

# Cross-cultural adaptation and validation of instrument to measure nursing care dependency

*Adaptação transcultural e validação de instrumento para medir a dependência de cuidados de enfermagem*

*Adaptación transcultural y validación de instrumentos para medir la dependencia del cuidado de enfermería*

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## ABSTRACT

**Objective:** To cross-culturally adapt and validate the INICIARE instrument for use in Brazil.

**Method:** methodological study divided into two phases: cross-cultural adaptation and validation. The first phase took place in six stages: translation, synthesis, back-translation, expert review, pre-test and submission to the author. The second, carried out with 130 patients, took place at a private hospital in Porto Alegre, Rio Grande do Sul, Brazil, between May and July 2019. The study was approved by the Research Ethics Committee. Data were analyzed for stability, equivalence and internal consistency.

**Results:** In the cross-cultural adaptation, the expert committee adjusted the translated version, validating the content. At validation, most patients were women (64.6%) with a mean age of  $59 \pm 15.3$ . The reliability index was 0.744.

**Conclusion:** The version of the instrument adapted for Brazil proved to be adequate and reflects the reality of daily nursing practice.

**Keywords:** Translating. Outcome assessment, health care. Nursing care. Validation study. Nursing assessment.

## RESUMO

**Objetivo:** Adaptar transculturalmente e validar o instrumento INICIARE para uso no Brasil.

**Método:** estudo metodológico dividido em duas fases: adaptação transcultural e validação. A primeira ocorreu em seis etapas: tradução, síntese, retrotradução, revisão por especialistas, pré-teste e submissão à autora. A segunda, realizada com 130 pacientes, ocorreu em um hospital privado de Porto Alegre, Rio Grande do Sul, Brasil, entre maio e julho de 2019. O estudo obteve aprovação pelo Comitê de Ética em Pesquisa. Os dados foram analisados através da estabilidade, equivalência e da consistência interna.

**Resultados:** Na adaptação transcultural, o comitê de especialistas ajustou a versão traduzida, validando o conteúdo. Na validação, a maioria dos pacientes era mulher (64,6%) com média de idade  $59 \pm 15,3$ . A confiabilidade foi de 0,744.

**Conclusão:** A versão do instrumento adaptado para o Brasil mostrou-se adequada e reflete a realidade da prática diária da enfermagem.

**Palavras-chave:** Tradução. Avaliação de resultados em cuidados de saúde. Cuidados de enfermagem. Estudo de validação. Avaliação em enfermagem.

## RESUMEN

**Objetivo:** Adaptar y validar transculturalmente el instrumento INICIARE para uso en Brasil.

**Método:** estudio metodológico dividido en dos fases: adaptación y validación transcultural. La primera, en seis etapas: traducción, síntesis, retrotraducción, revisión de expertos, pre-test y envío al autor. El segundo, realizado con 130 pacientes, se llevó a cabo en un hospital privado de Porto Alegre, Rio Grande do Sul, Brasil, entre mayo y julio/2019. El estudio fue aprobado por el Comité de Ética en Investigación. Los datos se analizaron mediante estabilidad, equivalencia y consistencia interna.

**Resultados:** En la adaptación transcultural, el comité de expertos ajustó la versión traducida, validando el contenido. En el momento de la validación, la mayoría de los pacientes eran mujeres (64,6%) con una edad media de  $59 \pm 15,3$  años. La fiabilidad fue de 0,744.

**Conclusión:** La versión del instrumento adaptada para Brasil resultó adecuada y refleja la realidad de la práctica diaria de enfermería.

**Palabras clave:** Traducción. Evaluación de resultado en la atención de salud. Atención de enfermería. Estudio de validación. Evaluación en enfermería.

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## ■ INTRODUCTION

To optimize health resources and improve nursing working conditions, managers use tools to measure and adapt the management of professionals to the delivery of nursing care. The main difficulty encountered in this process is the scarce supply of tools for quantifying and sizing nursing activities and that allow the correct allocation of the minimum resources necessary for the delivery of high quality care for patients and their families<sup>(1)</sup>.

The use of a patient classification instrument identifies the demand for care regarding nursing, allowing the monitoring of the team's workload and hence quantitative and qualitative adjustments. The tools can be placed in three thematic lines: tools that measure the work of nurses according to professional competences; tools that measure work considering aspects of clinical safety and quality of care; and, finally, the tools that seek to assess the care required by hospitalized patients<sup>(1)</sup>.

European researchers<sup>(2)</sup>, – motivated, among other things, by the recognition of contradictions in the literature regarding the concepts of “care complexity” and “care dependency” –, developed a study aimed to redefine the concept of “complexity of nursing care”. The authors argue that workload is intrinsically associated with care complexity. They also stress that the complexity of nursing care is a relational, dynamic phenomenon, with multiple interconnected processes, which is determined by the interaction between the following components:

- a) related to diseases (type, number, assessment capacity, progress, therapy, associated problems);
- b) personal, cognitive, physical, functional, social and communicative resources of patients and their families;
- c) simultaneous demands of nursing care regarding decisions and interventions taken to strengthen skills, alleviate suffering and prevent deterioration, persistent harm and suffering of patients (care dependency);
- d). levels of attention, knowledge, experience and care required of nurses to achieve an effective nursing care process.

The status of care for hospitalized patients has changed in recent decades, requiring nurses to adopt strategies to face the qualitative (more complex, more dependent and more severe patients) and quantitative (number of patients) increases in the demand for nursing care. Consequently, managers of nursing services are challenged to seek ways to minimize the impact of this increased demand, and thus create the necessary conditions for the practice of nursing, providing safe and high quality care to the population. Such conditions must be associated with revenue maximization and cost reduction<sup>(3)</sup>.

The above described scenario requires the adaptation of health systems – and nurses – to this new reality. Thus, the importance of factors such as chronicity, dependency and complexity in the care of this population must be recognized by health care systems and nurses<sup>(4)</sup>.

The efforts of managers and nurses are supported by evidence-based practice. Therefore, measuring the results and identifying changes in the health status of patients can be an essential tool<sup>(5)</sup>. To meet such demands, the Nursing Outcomes Classification (NOC) was developed. It is a nursing classification aimed at measuring the results achieved by patients, family or community, based on interventions implemented by nursing. The NOC is focused on measuring outcomes sensitive to nursing interventions<sup>(5)</sup>.

Willing to quantify nursing care from an outcomes-oriented perspective, researchers from Universidade de Sevilha, in Spain, have built a tool known as INICIARE 2.0 (*Inventario del Nivel de Cuidados mediante Indicadores de Clasificación de Resultados de Enfermería*). This instrument, based on the conceptual model of the theory of fundamental needs and devised based on the outcomes of NOC taxonomy, was developed and validated between 2009 and 2011. In its first version, the instrument consisted of 60 items that identified the physiological, cognitive and locomotion/mobility needs of patients<sup>(1)</sup>. The instrument has currently 26 items. According to the authors, the shorter version of the instrument aims to reduce the time taken by nurses in its administration<sup>(6)</sup>. The INICIARE-26 identifies nursing care needs in five dimensions: breathing, feeding and hydration, eliminating body wastes, activities of daily living and health behaviors.

The concern with the situation described above led to the development of this study, which aimed to carry out the cross-cultural adaptation and validate the INICIARE-26 instrument for use in Brazil. This study is justified by the need to provide clinical practice with an instrument that allows nurses to assess patients' dependency on nursing care, based on standardized languages.

The Federal Council of Nursing (COFEN) set standards for the sizing of nursing staff in health institutions, which can be done based on the definition of qualitative and quantitative criteria. These criteria are based on the average hours of nursing care required by patients, according to their degree of dependency. The COFEN suggests the use of Patient Classification Systems as part of the method for calculating nursing staff to be systematically adopted by health institutions.

Therefore, INICIARE-26 is an instrument that attempts to meet the needs of Brazilian nursing, strengthening care. Also, INICIARE-26 measures the current status of patients, differing significantly from other scales that assess the complexity of care in relation to nursing. Thus, INICIARE-26 can better reflect the dependency profile of patients.

Ensuring the proper use of an instrument such as the INICIARE-26 in the context of Brazilian nursing requires, above all, its cross-cultural adaptation and validation, given the new scope of use. The guiding question of this study is based on this aspect. In other words, an attempt was made to answer the following question: Is the cross-culturally adapted INICIARE-26 valid for use in Brazil?

**METHODS**

**Study design**

This is a methodological study based on the guidelines for reporting methodological studies in health research – MISTIC (Methodological study reporting checklist), available on the Enhancing the Quality and Transparency of Health Research (EQUATOR) network. The cross-cultural adaptation of the INICIARE-26 instrument was carried out, following recommended steps<sup>(7)</sup>, and subsequent validation, as described in Figure 1.

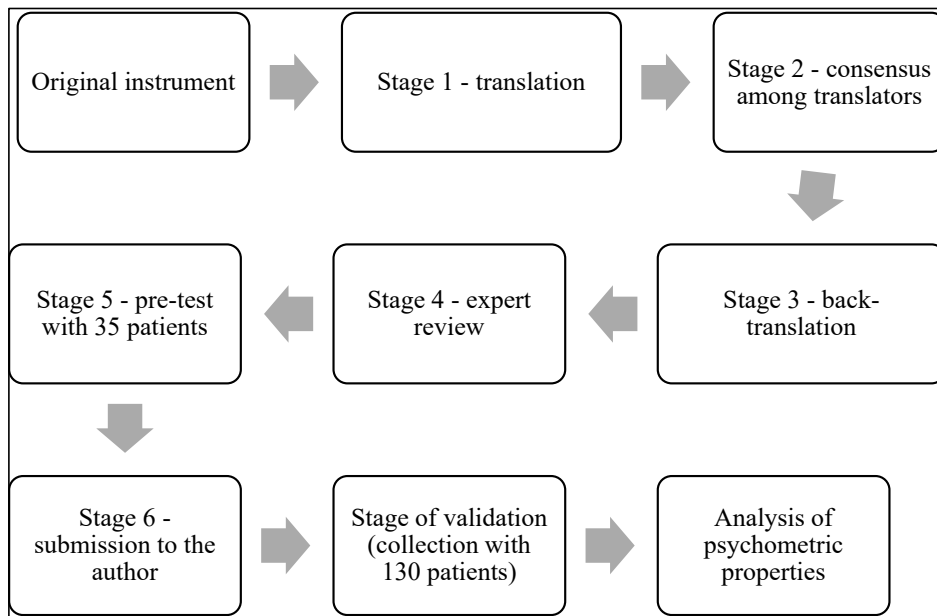
Cross-cultural adaptation of instruments – involving both translation and cultural adaptation – is extremely relevant in the standardization of standardized assessments for globalization and the comparison of their results, as well as for the development of multicenter studies<sup>(7)</sup>.

In the first stage – translation – the INICIARE-26 was sent to two translators, both native speakers of Brazilian Portuguese and fluent in the original language of the scale (Spanish). At

the end of this stage, two versions called “translation one” (T1) and “translation two” (T2) were obtained. A meeting was held between the researcher and the two translators (stage 2) to produce a synthesis version, called “one-two translation” (T1 2).

In stage 3, a synthesis of the versions (T1 2) was sent to two translators, both native speakers of Spanish and fluent in Portuguese. The translators produced the back-translation versions, called “back-translation 1” (BT1) and “back-translation 2” (BT2). The versions (original, translation, synthesis and back-translation) were compared by the translators to correct possible translation and interpretation errors and to avoid wrong interpretation of the meaning of any item. Based on this comparison, the version called “one-two back-translation” (BT1 2) was generated.

In the expert review stage (stage 4), there were five specialist nurses with experience in patient classification systems, a nurse who was university professor with experience in research, and a linguist who was a university professor. A meeting was held with the experts and on that occasion they had access to the instrument containing the original, translated and back-translated versions. The experts evaluated the translated version and, for this purpose, they considered the cultural, semantic-idiomatic and conceptual equivalences. The score for each item ranged from 1 to 4, with 4 being the best equivalence and 1, the worst equivalence. Participants were instructed to record in the “observation” field a suggestion of change, in case of a score lower than 4. Once the individual analysis of each expert was concluded, as a focused group,



**Figure 1** – Cross-cultural adaptation process and psychometric assessment  
Source: Researcher, 2019.

the researcher reviewed the items that showed divergence, so that the participants, together, made the necessary adjustments to ensure the best presentation of the item.

## Population and setting

Data collection was carried out in inpatient units of non-surgical and surgical adult patients, in a private hospital in Porto Alegre, Rio Grande do Sul, Brazil. The hospital has 189 beds, of which 151 are intended for admission, distributed in three admission units. The occupancy rate is 96.93% and the average length of stay is 8 days. The profile of adult patients is 63.11% female and 36.89% male, and 63.76% are aged 30-74 years.

## Selection criteria

The inclusion criteria were all adult patients hospitalized in non-surgical/surgical inpatient units. Exclusion criteria were a) patients with severe medical disorders at the time of collection; b) sensory or cognition disorder and the absence of a person in charge at the time of collection; c) obstetric patients. Patients were excluded, based on criteria A and B, only after the collectors performed the second collection attempt.

## Sample definition

In the pre-test and validation, 35 and 130 patients were included, respectively. For the calculation of the pre-test sample, literature recommendations were observed<sup>(7)</sup>. The recommendation for factor analysis was used in validation, that is, a minimum of five observations per item of the scale. Thus, since the INICIARE-26 tool has 26 items, the sample consisted of 130 patients<sup>(8)</sup>.

## Data collection

The first three stages were carried out in May 2019. Stage 4, expert review, took place on June 01, 2019. The data collection of stage 5 (pre-test) and validation were carried out from June 6 to July 9, 2019. Data collection was performed by two nurses in direct patient care. These nurses received one-hour training on the application of the data collection instrument and the Informed Consent Term (ICF). After the first data collection, the nurses waited an hour to carry out the second collection, alternating the patients. This process was necessary for carrying out the equivalence test (which compares the results obtained by the different researchers) and the stability test (checks the scores with the passage of time).

The collectors applied the instrument to the selected patients, according to an alphabetical list and taking into account the inclusion and exclusion criteria. At that moment, they verified the understanding of the translated items. The observation field at the end of the instrument could be used to inform suggestions to improve the understanding of the instrument. Clinical and demographic characterization (gender, education, date of birth, main ICD, city of origin) were part of the data collection instrument used in the validation phase. The collection form also included the INICIARE-26 instrument for completion. Each item of the instrument is evaluated with the use of a Likert-type scale ranging from 1 to 5. The first two intervals were established as indicators of dependency and the last two, of independence. The ranges are classified as: 1 = High care dependency; 2 = Moderate care dependency; 3 = Risk of care dependency; and 4 = Independence of care.

## Data analysis and processing

Data tabulation was performed in spreadsheets in Excel for Windows, version 2013, and for statistical analyses, SPSS 25.0 and AMOS, version 18.0 were used. The psychometric properties were evaluated according to the reliability, stability, equivalence and internal consistency of the items using Cronbach's alpha.

To assess expert's agreement, Kappa coefficient of agreement by Fleiss and the CVI (content validation index) were applied, and a cut-off point of 0.78 was established, which is a limit below which the item would not be applicable<sup>(9)</sup>. Wilcoxon test, Cohen's Kappa Coefficient of Agreement and the Interclass Correlation Coefficient (ICC) were used in stability analysis. To assess the reliability of the questions, Cronbach's alpha was used. An alpha value > 0.70<sup>(9)</sup> was considered as reference value for interpretation.

## Ethical aspects

This study complied with the provisions of Resolution No. 466/2012. The project was approved by the research institution and the Research Ethics Committee of Universidade Federal do Rio Grande do Sul (Protocol No 3.373.889/2019).

## ■ RESULTS

During the first stage of translation, there was divergence between the translators in the T1 and T2 versions, regarding some items. The experts met with the researcher, the research advisor and the translators in order to evaluate the translation equivalences. The mean age of the experts was  $\pm$  40 years (standard deviation of 6.3) and the female gender

was prevalent with 85.7% (n= 6). Regarding the degrees of the experts, there were 2 doctors (28.6%), 2 masters (28.6%) and 3 specialists (42.9%) and the length of time elapsed since graduation was ±16 years.

In the review stage, after the researcher’s initial explanation, the group assigned scores to the items, evaluating semantic equivalences. Subsequently, the items for which there was more disagreement were debated, and a version considered more adequate was established. In this stage, the translators participated in the debates, clarifying doubts regarding the items and the translations. The items modified by the experts are shown in Chart 1, below.

The title of the dimension “Activities of daily living” has aroused considerable debate regarding the maintenance of the translation “Actividades Instrumentales” for “Activities of daily living”. It was understood that, in the Brazilian context, the word “instrumentais” is not part of the practical context in the health area. Thus, the group maintained the version suggested by the translators.

The following items aroused debate among the experts. By consensus, the experts decided to keep the translated version: “Bowel elimination pattern”; “Walks with an efficient gait”; “Respiratory rate”; “Can change position without support” and “Health behaviors”. The items “Concern about illness or injury” and “Conducts that promote health” did not generate debate, but were scored in the statistical analysis.

Once the Brazilian version of the INICIARE-26 was completed, all versions produced in the cross-cultural adaptation

process were sent to the author of the instrument. Suggestions from the nurses who applied the pre-test were also sent. The author approved the translated version and disagreed with the suggestion sent, arguing that changing the original item to “Fecal incontinence” would reverse the scores, and its change was not recommended. However, she suggested that the item could be translated as “Maintains control of stool elimination”. After analysis, it was decided to keep the initially translated version, shown in Figure 2:

In the validation stage, of the 130 patients, 64.6% were female and had a mean age of 59 ±15.3. 52.3%, lived in Porto Alegre and 33.8% had completed higher education. The prevalent diagnosis, according to the chapter of the International Classification of Diseases, version 10 (ICD 10), was “XIII. Diseases of the musculoskeletal system and connective tissue” totaling 18.5%.

As for the time taken in the application of the instrument, the median of INICIARE-26 was 2 (1-2) minutes. Two patients who had medical disorders after the first data collection were excluded. Analysis of the frequency of each item showed that the dimension “Activities of daily living” had the highest number of items with a score of 1, while all items in the dimension “Health behavior” scored above 90%, obtaining 5. The analysis of internal consistency was performed using Cronbach’s alpha, obtaining a coefficient of 0.74 (total scale). The results of Cronbach’s alpha are shown in Table 1.

In the “Breathing” dimension, Cronbach’s alpha was 0.65. If one of the items is removed, there is a variation in alpha

Translation	Modifications
Exertional dyspnea	Dyspnea on exertion
Pathological respiratory noises	Adventitious respiratory sounds
Balanced daily inputs and outputs	Balanced daily gains and losses
Oral food intake	Oral feeding
Maintains control of stool elimination	Fecal elimination control
Body posture maintenance	Maintains body posture
Maintains body posture	Performs one’s own hygienic care
Perception of health threats	Perception of health risks
Maintains self-esteem	Maintenance of self-esteem

**Chart 1** – Items that were modified by the experts. Porto Alegre, Rio Grande Sul, 2019  
Source: Researcher, 2019.

INICIARE-26 Vers3o Brasileira					
<p>Orienta3es: A escala INICIARE-26 3 uma escala do tipo Likert, com 26 itens, baseada em indicadores da NOC, que pontua cada indicador da escala de 01 a 05. O valor 05, ou ponto final, indica a condi3o mais desej3vel do paciente, enquanto o ponto 01 indica a situa3o menos desej3vel.</p> <p>A pontua3o da escala varia entre 26 pontos, valor que indicaria o maior n3vel de depend3ncia, e 130 pontos, que indicaria a independ3ncia do paciente. Essa escala pode ser utilizada para avalia3o do paciente em qualquer momento, apesar de que o ideal 3 realizar uma medi3o na entrada e sucessivos monitoramentos di3rios. A pontua3o de cada paciente 3 estabelecida pelo enfermeiro, de acordo com seu julgamento cl3nico, a partir dos dados dos valores obtidos.</p>					
<b>RESPIRA3O</b>	1	2	3	4	5
040206 Cianose					
040204 Dispnea ao esfor3o					
040203 Dispnea em repouso					
040302 Ritmo respirat3rio					
040310 Ru3dos respirat3rios advent3cios					
<b>ALIMENTA3O E HIDRATA3O</b>	1	2	3	4	5
210607 Altera3o do estado nutricional					
101012 Engasgo					
101004 Capacidade de mastiga3o					
101401 Vontade de comer					
060107 Ganhos e perdas di3rias equilibradas					
100801 Alimenta3o via oral					
<b>ELIMINA3O</b>	1	2	3	4	5
050002 Controle da elimina3o fecal					
050101 Padr3o de elimina3o fecal					
050301 Padr3o de elimina3o urin3ria					
050312 Incontin3ncia urin3ria					
<b>ATIVIDADES DE VIDA DI3RIA</b>	1	2	3	4	5
020002 Caminha com marcha eficaz					
030012 Muda de posi3o sozinho					
020802 Mant3m a postura corporal					
030002 Veste-se sozinho					
030006 Higieniza-se sozinho					
110113 Integridade da pele					
<b>CONDUTAS DE SAUDE</b>	1	2	3	4	5
170401 Percep3o de riscos para a sa3de					
090003 Capacidade de estar atento					
170404 Preocupa3o sobre a doen3a ou les3o					
130502 Manuten3o da autoestima					
182303 Condutas que promovem a sa3de					
<b>Observa3es:</b>					

Figure 2 – INICIARE-26 Brazilian version.

Source: Researcher, 2019.

ranging from 0.46 to 0.70. A higher alpha value is obtained by removing the item “Dyspnea on exertion”. Correlation values ranged from 0.19 to 0.66, indicating correlations with strong and weak magnitudes.

Alpha coefficient was 0.71 for the “Food and Hydration” dimension. If one of the items is removed, there is a variation from 0.63 to 0.74, with the item “Chewing ability” being the most significant, raising alpha coefficient to 0.74. The same item has a weak correlation with the total instrument (0.08).

The dimension “Eliminating body wastes” had the lowest alpha coefficient (0.59). In this dimension, the item “Urinary Incontinence”, if excluded, raises alpha to 0.73. The lowest

item total correlation was 0.17 and the highest was 0.54, indicating strong and weak correlations. As for the dimension “Activities of daily living”, alpha was 0.84. Excluding the item “Skin integrity” may slightly raise the alpha value to 0.85, with a correlation of 0.38. The last dimension, “Health behaviors”, had the best alpha value, at 0.90. Internally, in this dimension, exclusion of the item “Conducts that promote health” produces the highest alpha (0.91), and the lowest correlation was 0.61.

To measure stability, two examiners applied the instrument during a time interval of one hour, alternating patients. The Kappa result for this measure was 0.407. The ICC was 0.80 (95% confidence interval, 0.30 – 0.82), not significant.

Table 1 – Cronbach’s alpha results. Porto Alegre, Rio Grande do Sul, 2019

	n = 130 total alpha = 0.744	Item total correlation	Cronbach’s Alpha if the item is excluded
<b>BREATHING (alpha 0.655)</b>			
Cyanosis	0.19	0.70	
Dyspnea on exertion	0.65	0.46	
Dyspnea at rest	0.66	0.46	
Respiratory rate	0.32	0.64	

**Table 1** – Cont.

	n = 130 total alpha= 0.744	Item total correlation	Cronbach's Alpha if the item is excluded
Adventitious respiratory sounds	0.41	0.63	
<b>FEEDING AND HYDRATION (alpha 0.718)</b>			
Change in nutritional status		0.57	0.63
Choking		0.50	0.66
Chewing ability		0.08	0.74
Desire to eat		0.56	0.64
Balanced daily gains and losses		0.51	0.66
Oral feeding		0.41	0.69
<b>ELIMINATING BODY WASTES (alpha 0.596)</b>			
Control of stool elimination		0.54	0.41
Bowel elimination pattern		0.48	0.43
Bladder elimination pattern		0.42	0.50
Urinary incontinence		0.17	0.73
<b>ACTIVITIES OF DAILY LIVING (alpha 0.843)</b>			
Walks with an efficient gait		0.72	0.79
Can change position without support		0.62	0.81
Maintains body posture		0.50	0.84
Gets dressed without help		0.79	0.78
Performs one's own hygienic care		0.82	0.77
Skin integrity		0.38	0.85
<b>HEALTH BEHAVIOR (alpha 0.909)</b>			
Perception of health risks		0.90	0.85
Ability to pay attention		0.91	0.85
Concern about illness or injury		0.65	0.91
Maintenance of self-esteem		0.78	0.88
Conducts that promote health		0.61	0.91

Source: Researcher, 2019

## ■ DISCUSSION

The stages of cross-cultural adaptation strictly followed the recommendations in the literature<sup>(5)</sup>. The reference used is said to be the most common and recommended, in addition to having international recognition<sup>(10,11)</sup>. In an integrative review, recommendations were proposed for studies of this nature, highlighting the importance of judiciously choosing the methodological framework whose credibility involves completion of all stages<sup>(10)</sup>. The translation and adaptation of instruments can reduce costs and facilitates the interrelationship between researchers from different countries<sup>(2)</sup>.

The changes made by the translators were maintained by the back-translators, which is necessary to identify possible discrepancies in the translations and to provide communication with the original authors of the instrument being translated<sup>(11)</sup>. Small adjustments are common at this stage and indicated during the translation of an instrument. Other studies have already described the need to change the translated words, seeking to adjust the instrument to the reality of Brazilian culture<sup>(12,13)</sup>.

First, the experts scored the items according to the equivalences and, subsequently, each item was reviewed orally and together, receiving adjustments by consensus. This process is in line with the relevant literature that recommends associating qualitative (individual opinion) and quantitative (statistical measures to describe agreement) strategies to add value to content analysis<sup>(10)</sup>.

In the pre-test stage, as it occurs in other similar studies<sup>(12-14)</sup>, nurses were instructed to suggest changes and to report any type of misunderstanding regarding the instrument items. The nurses who collected the data expressed doubts about the parameters to consider the worst result (Likert 1) or the best result (Likert 5). They mentioned the item "Cyanosis" as an example of difficulty. It is inferred that this is mainly due to the fact that the INICIARE-26 is built with NOC indicators, which can make it difficult to understand, since the NOC is not yet widely used in the context of Brazilian nursing.

A solution suggested by the literature to minimize these difficulties is the construction of conceptual and operational definitions of the INICIARE-26 indicators.

This statement consolidates the recommendations of some studies, since NOC indicators do not have conceptual definitions that favor their use, maximize their precision and minimize the subjectivity of each examiner<sup>(15)</sup>. The definitions allow tracking patients and quickly identify changes in patterns<sup>(15,16)</sup>.

In the validation of the study, the sample of patients was composed mostly of female individuals, who had completed

higher education and with a median age of 59 years. Such findings are similar to other studies that evaluated the complexity of care in the Brazilian population<sup>(17,18)</sup>. However, most patients were not classified as elderly, which led us to infer that, with the exclusion of patients with sensory limitations and without the presence of a family member, a specific portion of the patients were not included in the sample. It should be noted that, as previously mentioned, the INICIARE-26 measures the degree of dependency on care, which may better reflect the characteristics of the elderly population. The available scales, mainly in Brazil, were mostly constructed based on the concept of care complexity, which for some specific populations may not match the reality<sup>(19)</sup>.

Analysis of the degree of dependency found a greater number of items rated 1 (worst condition) in the dimension "Activities of daily living", especially in the items "Gets dressed unaided" and "Perform one's own hygienic care". The presence of these needs has an important impact on care, being a deliberate factor in the dependency on nursing care. In a study that attempted to identify the relationship between nursing diagnoses and the level of dependency of elderly patients in activities of daily living, the researchers validated that, among the 52 diagnoses found in the patients surveyed, 11 were associated with the level of dependency for activities of daily living<sup>(20)</sup>.

## ■ CONCLUSION

In the evaluation of the expert committee, the Brazilian Portuguese version maintained the semantic, cultural and conceptual equivalences, and Fleiss' CVI and Kappa showed adequate values. The INICIARE-26 instrument proved to be preliminarily adequate for use in Brazil, revealing that the population investigated has a higher degree of dependency on care and suggesting that this tool reflects daily practice.

It should be stressed that the non-use of the NOC in clinical practice may have influenced the nurses' score on the instrument, although training with the INICIARE-26 has already been carried out. Generally speaking, this aspect can be considered a limitation of the study. Finally, the study proved to be relevant in three points. First, regarding teaching, since students will be able to use an instrument that measures patient dependency while being inserted into a nursing language system. Also, regarding the practice of research in the field of Nursing, as it will enable future studies to improve the instrument, in addition to comparing different national and international realities.

Finally, regarding care, INICIARE-26 will enable the use of NOC in clinical practice, which will allow a more precise indication of how much the patient is dependent on nursing



care, and will also improve care. In the current context of increase in the use of nursing taxonomies as a method for formalizing the registration of the Nursing Process, providing an instrument that adds the ability to assess care dependency associated with the use of the NOC improves, supports and makes care less complicated.

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