participated in the qualitative phase of the study, which consisted of four expert researchers in person-centredness (3 occupational therapists and 1 psychologist), three professional bilingual translators and a pilot group. This pilot group was mixed and consisted of eight people aged between 20 and 78 years, specifically people who used rehabilitation services, two rehabilitation professionals and one expert in linguistics.

Users over 18 years of age were recruited from rehabilitation services in the region of Catalonia for the quantitative study to validate the questionnaire in the Spanish population. In order to obtain a representative sample, participants of different ages, and with different diagnoses and characteristics, belonging to different institutions and rehabilitation services, both public and private, were included. All participants had the ability to understand and answer the questions in the questionnaire. Table 1

summarizes the sample characteristics. All participants were informed about the study and gave their written consent to participate in it.

[insert Table 1 here]

The present research was approved by the CST Clinical Research Ethics Committee (CREC) of the Terrassa Health Consortium (Consorci Sanitari de Terrassa) via a resolution of 18 July 2016.

Instruments

The original CCRQ is a tool created and validated by Cott et al. (19) to assess the client-centred practice of rehabilitation services. It is a questionnaire that is self-administered by the user. The scale comprises 33 items that measure the degree to which the person perceives whether they have received a client-centred practice during the rehabilitation service. The CCRQ has seven domains: Client Participation in Decision-Making and Goal-Setting (6 items); Client-Centred Education (5 items); Evaluation and Outcomes from Client's Perspectives (4 items); Family Involvement (5 items); Emotional Support (4 items); Coordination/Continuity (5 items); and Physical Comfort (4 items). The items are answered on a five-point Likert scale (1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree). The response option "Does not apply" (= 0) is also available. Low scores correspond to a higher perception of client-centredness, except for items 2, 7 and 33, which are negatively formulated.

The EuroQol-D5 Questionnaire (EQ-5D-3L) in its Spanish version (32) was used to measure criterion validity. It is a generic and standardized instrument that consists of two parts and describes and assesses the quality of life related to health. The descriptive system comprises five dimensions: Mobility; Personal Care; Daily

Activities; Pain/Discomfort; and Anxiety/Depression. Three levels of severity are assessed for each dimension (1 = no problems; 2 = some problems; 3 = extreme problems). The participants used the EQ visual analogue scale method and had to self-rate their health within a scale ranging from "Best imaginable health state" to "Worst imaginable health state" (32–34).

Procedure

The procedure, based on the Guidelines of the International Testing Commission (ITC) for the translation and adaptation of tests (31,35), followed two major phases that are synthesized in Figure 1.

[Figure 1 insert here]

Phase 1: Translation, Cultural Adaptation and Pilot Study

After obtaining permission from the original CCRQ author (19): (a) two bilingual translators performed the translation of the original scale (version 1a and 1b); (b) this was reviewed and corrected by a committee of experts, generating the first Spanish version of the questionnaire by consensus (version 2); (c) the back translation of version 2 was carried out by two other bilingual translators different from those who participated in version 1, without knowledge of the original scale; (d) it was subsequently reviewed by three experts with experience in occupational therapy and psychometrics, who evaluated the level of semantic correspondence between the original version of the test and the two back translations on a scale from 0 to 10. The average was calculated for each item and those that obtained less than seven points were reviewed. This was also reviewed by the authors of the original instrument to ensure the linguistic, semantic and, in particular, the conceptual equivalence of the items; (e)

version 3 was created as a result of a meeting between the team members and the translators, to incorporate the ideas extracted from the authors' comments; (f) a pilot study was carried out with eight participants to evaluate the quality of the translation and analyse both the suitability of items and the cultural acceptability, assessing, on the one hand, the level of understanding of each item using a five-point Likert scale, and on the other hand, the understanding in relation to the administration procedure of version 3; (g) finally, the last review was carried out by the expert committee, evaluating items that caused discrepancies and incorporating any changes, obtaining as a result the final version (version 4) of the CCRQ-Spanish version (hereinafter CCRQ-e).

Phase 2: Psychometric Testing: Reliability, Discriminant Construct Validity and Convergent Construct Validity

The rehabilitation inpatients were provided with a paper format or online questionnaire to answer voluntarily once the rehabilitation sessions had finished. The questionnaire was provided by the rehabilitation service professionals in the different centres to all people who had sufficient knowledge of Spanish and the ability to understand and answer the questionnaire. This could be completed voluntarily independently or with the help of a family member or professional. In addition to the CCRQ-e questionnaire, basic socio-demographic variables were collected (age, gender, educational level, diagnosis, housing and family situation) and the EuroQol-D5 (EQ-5D-3L) questionnaire on health-related quality of life was included, in order to obtain more explanatory information in relation to the instrument's behaviour. All questions were integrated into the same document. The data collection period was six months, as determined by the approved study period and the commitment agreed with the centres.

Data analysis

The qualitative data corresponding to the translation and adaptation process were analysed through a content analysis (31).

For quantitative data, descriptive statistics (means and standard deviation and frequencies) and normality of the data (univariate skewness and kurtosis values) were calculated.

Spearman's correlation was used to establish the relationship between items (36). The response for the three negatively worded items from the modified CCRQ-e (2, 7 and 33) was reversed to ensure the correct interpretation of coefficients. For the correlation calculations, "not applicable" answers were eliminated. To estimate the reliability, internal consistency was assessed using Cronbach's α coefficient ($\alpha > 0.70$; (37), the corrected total-item correlations between individual items ($Ccit > 0.30$) (38) and composite reliability ($CR > 0.70$) (39), (40). An exploratory factor analysis (EFA), using principal components analysis and oblimin oblique rotation, was conducted to assess the dimensionality and construct validity of the questionnaire, using the following criteria to obtain the structure and the correct number of factors: communalities higher than 0.50 (40); eigenvalues greater than 1.0; and factor loadings higher than 0.50 (41). We had previously tested the factorization conditions by calculating the Kaiser-Meyer-Olkin (KMO) index and Bartlett's sphericity test. A confirmatory factor analysis (CFA) was carried out to test the adjustment of the structure obtained in the EFA, using a maximum likelihood estimation and the following fit indices: χ^2 and its differences of degrees of freedom ($\chi^2/df \leq 3$) (42); the comparative fit index ($CFI \geq 0.90$); the Tucker-Lewis index ($TLI \geq 0.90$); the incremental fit index ($IFI \geq 0.90$) (43); the parsimony comparative of fit index ($PCFI \geq$

0.60; Hair et al., 2014); and the root mean square of approximation (RMSEA < 0.08) (44).

The calculation of the rest of the statistical tests was carried out based on results and dimensions obtained in the confirmatory factor analysis. For this reason, the three negatively worded items (2, 7 and 33) and CCRQ-e 29 were removed to ensure a consistent interpretation of the items coefficient. For all correlation calculations, "not applicable" responses were removed.

The discriminative construct validity was analysed by comparing the seven subscale scores of the CCRQ-e among different groups, taking into account age (< 65 years and > 65 years), diagnosis (complex, geriatric, neurorehabilitation and trauma) and education level (reading and writing, primary, secondary and higher education). Since the data were not normally distributed, the non-parametric Kruskal-Wallis and Mann-Whitney U tests were used. Bonferroni correction was utilized in planned comparisons. Spearman's rho correlation was used to examine criterion validity, correlating dimensions of the CCRQ-e with dimensions and health perception value of the EQ-E5. In accordance with Cohen (45) a correlation coefficient <0.3 was a weak correlation, 0.3-0.5 was a moderate correlation and > 0.5 was a strong correlation. The Statistical Package for the Social Sciences (SPSS) program, version 21.0 (IBM Corp, Armonk, NY, USA), and Analysis of Moment Structures (AMOS), version 21.0, were used for the statistical analyses.

Results

Phase 1: Translation, Cultural Adaptation and Pilot Study

The data resulting from the content analysis regarding the conceptual, cultural and linguistic validity are shown below and illustrated in Table 2. Once the first translation

into Spanish had been carried out independently by each of the two bilingual professionals (version 1a and 1b), the prepared questionnaire was submitted to a joint assessment by expert researchers, in which different aspects of the questionnaire were reviewed and discussed until criteria were agreed upon.

The following adjustments were derived from the review. Work was done to make initial instructions as clear as possible. It was considered important to come to some agreements to maintain a logical format and the same terminology throughout the document. Thus, the word “patient” was respected for being an understandable term in the context, although the meaning in Spanish differs from the person-centred concept. In addition, it was agreed to refer to “personal del programa” when referring to programme staff. In three items (15, 18 and 31) the syntactic construction of sentences was modified to adapt better to Spanish. Some decisions were also made to ensure cultural adaptation. Some of the nouns and verbs were changed to words of conceptual equivalence that are more understandable for the Spanish population (items Intro, 10, 12, 19, 20, 22 and 33). Some concepts and expressions were clarified to ensure the cultural and semantic understanding of the sentence, looking for more appropriate expressions in Spanish. When the literal translation of the original version did not adapt to semantic understanding, it was decided, whenever possible, to prioritize a translation culturally adapted to the population, without losing the meaning and sense of the original language (items Intro, 14, 17, 26 and 29). In relation to items that considered gender, it was decided to contemplate both genders or to generalize in all cases where possible. In Spanish, the word for “nurse” can adopt the feminine or masculine gender. Although the Royal Spanish Academy (46) considers the masculine plural to be generic, due to the visibility of gender in the profession, the option of using the feminine of the word for “nurse” was considered (items 3, 28 and 32). Before closing version 2, it was

considered important to come to some agreements in order to guarantee a common basic terminology, maintaining the verb tenses in all questions. Thus, the compound past was chosen instead of applying the simple past, although the two tenses preserved the meaning of the sentence (items 7, 9, 11, 13, 19, 21, 22 and 28). In those items with important differences, an agreement was reached between the translators and the expert researchers on the subject of discordant points.

Once version 2 in Spanish was finalized, it was sent for back translation. The back translation did not show any mismatches. It provided highly comparable results with the original. The few notable differences were related to verb tense or syntax, but they were considered to be semantically equivalent and no modification of the wording was required. These differences were resolved in the joint meeting with the expert researchers. The revision of the back translation (version 3) by Cott (the original instrument author) ensured that item meanings coincided with the original scale. In only two of the 33 items did the author make notes related to aspects of terminology that changed the meaning of the sentence.

The pilot test with the subjects who characterized the sample, together with the contribution of the experts, allowed the acceptability to be determined and ensured that the items and instructions were correctly understood. Small content or format errors that made understanding difficult were pinpointed and corrected. The comprehension evaluation on a numerical scale was more sensitive. The analysis of the understanding of items valued from 1 to 5 ranged between mean scores of 3.8 and 5 points. Some of the scores obtained indicated greater difficulty in items 2, 6, 7, 10 and 20. Although the level of understanding was adequate, they were reviewed and small changes were made to six items based on the suggestions provided by participants.

[insert Table 2 here]

Phase 2: Psychometric Testing

Answers were obtained from 317 questionnaires. Questionnaires with more than 50% of "Not applicable" responses (n = 12) were eliminated. The sample's general characteristics (n = 305) can be observed in Table 1. The sample mean age was 67.1 years, characterized by a group of people aged predominantly 60 years or older (70.2%). Among the participants, women (62.8%) prevailed over men, especially in residences where the majority were women (79.7%). The residence sample was characterized by a low educational level, as it was mostly constituted by people without primary education who had learned to read or write (less than primary school) (25.6%) or with basic studies (30.5%). Of the participants treated in rehabilitation hospitals, the diagnoses of musculoskeletal injuries (MSKs) (31.6%) and stroke (24.6%) predominated, while among the participants treated in residences, the diagnoses of complex patients (20.7%) and geriatric rehabilitation (27.6%) predominated. Among the total sample, most people lived at home (83.2%), with their family or personal carers (73.7%), and the majority did not have accessibility problems in their home (69.2%). Up to 70.2% of the participants expressed the need for help from others once the rehabilitation was finished, with 46.1% receiving help from family, friends, neighbours or carers, and 24.1% receiving support from the caretaker staff of the residence.

Sixty-two per cent of the questionnaires were answered on paper (100% among residence users). The online questionnaires were only answered by 38.0% of the respondents, all of them rehabilitation users and hospitalized patients. Half of the questionnaires were completed with help, with a higher incidence in the resident population (78.0%) than in users of rehabilitation services (45.5%). The percentage of people who received help to complete the questionnaire progressively decreased as the

level of studies increased (86.8% of people with less than primary education, 65.6% of people with primary education, 31. 9% of people with secondary education and 12.5% of people with higher education).

Item Response Rates

The answer options for the CCRQ-e items with the highest response rate among participants were Strongly Agree (++) and Agree (+) (see Table 3).

The answer option "Not applicable" was used mainly in items 10, 17, 22, 24 and 29, since 19.3% of the sample lived in a residence, an aspect that had already been considered/reported before administering the questionnaire. In the remaining items, the answer option "Not applicable" was observed in items 4, 12, 23 and 27, which are four items that ask directly about family/friends support. This may be due to the fact that 26.2% of the sample live alone and 29.8% say that they do not receive help from family/carers or friends. In the remaining items, "Not applicable" responses did not exceed 4.9%.

[Table 3 insert here]

Inter-Item Correlations

Spearman's correlation was calculated among the 33 variables of the CCRQ-e (statistically significant at 1% significance level) (45). A good or moderate correlation is shown in several pairs. Only one of the pairs (5 with 6) shows a high correlation (rho = 0.7). Items 14 with 13; 15 with 16; 21 with 20 and 22; 25 with 24 and 26; 29 with 28; 31 with 30 and 32 show a moderate correlation (rho = 0.6–0.68). The three negative items (2, 7 and 33) present a weak or non-existent relationship with the other items (rho = -0.042–0.32). The rest of the pairs show a moderate-to-low correlation (rho = 0.41–

0.58).

Exploratory and Confirmatory Factor Analysis

Values for univariate skewness and kurtosis were satisfactory for all variables within the conventional criteria for normality. Thus, skewness values ranged from -3 to +3 and kurtosis values were between -7 and +7, confirming the normality of the sample data (47). The relevance of the EFA showed satisfactory results in Bartlett's sphericity test (χ^2 (528) = 6027.80; $p < 0.001$) and the Kaiser-Meyer-Olkin test (KMO = 0.939; Kaiser, 1958), indicating that the different scales had satisfactory factor structures. The seven factors with eigenvalues higher than 1.00 explain 60.15% of the total variance. Communalities measuring the variance of variables are systematically greater than 50%, except for item 11 (0.44), and factor loadings were adequate and ranged between 0.53 and 0.82. Values obtained from Cronbach's α were higher than 0.70 (37), except for the education dimension (α = 0.55).

The psychometric properties of the seven factors were also assessed using a CFA with a maximum likelihood estimation method, to determine how well items represented the proposed constructs. The findings of an initial CFA were not supported: χ^2/df = 3.18; CFI = 0.84; TLI = 0.86; IFI = 0.85; PCFI = 0.74; RMSEA = 0.08. Results indicated factor loadings below the 0.50 needed; this is a criterion used to evaluate the reliability of the indicator with the constructs it intends to measure (49). As a result, several items were removed, specifically the three reverse-scored negatively-worded items, two from the client-centred education scale (CCRQ-e 2: λ = 0.29; CCRQ-e 33: λ = 0.13) and one from the continuity scale (CCRQ-e 7: λ = 0.28). Item 11, which showed low communality in the EFA, did obtain an adequate factor loading and it was decided to keep it. Additionally, covariance between errors in several items that showed high modification indices were included: CCRQ-e 14 and 19 = 18.49. Item CCRQ-e 29 was

removed, as it presented high modification indices with several items (24, 30 and 22). After this respecification, a CFA was reconducted, obtaining all factor loading values over 0.50 (ranging from 0.51 to 0.82) and all the fit indices situated within the recommended values: $\chi^2/df = 2.78$; CFI = 0.92; TLI = 0.93; IFI = 0.94; PCFI = 0.76; RMSEA = 0.07 (Table 4).

[insert Table 4 here]

Discriminant Construct Validity (Table 5)

People aged over 65 responded with a higher perception of person-centredness than people below the age of 65 in all dimensions, being statistically significant in the dimensions of outcome evaluation ($Z = -2.247$; $p < .025$) and family involvement ($Z = -1.976$; $p < .048$).

With regard to diagnosis, significant differences were found in all dimensions of the CCRQ-e, namely decision-making ($p < .001$), education ($p < .001$), outcome evaluation ($p < .014$), family involvement ($p < .004$), emotional support ($p <. 000$) and physical comfort ($p < .000$), except for the continuity dimension (Table 5). The planned comparisons revealed significant differences between the trauma and neurorehabilitation group in the decision-making ($Z = -3.037$; $p < .014$), education ($Z = -2.973$; $p < .018$), family involvement ($Z = -3.318$; $p < .005$), emotional support ($Z = -3.604$; $p < .002$) and physical comfort ($Z = -3.849$; $p < .001$) dimensions. Trauma patients showed lower perception of receiving client-centred interventions during their stay in rehabilitation services. Likewise, trauma patients also showed a significantly lower perception than geriatric patients for the education ($Z = 2,917$; $p < .021$) and emotional support ($Z = 3,700$; $p < .001$) dimensions, and also with respect to patients in the complex group in the decision-making dimension ($Z = 2.88$; $p < .004$).

In regard to the level of schooling, significant differences were found in the decision-making ($p < .033$), education ($p < .023$), outcome evaluation ($p < .016$) and family involvement ($p < .018$) dimensions. The planned comparisons revealed significant differences between people with university studies and people with basic-level studies in the decision-making ($Z = -2.660$; $p < .047$), education ($Z = -2.945$; $p < .019$) and outcome evaluation ($Z = -2.661$; $p < .047$) dimensions. Likewise, significant differences were revealed between people with university studies and the group of people with less than primary education in the outcome evaluation ($Z = -2.991$; $p < .017$) and family involvement ($Z = -2.876$; $p < .024$) dimensions. In all cases, people with university studies showed a lower perception of having received person-centred intervention.

No significant differences were found in the rest of the planned comparisons. Moreover, no significant association was found in relation to gender variables, living alone or needing help.

[insert Table 5 here]

Criterion Validity

Negative significant correlations were observed among all dimensions of the CCRQ-e (except for continuity) and the EQ visual analogue scale. CCRQ-e scores decrease (greater perception of person-centredness) as EQ-VAS scores decrease. Similarly, positive significant correlation indices were observed among the decision-making, education, outcome evaluation and family involvement dimensions of the CCRQ-e and EQ-5D-3L Pain, and specifically the outcome evaluation dimension of the CCRQ-e and EQ-5D-3L Anxiety. However, it should be noted that correlation coefficients were low (see Table 6).

[insert Table 6 here]

Discussion

The evidence presented suggests that CCRQ-e is an adequate instrument to assess the degree of person-centredness perceived by the person receiving interventions during his/her stay with a rehabilitation service. Qualitative and quantitative evidence was provided to support linguistic, cultural and conceptual equivalence, obtaining a metric in relation to internal consistency reliability and validity comparable with the original (19).

The CCRQ-e is not a literal or verbatim translation. Bad translations rely on literal or automatic translations instead of carefully adapting the meaning (35). Throughout the entire process, the aim was to ensure that the translation guaranteed the most conceptual meaning that each item pursues (50). The different phases of the translation and adaptation process sought to ensure semantic and cross-cultural equivalence. Two elements were considered key in the process: the review/evaluation of the original author's back translation to ensure semantic and conceptual correspondence (19), and the pilot study prior to the validation process, which contributed to certifying cultural adaptation, ensuring the acceptance and suitability of the items in the population.

The CFA results obtained for the CCRQ-e support the structure of seven subscales of the original Cott et al. (19) model, with an excellent fit between data structure and the measurement model ($\chi^2/df = 2.78$; CFI = 0.92; TLI = 0.93; IFI = 0.94; PCFI = 0.76; RMSEA = 0.07).

Based on these results (from a first exploratory analysis and a subsequent confirmatory factor analysis), four items were eliminated from the 33 items of the original scale, three of which corresponded to those formulated negatively. In the original study, Cott et al. (19) had already indicated that, in these three items, there was a higher percentage of "Not applicable" responses and lower test-retest reliability than in the rest of the items. Later studies carried out in other countries (21,22) also eliminated negative items due to a decrease of the internal consistency of their respective scales and poor standardized regression weights. Item 29 was eliminated from the continuity dimension, as it presented high modification indices that impacted several items of the scale (37). After deleting items 7 and 29, three items remained for the continuity dimension, as well as for the education dimension by deleting negative items 2 and 33.

In this study, as other researchers in this field point out (7–9), socio-demographic and clinical variables such as age, culture and diagnosis were relevant aspects to take into account to distinguish trends in the answers. Older participants, a high number of pathologies (more complex) and a lower education level indicated a more person-centred experience in their rehabilitation process. In these cases, the outcome evaluation and family involvement dimensions were especially sensitive to these clinical and socio-demographic variables. In fact, the role of families and other informal carers has been positively related to the experience of patients and their results, and it is especially relevant when, due to the characteristics of the pathology, it requires the help of a third person (8,11,19). In these cases, family or carers facilitate communication and professional-client interaction, which contributes to participation and the success of the treatment (17).

In relation to the decision-making and education dimensions, people with more complex diagnoses perceived person-centred care to a greater extent. This may be due to the fact that, in these cases, information, effective communication and education are essential aspects for decision-making (7). In the same way, these two subscales were also sensitive to the educational level of clients, relating it to critical capacity and personal resources for managing their own health. As in other studies, older people with a lower educational level were less critical about interventions, perceiving a greater person-centred care (9,13).

The dimensions related to physical comfort and emotional support were also perceived differently depending on the diagnosis. In the study of Hansen et al. (11), it was found that physical comfort was a less relevant aspect when it came to outpatients who, due to the characteristics of the pathology, did not need the help of a third person, as could happen with participants of the present study with a trauma diagnosis, who tend to maintain a higher autonomy level than patients with other pathologies. Likewise, in this study, the continuity dimension turned out to be less relevant due to the characteristics of the sample, since the people with the greatest severity lived in hospices or with the support of other people, and the people who presented less disabling diagnoses returned to their homes with the lowest need for support (11).

No significant correlations were found between the dimensions of the EQ-5D that assess mobility, self-care and daily activities and the CCRQ-e, as they do not measure the same constructs. For this reason, in their study of the CCRQ-e, Hansen et al. (11) considered it important to add a new domain that contemplated occupation and that took into account elements related to activities of daily living. On the other hand, the study results do show a correlation with the pain and anxiety dimensions of the EQ-5D and the general health index, especially in the CCRQ-e dimension concerning

outcomes. Pain and anxiety are aspects that can limit the active participation of people during treatment, and thus the evaluation of experience and outcomes. Changes in functional capacity are a reality in all rehabilitation patients, and it is clear that improvement in health perception evaluated by the EQ-VAS has a positive effect on the individual's experience of person-centred care (CCRQ-e) once the treatment or intervention is completed (8).

Limitations and Future Recommendations

In this study, as in other studies on instruments that evaluate client-centredness (8,9,16,21), it was not felt that there is any exclusive construct to evaluate client experience. It is true that some of the CCRQ-e constructs were considered of greater or lesser importance depending on the users' characteristics, including age, morbidity and degree of dependence, although all constructs were generalizable for the evaluation of user-centred practice rehabilitation. Specifically, criticisms of the existing evaluation instruments so far are directed towards instruments that evaluate only some of the dimensions included in the client-centred construct (8). Also, regarding the characteristics of the sample, the severity of the diagnosis has been especially relevant when assessing the experience. As researchers, we propose in future studies to collect some other variables, such as the professional's time of dedication or the number of rehabilitation sessions received, to discriminate whether the professional dedication time would be a discriminating aspect beyond the complexity of the diagnosis.

Some studies (19,21) suggest that the "Does not apply" option in some items is questionable. In our case, a large number of "Does not apply" responses was logically expected in items related to the family or return home dimensions, due to the fact that part of the sample lived in residences.

A limitation of the study was the fact that the number of people who did not

complete the questionnaire was unknown, since the online format required them to answer all items before sending it, and the professionals in the rehabilitation centres only collected the completed questionnaires. A more in-depth study of barriers detected in relation to the use and viability of the instrument (administration time, acceptance…) is necessary (35,51). A future research line will be to work towards a simplified version of the questionnaire, with a more agile and functional format to administer/self-complete, since it is widely known that simpler formats are more widely accepted (22,35). Moreover, this type of questionnaire should be filled with open-ended questions to obtain qualitative information on people's experience (8). Future studies, with simplified versions, could also examine the test-retest reliability of the tool.

Conclusion

This paper provides evidence favouring the use of the CCRQ Spanish-adapted version (CCRQ-e) to evaluate, from the user's perspective, the follow-up of person-centred care during their rehabilitation process. This represents an important contribution to research with clear applications, insofar as it will allow comparisons between users and services, which is essential for promoting a correct application of person-centred care in Spanish social and health rehabilitation centres. The CCRQ-e, composed of 29 items, shows adequate psychometric properties, thus it can be used to monitor the process of person-centred practice in Spanish rehabilitation contexts, which would allow capturing the perspective of the person of the main dimensions of this type of practice.

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Declaration of interests

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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Table 1. Sample characteristics (n = 305)

		Frequencies (n)	%
Gender			
	Female	189	62.8
	Male	116	38.0
Age			
	16–39	46	15.1
	40–59	48	15.7
	60–79	110	36.1
	80+	101	33.1
Education			
	Reading and writing	78	25.6
	Primary	93	30.5
	Secondary	72	23.6
	Higher education	62	20.3
Diagnostics			
	Trauma	47	15.4
	MSK	96	31.6
	Stroke	75	24.6
	Neurology	12	4.0
	Cardiovascular	16	5.3
	Complex	18	6.0
	Geriatric RHB	21	6.9
	Others	19	6.3
Environment characteristics			
	Lives in his/her home	254	83.2
	Lives in a home care	51	16.8
	Accessible housing	211	69.2
Social characteristics			
	Lives alone	80	26.2
	Lives with family/carer	166	73.7
	Lives in a residence	51	16.1
	Needs help	214	70.2
Questionnaire format			
	Paper	189	62.0
	Online	116	38.0
Type of completion			
	Self-administered	147	48.2
	With help	158	51.8
Institution type			
	Public	125	41.0
	Private	180	59.0
Centre type			
	Hospital/rehabilitation	246	80.7
	Home care	59	19.3

Table 2. Decision-making in translation process of the CCRQ questionnaire

Item	Original	Version 1	Version 2	Back translation	Version 4	Justification
Intro	Circle	*Marque*				Traditionally/popularly the expression mark is used in questionnaires, instead of circle
Intro	As a rehabilitation in patient		*Paciente ingresado que recibe rehabilitación*			It was nuanced to ensure semantic understanding
Intro	Program staff		*Personal del programa*			The format was maintained throughout the document
Intro	If this question does not apply to you	*Si la pregunta no es aplicable a su situación*				It is specified that it refers to his/her personal situation
3, 28	Well-informed Comfortable		*Bien informado/a* *Cómodo/a*			Gender perspective is included
6	Scheduling my therapy			Planning therapy		Although the author specified that it was not the same, it was determined that in Spanish it does coincide
7, 9, 11, 13, 19, 21, 22, 28	I had		*Tuve o* *He tenido*			It was decided to use the compound form in all items with a past verb, instead of applying the simple past
8	Was controlled as well as possible	*Fue controlado*			*Ha sido controlado*	The compound form was chosen because it was a more appropriate expression for Spanish
10, 12	I was given Were given		*Me facilitaron* *Se les facilitó*			The verb “give” was changed to the verb “facilitate”
14	My reports		*Mis manifestaciones*			Since the literal translation was “informes”
15	My treatment needs, priorities and goals were important to the program staff	*Mis necesidades de tratamiento, prioridades y objetivos…*			*Para el personal del programa…*	In long sentences, the syntactic construction (sentence structure) was modified due to greater cultural adequacy in format, ordering the sentences’ elements according to their grammatical function
17	Assist in providing care for me	*Provisión de cuidados*		To help with organizing my care	*Organización de mis cuidados*	The original author commented that organizing care is not the same as assisting in providing care, so the verb was changed for greater contextualization of the phrase
18	I knew who to contact if I had problems or questions during my rehabilitation program		*Durante mi programa de rehabilitación, sabía con quien…*			Idem 15

19	adequate	*adequado*		*necesario*	
20	setting		*planteamiento*		
22	condition		*situación*		
26	I could understand		*Pudiese comprenderlo*	*Pudiera comprenderlo*	There were doubts in terms of “comprender” and “entender” because they are synonyms of “understand”. The first person is used to facilitate understanding
29	I was told what to expect when I got home		*Me dijeron a que atenerme al regresar a casa*		A literal translation could not be performed, opting for adaptation
31	My emotional needs (worries, fears, anxieties) were recognized and taken seriously by the program staff		*El personal del programa…*		Idem 15
	Nurses, doctors		*Enfermeros y médicos*	*Enfermeras y médicos*	RAE uses the generic in the masculine, but in recognition of the majority group, the feminine in Spanish of the word for “nurses” is accepted due to gender visibility
33	Ready for		*Asimilar*		

Table 3. Response rate and use of "Does not apply" for each item in the CCRQ-e

Item number and question for each domain		Freq response % (n = 305)					
		++ SA (1)	+ A (2)	+- NAD (3)	- D (4)	-- SD (5)	NA
Decision-making							
1	The rehabilitation staff and I decided together what would help me	33.4	38	13.1	9.2	4.6	1.6
6	The rehabilitation staff tried to accommodate my needs when scheduling my therapy	41.6	37.4	12.5	4.3	3.3	1
9	The rehabilitation staff took my individual needs into consideration when planning my care	38.4	39.3	13.1	7.2	1.3	0.7
15	My treatment needs, priorities and goals were important to the rehabilitation staff	38.7	44.6	11.8	1.6	1.3	2
20	I was encouraged to participate in setting my goals	32.5	40.7	14.8	5.2	2.6	4.3
25	Treatment choices were fully explained to me	30.8	40	17.7	7.9	2.6	1
Education							
2	I had difficulty getting the healthcare information I needed*	7.5	13.4	12.8	31.1	32.5	2.6
10	I was given adequate information about support services in the community	18.4	21.0	10.5	7.5	5.2	37.4
21	I received the information that I needed when I wanted it	37	41.6	13.8	4.3	2.6	1.7
26	My therapy program was explained to me in a way that I could understand	45.2	37.7	9.8	4.3	1.6	1.3
33	There were times when I received more information than I was ready for*	8.2	12.8	23	34.1	18.4	3.6
Outcome evaluation							
3	I was kept well informed about my progress in areas that were important to me	37.4	41	9.8	6.9	3.9	1.0
11	I accomplished what I expected in my rehabilitation program	31.8	38	14.8	7.5	4.3	3.6
16	The rehabilitation staff and I discussed my progress together and made changes as necessary	38.7	37.4	12.1	6.2	3	2.6
22	I learned what I needed to know in order to manage my condition at home	29.2	29.8	12.1	6.6	2.6	19.7
Family involvement							
4	My family/friends were given the support that they needed by the rehabilitation staff	29.2	33.8	15.7	6.9	3.6	10.8
12	My family/friends were given the information that they wanted when they needed it	31.5	42.3	11.8	4.9	2	7.5
17	My family/friends received information to assist in providing care for me at home*	25.2	26.9	13.8	7.9	3.3	23
23	My family and friends were treated with respect	53.8	33.1	5.2	1.6	0.7	5.6
27	My family/friends were involved in my rehabilitation as much as I wanted	25.9	33.8	18	5.9	5.2	11.1
Emotional support							
5	The rehabilitation staff treated me as a person instead of just another case	49.5	34.8	8.9	3	3.6	0.3
13	I was treated with respect and dignity	63.9	28.9	3.3	3	1	0
28	I felt comfortable expressing my feelings to rehabilitation staff	43.3	37.4	10.2	3.6	3	2.6
31	My emotional needs (worries, fears, anxieties) were recognized and taken seriously by the rehabilitation staff	37.4	39.3	12.5	5.6	2.6	3.6
Physical comfort							
8	My physical pain was controlled as well as possible	40.7	40.7	8.9	3.9	0.7	4.9
14	My reports of pain were acknowledged by rehabilitation staff	45.9	37.7	8.5	3.9	0.3	3.6
19	I had adequate time for rest and sleep	43.3	39.7	8.2	3.9	2	3
30	Rehabilitation staff tried to ensure my comfort	39.7	46.9	8.2	2.6	1	1.6
Continuity							
7	I had to repeat the same information to different rehabilitation staff*	11.8	24.6	17.7	23.6	19.3	3
18	I knew who to contact if I had problems or questions during my rehabilitation program	42	37.4	8.2	7.9	3	1.6
24	I know who to contact if I have problems following discharge	21.6	25.6	15.7	9.8	5.6	21.6
29	I was told what to expect when I got home	22	29.8	10.8	8.2	3.6	25.6
32	My therapists, nurses and doctors worked well together	38	43	12.8	3.3	2	1

Note: Response options for each item were: SA (++) = Strongly agree, A(+) = Agree, NAD(+-) = Neither agree nor disagree, D(-) = Disagree, SD(--) = Strongly disagree, N/A = Does not apply/Not applicable.
* Items 2,7 and 33 correspond to those formulated in the negative.

Table 4. Reliability and some properties of the items of the CCRQ-e

Seven domains and items of CCRQ-e		Mean	SD	Sk	Ku	C^c_{it}
Decision-making (α = 0.85; CR = 0.86)						
1	The rehabilitation staff and I decided together what would help me	2.09	1.14	0.88	0.20	0.84
6	The rehabilitation staff tried to accommodate my needs when scheduling my therapy	1.87	1.01	1.20	1.35	0.81
9	The rehabilitation staff took my individual needs into consideration when planning my care	1.92	0.97	0.94	0.50	0.81
15	My treatment needs, priorities and goals were important to the rehabilitation staff	1.76	0.84	0.96	1.88	0.83
20	I was encouraged to participate in setting my goals	1.92	1.04	0.77	0.74	0.83
25	Treatment choices were fully explained to me	2.09	1.03	0.77	0.25	0.82
Education (α = 0.64; CR = 0.75)						
10	I was given adequate information about support services in the community	1.48	1.51	0.76	-0.42	0.62
21	I received the information that I needed when I wanted it	1.92	0.96	1.10	1.28	0.41
26	My therapy program was explained to me in a way that I could understand	1.75	0.03	1.22	1.65	0.44
Outcome evaluation (α = 0.75; CR = 0.81)						
3	I was kept well informed about my progress in areas that were important to me	1.96	1.07	1.15	0.98	0.70
11	I accomplished what I expected in my rehabilitation program	2.04	1.13	0.78	0.32	0.72
16	The rehabilitation staff and I discussed my progress together and made changes as necessary	1.90	1.05	0.99	0.82	0.64
22	I learned what I needed to know in order to manage my condition at home	1.65	1.25	0.61	-0.55	0.72
Family involvement (α = 0.81; CR = 0.84)						
4	My family/friends were given the support that they needed by the rehabilitation staff	1.90	1.21	0.55	0.03	0.76
12	My family/friends were given the information that they wanted when they needed it	1.81	1.03	0.67	0.81	0.74
17	My family/friends received information to assist in providing care for me at home	1.68	1.35	0.54	-0.39	0.78
23	My family and friends were treated with respect	1.46	0.80	1.14	2.70	0.79
27	My family/friends were involved in my rehabilitation as much as I wanted	1.97	1.26	0.52	-0.17	0.76
Emotional support (α = 0.83; CR = 0.83)						
5	The rehabilitation staff treated me as a person instead of just another case	1.75	0.99	1.57	2.44	0.79
13	I was treated with respect and dignity	1.48	0.78	2.07	4.94	0.79
28	I felt comfortable expressing my feelings to rehabilitation staff	1.78	1.00	1.23	1.76	0.76
31	My emotional needs (worries, fears, anxieties) were recognized and taken seriously by the rehabilitation staff	1.89	1.02	0.98	0.95	0.80
Physical comfort (α = 0.74; CR = 0.81)						
8	My physical pain was controlled as well as possible	1.68	0.90	0.81	1.15	0.72
14	My reports of pain were acknowledged by rehabilitation staff	1.64	0.86	0.91	1.09	0.61
19	I had adequate time for rest and sleep	1.73	0.94	1.20	1.94	0.72
30	Rehabilitation staff tried to ensure my comfort	1.73	0.81	1.07	2.19	0.65
Continuity/coordination (α = 0.67; CR = 0.77)						
18	I knew who to contact if I had problems or questions during my rehabilitation program	1.88	1.06	1.15	0.93	0.48
24	I know who to contact if I have problems following discharge	1.87	1.45	0.43	-0.67	0.64
32	My therapists, nurses and doctors worked well together	1.85	0.91	1.10	1.59	0.61

Note: SD = standard deviation; Sk = skewness; Ku = kurtosis; C^c_{it} = corrected total-item correlations; α = Cronbach's alpha; CR = composite reliability

Higher scores in CCRQ-e mean lower client-centred practice perceived.

Table 5. Discriminant construct validity. Differences according to age, diagnostic and educational-level groups in the CCRQ-e domains

	Decision-making		**Education**		**Outcome evaluation**		**Family involvement**		**Emotional support**		**Physical comfort**		**Continuity**	
Age	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)
< 65 (n = 115)	2.14(1–4;0.98)	2(3)	2.14(1–5;1.07)	2(4)	2.32(1–5;1.01)	2(4)	2.16(1–5;1.02)	2(4)	1.91(1–5;0.95)	2(4)	1.88(1–4;0.82)	2(3)	2.09(1–5;1.09)	2(4)
> 65 (n = 190)	1.92(1–5;0.71)	2(4)	1.92(1–5;0.82)	2(4)	2.05(1–5;0.82)	2(4)	1.91(1–5;0.73)	2(4)	1.76(1–5;0.77)	2(4)	1.82(1–5;0.69)	2(4)	2.01(1–5;0.81)	2(4)
P-value[a]	.091		.154		.025*		.048*		.270		.732		.846	
Diagnostic group	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)
Complex (n = 34)	1.70(1–3;0.67)	2(2)	1.79(1–4;0.84)	2(3)	1.94(1–4;0.73)	2(3)	1.84(1–3;0.62)	2(2)	1.61(1–3;0.55)	2(2)	1.67(1–3;0.63)	2(2)	1.94(1–4;0.74)	2(3)
Geriatric-RHB (n = 21)	1.71(1–3;0.56)	2(2)	1.57(1–3;0.59)	2(2)	1.73(1–3;0.73)	2(2)	1.73(1–3;0.56)	2(2)	1.33(1–2;0.48)	1(1)	1.61(1–3;0.58)	2(2)	1.95 (1–3;0.80)	2 (2)
Neurorehabilitation (n = 91)	1.82(1–4;0.73)	2(3)	1.83(1–5;0.85)	2(4)	2.02(1–4;0.84)	2(3)	1.78(1–4;0.76)	2(3)	1.62(1–4;0.74)	2(3)	1.65(1–5;0.68)	2(4)	1.85 (1–5;0.87)	2 (4)
Trauma (n = 141)	2.18(1–5;0.89)	2(4)	2.17(1–5;0.92)	2(4)	2.31(1–5;0.98)	2(4)	2.18(1–5;0.92)	2(4)	2.01(1–5;0.90)	2(4)	2.03(1–4;0.77)	2(3)	2.21 (1–5;1.00)	2(4)
P-value[b]	.001*		.001*		.014*		.004*		.000*		.000*		.056	
Education level	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)	Mean (R;SD)	Median (IQ)
Reading and writing (n = 76)	1.89(1–5;0.77)	2(4)	1.92(1–5;0.90)	2(4)	2.01(1–5;0.92)	2(4)	1.80(1–4;0.80)	2(3)	1.75(1–5;0.81)	2(4)	1.71(1–4;0.70)	2(3)	1.96(1–4;0.83)	2(3)
Primary (n = 93)		2(3)		2(4)		2(3)		2(2)		2(3)		2(2)		2(4)

	1.87(1–4;0.69)		1.87(1–5;0.91)		2.05(1–4;0.81)		1.90(1–3;0.65)		1.67(1–4;0.67)		1.78(1–3;0.58)		2.05(1–5;0.78)	
Secondary (n = 72)	2.05(1–5;0.88)	2(4)	2.01(1–5;0.86)	2(4)	2.16(1–5;0.90)	2(4)	2.12(1–5;0.87)	2(4)	1.81(1–5;0.81)	2(4)	1.91(1–5;0.83)	2(4)	1.93(1–5;1.01)	2(4)
Higher education (n = 64)	2.28(1–4;0.96)	2(3)	2.29(1–5:1.03)	2(4)	2.46(1–5;0.95)	2(4)	2.27(1–5;1.07)	2(4)	2.10(1–5;1.07)	2(4)	2.03(1–4;0.85)	2(3)	2.26(1–5;1.08)	2(4)
P-value[b]	.033*		.023*		.016*		.018*		.074		.119		.143	

Note: R = range; SD = standard deviation; IQ = interquartile; [a] = Mann-Whitney U test. [b] = Kruskal-Wallis test.
* Significance level is $p < .05$. Higher scores in CCRQ-e mean lower client-centred practice perceived.

Table 6. Criterion validity. Spearman correlations between the CCRQ-e domains and EQ-ED dimensions

CCRQ Domain		EQ-5D-3L Mobility	EQ-5D-3L Self-care	EQ-5D-3L Activities	EQ-5D-3L Pain	EQ-5D-3L Anxiety	EQ-VAS
Decision-Making	Correlation Coefficient	-.042	-.050	-.015	.131*	.029	-.194**
	Sig. (2-tailed)	.460	.384	.791	.022	.616	.001
Education	Correlation Coefficient	.061	-.078	.013	.144*	.071	-.157**
	Sig. (2-tailed)	.290	.177	.817	.012	.215	.006
Outcome Evaluation	Correlation Coefficient	.005	.026	.050	.152**	.191**	-.283**
	Sig. (2-tailed)	.930	.647	.390	.008	.001	.000
Family Involvement	Correlation Coefficient	-.010	-.027	-.054	.128*	.047	-.129*
	Sig. (2-tailed)	.869	.645	.358	.028	.422	.027
Emotional Support	Correlation Coefficient	-.044	-.076	-.039	.099	.071	-.101
	Sig. (2-tailed)	.442	.187	.499	.083	.218	.079
Physical Comfort	Correlation Coefficient	-.006	-.089	-.057	.102	.003	-.154**
	Sig. (2-tailed)	.912	.121	.322	.076	.910	.007
Continuity	Correlation Coefficient	.036	.012	.000	.091	.095	-.123*
	Sig. (2-tailed)	.534	.840	.994	.112	.096	.031

*Correlation is significant at the 0.01 level (2-tailed).
**Correlation is significant at the 0.05 level (2-tailed).
Note: CCRQ = Client-Centred Rehabilitation Questionnaire; EQ-5D-3L = EuroQol-five domain-three-level questionnaire; EQ-VAS = EQ Visual Analogue Scale

Figure 1. Translation, cultural adaptation and validation process. Adapted from Ramada-Rodilla, 2013

Figure 1 Alt Text: The 2 phases of the process are shown. Phase 1 of translation and cultural adaptation involves 6 steps: authorization by the original author, direct translations by bilingual translators, review with expert committee, back translation, pilot study of feasibility and cultural adaptation and final review of the instrument by expert committe. In phase 2 of the validation process, the CCRQ-Spanish version was administered to 305 cases. The data analyzes performed for the validation of the CCRQ-Spanish version are shown.