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RESEARCH PAPER (ORIGINAL)
ARTIGO DE INVESTIGAÇÃO (ORIGINAL)

Cross-cultural validation for the Portuguese population of the Care Dependency Scale for Rehabilitation

Validação transcultural para a população portuguesa da *Care Dependency Scale for Rehabilitation*

Validación cultural para la población portuguesa de la *Care Dependency Scale for Rehabilitation*

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Abstract

Background: The dependence is defined by the commitment of the person's individual capacity for self-care and its evaluation determines the implementation of a suitable and feasible therapeutic plan.
Objective: The aim of this study was the validation of the Care Dependency Scale for Rehabilitation (CDS-R), which makes it possible to evaluate, besides physical aspects, the psycho-social aspects, in particular the adjustment of the person to sickness situation.
Methodology: The translation and cultural adjustment of the CDS-R to the Portuguese language were carried out according to the guidelines of Beaton, Bombardier, Guillemin, and Ferraz (2000), in 2015. The CDS-R validation for the Portuguese language was carried out according to the guidelines of Vilelas (2009) and conception of Pestana and Gageiro (2005).
Results: The CDS-R is a valid and reliable instrument, with the total Cronbach alpha value obtained of 0.971, which allows nurses specialist in rehabilitation to evaluate the degree of independence and autonomy of the person in health transition processes.
Conclusion: From the values obtained, it is considered that the CDS-R is validated for the Portuguese population.

Keywords: dependency; nursing; rehabilitation; care dependency scale for rehabilitation; validation studies

Resumo

Enquadramento: A dependência define-se pelo comprometimento da capacidade individual para o autocuidado da pessoa e a sua avaliação determina a implementação de um plano terapêutico adequado e exequível.
Objetivo: Neste estudo pretendeu-se validar a *Care Dependency Scale for Rehabilitation* (CDS-R), pelo facto de permitir avaliar, além de aspetos físicos e psicossociais, a adaptação da pessoa à situação de doença.
Metodologia: A tradução e adaptação cultural para a língua portuguesa da CDS-R foi realizada em 2015, segundo as *guidelines* de Beaton, Bombardier, Guillemin, e Ferraz (2000). A validação orientou-se pelas *guidelines* de Vilelas (2009) e conceção de Pestana e Gageiro (2005).
Resultados: A CDS-R é um instrumento válido e fiável, com valor de alfa de Cronbach de 0,971 e percentagem de variação explicada de 71,7%, que permite, aos enfermeiros especialistas em reabilitação, avaliar o grau de independência e autonomia da pessoa em processo de transição de saúde.
Conclusão: Pelos valores obtidos, considera-se que a CDS-R se encontra validada para a população portuguesa.

Palavras-chave: dependência; enfermagem; reabilitação; escala de dependência em cuidados de reabilitação; estudos de validação

Resumen

Marco contextual: La dependencia se define por el comprometimiento de la capacidad individual para el autocuidado de la persona, y su evaluación determina la implementación de un plan terapéutico adecuado y exequible.
Objetivo: En este estudio se pretendió validar la *Care Dependency Scale for Rehabilitation* (CDS-R), por el hecho de permitir evaluar, además de aspectos físicos y psicosociales, la adaptación de la persona a la situación de enfermedad.
Metodología: La traducción y adaptación cultural a la lengua portuguesa de la CDS-R se realizó en 2015, según las directrices de Beaton, Bombardier, Guillemin, y Ferraz (2000). La validación se orientó por las directrices de Vilelas (2009) y la concepción de Pestana y Gageiro (2005).
Resultados: La CDS-R es un instrumento válido y fiable, con valor de alfa de Cronbach de 0,971 y porcentaje de variación explicada del 71,7%, que permite a los enfermeros especialistas en rehabilitación evaluar el grado de independencia y autonomía de la persona en proceso de transición de la salud.
Conclusión: Por los valores obtenidos, se considera que la CDS-R se encuentra validada para la población portuguesa.

Palabras clave: dependencia; enfermería; rehabilitación; escala de dependencia en cuidados de rehabilitación; estudios de validación

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Introduction

The existence of people with differing degrees of dependency in self-care is a reality in developed societies, including Portugal (Ribeiro, Pinto, & Regadas, 2014). These authors highlight the fact that the understanding of the capacities of each individual to carry out self-care is essential for the establishment of the therapeutic plan, adapting it to the situation of dependency and selecting the methodologies to be adopted in order to teach and give instructions on the adaptive strategies or training in the remaining abilities.

The objective of this study is to validate the Care Dependency Scale for Rehabilitation (CDS-R) for the Portuguese population. This scale, authored by Juliane Eichhorn-Kissel, is adjusted for the evaluation of the need for independence and autonomy of the person in health transition processes.

The CDS-R was created based on the Care Dependency Scale (CDS); a scale developed in 1994, in the Netherlands, by Dijkstra et al., as cited in Eichhorn-Kissel (2011). The item "ability to cope" was added to the CDS-R, as it was deemed to be important in terms of rehabilitation (Marsh & White, cited by Eichhorn-Kissel, 2011).

Background

Independence or dependence may be present in any phase of life, as age is not what defines dependence, but rather certain pathological processes that lead to decline and, consequently, to dependence (Gonçalves, 2012).

The process of transition to dependence is a complex, multidimensional and multicausal process that may be due to an unexpected event that appears abruptly or progressively, in most situations due to a diminished capacity of the structures or functions of the body (Sequeira, 2010).

Ribeiro et al. (2014) consider self-care to be a central element in the life of any person, and furthermore conceptualize transitions as being sensitive to any change in the individual process of development or significant life events, presupposing an adaptation to a sudden or gradual dependence in self-care.

Health professionals define dependence as a state in which the individual, for reasons related to the absence or loss of autonomy, specifically physical, mental or social, needs help to carry out the basic activities and the instrumental activities of daily living (Grelha, 2009).

The International Council of Nurses (Conselho Internacional de Enfermeiros, 2006), in the document International Classification for Nursing Practice, defines independent as being "the state of dependence with the specific characteristics: state of not being dependent on anyone or anything for help and support" (p. 107). Autonomy is the "right of the client with the specific characteristics: autonomous, independent, have self-control and be oriented" (Conselho Internacional de Enfermeiros, 2006, p. 95). From this it is seen that independence is not an obligatory condition for autonomy, because it is possible for a person to be dependent and not lose his autonomy, that is, his ability to make decisions (Gonçalves, 2012).

Roper, Logan, and Tierney, cited by Ribeiro et al. (2014) define, in the model for nursing, that it is the nurse's responsibility to assess the degree of dependence of the person in each activity of daily living (ADL) and emphasize that this is essential for the establishment of the type of assistance and the interventions suited to each person to achieve feasible objectives in each situation.

The use of measurement instruments is fundamental to evaluate the degree of dependence so as to make a rigorous diagnosis. Analyzing the current context of Portuguese clinical practice, the most widely used instruments in this field encompass the basic activities, instrumental activities and advanced activities of daily living (Sequeira, 2010). The Barthel Index and Katz Index are the instruments most used for assessing basic ADLs (Sequeira, 2010). The Measure of Functional Independence (MFI) assesses what a person is able to do and makes it possible to monitor the functionality of the individual at a certain point or over time. Currently, the widely used International Classification of Functioning (ICF) assesses the capacity of people in the biological and social construct and not just in terms of physical disability (Quintana et al., 2014). Although it is held up as an important work instrument in nursing, its complexity hinders its generalized use.

The translation and validation for the Portuguese context of the CDS-R result from the fact that this scale assesses the physical and psycho-social aspects deemed important in a process of rehabilitation.

Hence, the CDS-R makes it possible to assess the degree to which a person is able to communicate with others, interact with others independently and appropriately; recognize rules and values and act sociably in an appropriate way; deal with challenges and carry out the instrumental activities of daily living; use free time rationally; participate in recreational and

occupational activities; acquire and/or retain previously learned knowledge and skills; deal emotionally and psychologically with the current situation of his disease.

As stated previously, the CDS-R is a modification of the CDS, a scale developed in 1994, in the Netherlands, by Dijkstra et al., as cited in Dijkstra, Smith, and White (2006), with the objective of creating a quick and valid instrument that would make it possible to assess the needs of the patients and their dependence in Dutch homes and which can be used with various age groups, in homes, the community or in hospitals.

The development of the scale was based on the 14 basic human needs of Virginia Henderson, who believes that health is essential for human development, as disease can cause dependence. Therefore, the object of health professionals is to allow the transition from a situation of dependence to a situation of independence (Fitzpatrick & Whall, cited by Dijkstra et al., 2006).

Through the CDS, it is possible to assess the degree of dependence of the patients in physical and psycho-social terms (Dijkstra, Buist, & Dassen, cited by Eichhorn-Kissel, 2011).

The filling out of the scale is dependent on the observation of the patient's behavior, therefore the accuracy of the assessment depends on how well the health professional knows the patient, his needs, and the way to meet those needs (Dijkstra et al., 2006).

For Wingenfeld, Buescher, and Schaeffer, as cited in Eichhorn-Kissel (2011), there is a lack of psychometrically validated instruments for assessing the dependence of care in the field of rehabilitation. The item "ability to cope" was added to the CDS-R, because it was deemed relevant in terms of rehabilitation, seeing that, especially in situations of patients with chronic or prolonged illness, it is important to know how they deal with their health and their disabilities. The implementation of this process was developed by a group of English experts made up of nurses, therapists and psychologists, accompanied by an Austrian rehabilitation group (Marsh & White, cited by Eichhorn-Kissel, 2011). The addition of this new item enables making a psychological and emotional assessment of the state of the patient (Eichhorn-Kissel, 2011).

The relationship between the basic human needs of Virginia Henderson and the CDS-R is explained in Table 1.

Table 1

Basic human needs of Virginia Henderson versus CDS-R

Basic human needs Virginia Henderson	**CDS-R items**
Breathe	
Eat and drink adequately	Food and hydration
Elimination	Continence
Move and maintain desirable posture	Body posture Mobility
Sleep and rest	Day/night pattern
Dress and undress suitable clothes	Dress and undress self
Maintain body temperature within the normal range by adjusting clothing and modifying the environment	Body temperature
Keep body clean and protect the integument	Hygiene
Avoid danger and injuring others	Avoid danger
Communicate with others, expressing emotions, needs, fears and opinions	Communication Contact with others
Act in accordance with one's faith	Sense of rules and values
Feeling of realization	Daily activities
Play and participate in various forms of recreation	Recreational activities
Learn, discover or satisfy one's curiosity, which leads to normal development and health and use the available health installations	Learning capacity
	Ability to cope

Note. CDS-R = *Care Dependency Scale for Rehabilitation*

Each of the items of the scale is assessed through a Likert-type response, and in the CDS-R the values range between 16 and 80, in other words, the lower the value, the greater the degree of dependence of the patient of rehabilitation nursing care (Eichhorn-Kissel, 2011). Each item of the CDS-R is assessed from 1 to 5, the value 1 being deemed totally dependent and the value 5, practically independent (Dijkstra et al., 2006).

In the study carried out in Austrian rehabilitation institutions on the clinical usefulness of the CDS-R: Perception of the nurses, the results showed that the nurses need an average of 12 minutes to fill out the scale and 70% of the nurses believe that the CDS-R is easy to use, and approximately 60% find it easy to analyze and interpret. About 71% of the nurses consider the integration of psycho-social aspects very advantageous (Eichhorn-Kissel, 2011).

For Borrell-Carrió, Suchman, and Epstein, as cited in Amorim (2009), the inclusion and assessment of the psycho-social variables in the measurement instruments is important, because these variables determine the adoption of the role of the patient in assuming the responsibility for their own treatment.

Bolander, as cited in Amorim (2009) summarized the idea, referring that health and disease are understood as dynamic processes, in constant evolution, which are influenced by biological, psychological and social factors, in permanent interaction.

Research question

Does the Portuguese version of the Care Dependency Scale for Rehabilitation demonstrate adequate psychometric properties to assess the adaptation of the person in a state of illness?

Methodology

This study is classified as being the methodological type translation/back translation and psychometric analysis of the CDS-R scale.

The process of translation, cultural adaptation and validation of the CDS-R was preceded by various phases: Request for authorization from the author of the CDS-R and the author of the CDS, because the latter was the preceding scale and a majority of the items were retained in the CDS-R. The authors authorized the entire process by email; Request for authorization change to the use of the 3rd person singular. The original scale provided by the author Julianne Eichhorn-Kissel was in the 1st person, so the patient himself fills out the CDS-R. Because the objective of the research is for the scale to be applied to the patients by nurses, authorization was requested from the author of the scale to change to the 3rd person singular. The author of the scale authorized the change via email; Request for appraisal from the Ethics Committee of the Health Sciences Research Unit: Nursing of the Coimbra School of Nursing, which issued a favorable opinion; Request for authorization from the Integrated Continuing Care Unit (ICCU) of Leiria and Figueiró dos Vinhos for the entire process of translation, cultural adaptation and validation of CDS-R. However, the validation process only took place at the ICCU of Leiria; Request for authorization from the patients/responsible family members hospitalized in the ICCU of Leiria in the regime of Medium Duration and Rehabilitation (UMDR), for the implementation of the scale, who received explanations of the objectives of the study and a guarantee of anonymity and confidentiality of the data.

The process of translation and cultural adaptation of the CDS-R for the Portuguese population was carried out according to the guidelines of Beaton, Bombardier, Guillemin, and Ferraz (2000). The validation process for it followed the guidelines of Vilelas (2009) and the conception of Pestana and Gageiro (2005). Following the guidelines of Beaton et al. (2000), the process of translation and cultural adaptation of the CDS-R incorporated the following stages: Stage I – translation of the CDS-R from the original language (English) to the target language (Portuguese), by two bilingual translators; Stage II – summary of the initial translators' translation by an outside observer; Stage III – execution of two back translations of the scale into the original language of the scale (English) by two independent translators; Stage IV – meeting of a committee of experts, made

up of methodologists, health professionals, linguists and the translators (initial translators and back translators), a single final scale being drawn up; Stage V – carrying out of a pre-test with a sample of 25 nurses belonging to the ICCU of Leiria and Figueiró dos Vinhos; Stage VI – submission to the committee of experts of a document systematizing all the written reports produced in the course of the process of translation and cultural adaptation of the CDS-R to the Portuguese population. The final scale obtained was yet again back translated into English and sent to the authors of the CDS and the CDS-R, by email. At the end of this whole process, the scale was given the designation *Escala de Dependência de Cuidados em Reabilitação (EDC-R)* – Care Dependency Scale for Rehabilitation.

For the validation of the EDC-R, the population considered were the patients hospitalized in the ICCU of Leiria in the regime of UMDR. In accordance with Pestana e Gageiro (2005), the number of individuals that make up the sample should be at least five times greater than the number of items on the scale, so that the sample for the study was made up of 80 patients. The process of data collection for the validation of the EDC-R was carried out between 19 December 2015 and 4 August 2016. The criteria for inclusion were patients over 18 years of age, patients/person responsible for the hospitalization authorizing the application of the scale through an informed consent, and patients having a mastery of Portuguese.

Before the EDC-R was applied, training was given to two nurses of the ICCU of Leiria. Then, the EDC-R was applied to each patient by these nurses, in which one of them applied it to the same patient at two different times, to allow the assessment of the temporal stability of the scale.

To assess the psychometric properties of the EDC-R, the reliability was analyzed (internal consistency and temporal stability) and the construct validity through an exploratory factor analysis of the items that make up the scale. The data were processed using the program IBM SPSS Statistics, version 23.0.

Results

The ages of the 80 patients who made up the sample ranged from 43 to 95, the average age being 75.77 years, with a standard deviation of 10.705 years. As for their sex, 41.3% (33) of the sample were male and 58.8% (47) female. In relation to level of education, 32.5% (26) were illiterate, 50% (40) had 4 years of schooling, 10% (8) had completed middle school, 5% (4) had secondary school level and 2.5% (2) higher education. The most frequent diagnosis that motivated the hospitalization was osteoarticular disease (31 patients - 38.8%), followed by stroke (22 patients - 27.5%).

With the objective of assessing the feasibility and time required to apply the scale, the nurses were asked to record the start and end time for the application. Thus, the overall time needed to fill out the scale varied between 2 minutes and 10 minutes, with an average of 4.69 minutes.

The items for which the patients were more dependent were "mobility" and "instrumental activities", and the items in which they were less dependent were "sleep/wake pattern" and "communication."

To determine the internal consistency of the scale, Cronbach's alpha was assessed. The overall Cronbach's alpha obtained was 0.971. The value of Cronbach's alpha for each item on the scale if it were excluded varied between 0.967 and 0.973. All the item-total correlations are positive. The two items with the lowest item-total correlations are mobility and the sleep/wake pattern (Table 2).

Table 2
Analysis of the consistency of the items

	Corrected item-total correlation	Cronbach's alpha if the item is excluded
Eat and drink	0.851	0.969
Continence	0.901	0.968
Body posture	0.866	0.968
Mobility	0.595	0.972
Sleep/wake pattern	0.548	0.973
Dress and undress self	0.864	0.969
Body temperature	0.927	0.967
Hygiene	0.864	0.969
Avoid danger	0.912	0.968
Communication	0.728	0.971
Social interaction	0.896	0.968
Sense of rules and values	0.848	0.969
Instrumental activities	0.784	0.970
Recreational activities	0.869	0.968
Learning capacity	0.838	0.969
Ability to cope	0.801	0.969
Cronbach's alpha total – 0.971 (16 items)		

For the assessment of the temporal stability of the EDC-R, the normality test of the scale was first calculated (Table 3) and then the ANOVA table of repeated measurements (Table 4). The normality of the sample was tested through the Kolmogorov-Smirnov test, determining whether the scale has a normal distribution. Then the ANOVA test of repeated measurements was applied, which showed that the differences are not statistically significant (sig > 0.05), no differences being found in the three assessments (F = 1.083; sig. = 0.301).

Table 3
Normality Test

	Kolmogorov-Smirnov[a]		
	Statistics	dl	Sig.
T1	0.092	80	0.093
T2	0.091	80	0.095
T1.A	0.121	80	0.006

Note. dl = degrees of freedom; Sig = statistical significance.

Table 4
ANOVA of repeated measurements

Factor1	Average	Standard error	F	Sig.
T1	39.93	16.747		
T2	39.09	18.150	1.083	0.301
T1.A	40.00	16.841		

Note. Sig. = statistical significance; T1 = first assessment by nurse 1; T2 = first assessment by nurse 2; T1.A = second assessment by nurse 1.

To assess the construct validity of the EDC-R an exploratory factor analysis of the items making up the scale was carried out. The scale of origin is unidimensional.
The unrotated solution reveals a factor, the loadings for which are high (all > 0.5). The values of the commonalities are good for this solution. The percentage of explained variance is high, 71.7%, and therefore the scale is deemed to have construct validity. The saturation matrix of the items in the factors for the unrotated solution is explained in Table 5.

Table 5
Saturation matrix of the items in the factors for the unrotated solution (includes commonalities, particular value and % explained variance)

	loading	h^2
Eat and drink	0.874	0.774
Continence	0.921	0.867
Body posture	0.886	0.809
Mobility	0.644	0.848
Sleep/wake pattern	0.572	0.548
Dress and undress self	0.892	0.889
Body temperature	0.935	0.874
Hygiene	0.892	0.896
Avoid danger	0.926	0.864
Communication	0.755	0.570
Social interaction	0.907	0.834
Sense of rules and values	0.862	0.900
Instrumental activities	0.812	0.665
Recreational activities	0.888	0.804
Learning capacity	0.860	0.846
Ability to cope	0.827	0.698
Particular value = 11.467; Explained variance = 71.7%		

Note. h^2 = commonalities.

The values of the Pearson correlation matrix found are very high and have statistical significance, which reveals a tendency for higher scores in an assessment to be higher in other assessments also, as the Pearson correlation matrix reveals (Table 6).

Table 6
Pearson correlation matrix

		T1	T2	T1.A
Nurse T1 (1st assessment)	Pearson correlation	1	0.974**	0.918**
	Sig. (bilateral)		0.000	0.000
	N	80	80	80
Nurse T2	Pearson correlation	0,974**	1	0.920**
	Sig. (bilateral)	0,000		0.000
	N	80	80	80
Nurse T1.A (2nd assessment of T1)	Pearson correlation	0,918**	0.920**	1
	Sig. (bilateral)	0,000	0.000	
	N	80	80	80

Note. T1 = 1st assessment by nurse 1; T2 = 1st assessment by nurse 2; T1.A = 2nd assessment by nurse 1; *N* = Sample; Sig. = Statistical significance.

Discussion

The study was carried out with a non-probabilistic sample of 80 patients of the ICCU of Leiria in the regime of medium duration and rehabilitation, and therefore, the sample does not meet the standard for representation at the national level, which can be considered a methodological weakness and a limitation on the validation of the scale.

The sample obtained (80 patients) for the validation of the EDC-R for the Portuguese populations is an aged population, with an average age of 75.77 years, the majority being female (58.8%), with a low level of formal education (50% of the patients with 4 years of schooling), whose main reasons for admission in the ICCU, in the regime of UMDR, are osteoarticular diseases and stroke.

The sociodemographic description of the sample is in accordance with the data furnished by the Ministry of Health (Ministério da Saúde, 2014) in the Report on the Monitoring of the development and activity of the National Network of Integrated Continued Care (RNCCI), which describes the population of the RNCCI as elderly (83.7% of the population is over 65), majority female (54.7% of the patients), with a low level of formal education (26% no schooling and 64% with between 1 and 6 years of education) and a high disability and dependence (96.2% of the population). It is also mentioned in clinical terms that the main reason for referral to the UMDR is the dependence in the ADL (95%), 80% of the patients being referred because of the need for rehabilitation, 19% for cardiovascular disease and 10% for the treatment of wounds/pressure ulcers.

The average time needed to fill out the scale varied between 2 and 10 minutes, with an average of 4.69 minutes. These values are in line with the values obtained by the author of the scale in the study that was carried out on the clinical usefulness of the CDS-R: Perception of the nurses, in which the results showed that the nurses needed an average of 12 minutes to fill out the scale, and with that referred to by McColl, Christiansen, and König-Zahn, as cited in Eichhorn-Kissel, 2011, who state that an instrument should not take more than 15 minutes to be completed, otherwise its use would be impractical in clinical practice.

The averages of the values obtained are between 2 and 3, the items in which the patients are more dependent being "mobility" and "instrumental activities", and the items in which they are least dependent were "wake/sleep pattern" and "communication."

The data obtained are in accordance with the results obtain by Sequeira (2010) in the study carried out with 184 elderly dependent patients (over 60 years old and dependent at least 2 years), in which, for the assessment of the instrumental activities and after applying the Lawton index, it was found that 67.3% of the aged are severely dependent and 32.7% moderately dependent in this type of activity.

To assess the psychometric properties of the EDC-R the reliability (internal consistency and temporal stability) and construct validity were analyzed.

The value obtained for the internal consistency of the scale assessed through the Cronbach's alpha was 0.971. The values are considered acceptable in accordance with what is affirmed by Polit and Beck, as cited in Eichhorn-Kissel (2011), who state that the values of internal consistency of an instrument should be 0.90 or higher to permit application on an individual level. Likewise, for Nunnally, Bernstein, LoBiondo-Wood, and Haber, as cited in Vilelas (2009), the values considered acceptable for this parameter are between 0.70 and 0.90. The value obtained is identical to that obtained by the author of the original CDS-R, which was 0.97. The values of Cronbach's alpha obtained, in the case of excluding each of the items that make up the scale, varied between 0.967 and 0.973. All the item-total correlations are positive. The two items with the lowest item-total correlations are "mobility" and "sleep/wake pattern", in other words, these items do not contribute to the internal consistency of the scale, which may be related to the characteristics of the sample, seeing that they are patients hospitalized in the regime of medium duration and rehabilitation, and as such, have a high dependence in terms of mobility. The item "sleep/wake pattern" was maintained, as it is considered a basic human need, as referred by Virginia Henderson.

The results of the ANOVA of repeated measurements showed that the differences are not statistically significant (sig > 0.05), no differences being found in the three assessments (F = 1.083; sig. = 0.301). This means that the values obtained in the three assessments are not statistically significant, guaranteeing the temporal stability of the scale.

The exploratory factor analysis of the items that make up the EDC-R shows that the percentage of the explained variance is 71.7%, so that the scale is considered to have construct validity. The unrotated solution reveals 1 factor with high loadings (all > 0.5). The values of the commonalities are good for this solution. The unrotated solution was chosen, for, as affirmed by Laros (2005), the objective of the process of rotations is the obtaining of a simple factor structure. Furthermore, this is a scale with a unidimensional origin of only one factor and all the loadings are high.

Moreover, the values found for the Pearson correlation matrix confirm the tendency for higher scores on one assessment to be higher on the other two assessments.

Currently in Portugal, the instruments most used for assessing the level of dependence encompass the basic activities, instrumental activities and advanced activities of daily living (Sequeira, 2010). The EDC-R is different from these scales because it enables the assessment of psycho-social aspects, specifically the individual's adjustment to his situation of disease through the item "ability to cope."

The EDC-R becomes an instrument of measurement that assesses dependence, in its physical and psycho-social aspects, determining criteria in the process of rehabilitation.

Conclusion

According to the objectives initially outlined, some conclusions can be drawn from the results of the research carried out.

For the proper assessment and quantification of the degree of dependence, the measurement instruments used should facilitate the measurement of functional factors and the psycho-social factors, specifically the perception of the disease and the individual's adjustment to it, which influences his process of rehabilitation.

In order to meet this need, the choice was made to validate the CDS-R for the Portuguese population, which, through translation and adaptation, came to be called EDC-R, seeing that it serves this purpose with supremacy, not distancing itself from the self-care patients, centering on the person and not on his dependence, which enables it to maintain the necessary and fundamental flexibility to the practice of individualized rehabilitation nursing.

The internal consistency of the scale, assessed through Cronbach's alpha (0.971), is identical to the value obtained by the author of the original CDS-R (0.97). The exploratory factor analysis of the items that compose the scale show that the EDC-R has construct validity (71.7%).

From the values obtained, the EDC-R is deemed to be validated for the Portuguese population.

In future studies, it is suggested that a larger sample be used, representative of the

Portuguese population, in order to confirm the psychometric properties of the EDC-R, allowing the results to be generalized for the entire Portuguese population.

The general objective was achieved with the validation of the EDC-R for the Portuguese population. The EDC-R is an instrument available to the clinical and scientific community of Portuguese nurses, essentially directed to the practice of nurse specialists in rehabilitation, to be used in research or in clinical practice, on patients in health transition processes. Due to the fact that the EDC-R makes it possible to assess both the physical and the psychosocial aspects, specifically the adaptation of the person to his situation of disease, there is a conviction that it may foster the development of effective strategies that will contribute to an improvement in the intervention of nurse specialists in rehabilitation.

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