



## ORIGINALES

### **Attitude and self-care practice in hansen´s disease: construction and psychometric validation of measuring instruments**

Atitude e prática de autocuidado na hanseníase: construção e validação psicométrica de instrumento de medida

Actitud y práctica de autocuidado en la enfermedad de Hansen: construcción y validación psicométrica de instrumentos de medición

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#### **ABSTRACT:**

**Objective:** To build and test the content validity of the instrument, attitude, and practice of self-care in leprosy, with face, hands, and feet.

**Method:** Methodological study of technology validation and quantitative approach. An instrument called Attitude and Practice of Self-Care in Hansen's Disease was developed, containing two constructs, three dimensions and 45 items. The validation used analysis through the evaluation of the internal consistency of each item / dimension and the Kappa inter-observer agreement index.

**Results:** The validity index indicated the need for adjustments to the original composition of the scale, which now consists of 45 questions to 52, with the inclusion of a fourth dimension, showing high inter-agreement observers in the second version ( $K \geq 0.99$ ).

**Conclusion:** The scale has adequate psychometric properties, revealing potential for use in future studies.

**Key words:** Validation studies; Nursing; Hansen's disease

## RESUMO:

**Objetivo:** Construir e testar a validade de conteúdo do instrumento atitude e prática de autocuidado na hanseníase, com face, mãos e pés.

**Método:** Estudo metodológico de validação de tecnologia e abordagem quantitativa. Desenvolvido instrumento denominado Atitude e Prática de Autocuidado na hanseníase, contendo dois construtos, três dimensões e 45 itens. A validação empregou-se análise através da avaliação da consistência interna de cada item/dimensão e o índice de concordância inter-observador Kappa.

**Resultados:** O índice de validade apontou necessidade de ajustes na composição original da escala, que passou a ser constituída de 45 questões para 52, com inclusão de uma quarta dimensão, apresentando elevada concordância inter-observadores na segunda versão ( $K \geq 0,99$ ).

**Conclusão:** A escala apresenta adequadas propriedades psicométricas, revelando potencial para utilização em futuros estudos.

**Palavras chave:** Estudos de validação; Bacharelado em enfermagem; Doença de Hansen.

## RESUMEN:

**Objetivo:** Desarrollar y probar la validez de contenido del instrumento, la actitud y la práctica del autocuidado en la lepra, con cara, manos y pies.

**Método:** Estudio metodológico de validación tecnológica y abordaje cuantitativo. Se desarrolló un instrumento llamado Actitud y práctica de autocuidado en la enfermedad de Hansen, que contiene dos construcciones, tres dimensiones y 45 elementos. La validación utilizó el análisis a través de la evaluación de la consistencia interna de cada ítem / dimensión y el índice de acuerdo interobservador de Kappa.

**Resultados:** El índice de validez indicó la necesidad de ajustes en la composición original de la escala, que ahora consta de 45 preguntas a 52, con la inclusión de una cuarta dimensión, que muestra un alto grado de acuerdo. observadores en la segunda versión ( $K \geq 0,99$ ).

**Conclusión:** La escala tiene propiedades psicométricas adecuadas, revelando potencial para su uso en futuros estudios.

**Palabras clave:** Estudio de validación; Bachillerato en enfermería; enfermedad de Hansen.

## INTRODUCTION

Hansen's disease is recognized as an endemic disease with serious consequences for public health at global, national, and regional levels. Data from the World Health Organization (WHO) show an accentuated picture of the endemic in three countries, among which Brazil ranks second in the diagnosis of new cases<sup>(1)</sup>.

Additionally, the gap between the globally recommended targets and the detection coefficients found for Brazil, between the years 2013 - 2018, a total of 586,112 new cases of the disease were recorded with an increase in the number of relapse cases and active presence of the endemic, evidenced by the indicator of cases in children under 15 years old. Data from 2019 show that Brazil diagnosed 23,612 new cases of Hansen's disease, of which 1,319 (5.6%) were in children under 15 years old. Of those 39.3% already presenting some degree of physical disability (GIF 1 or GIF 2) already at the time of diagnosis<sup>(2-4)</sup>.

Reflexively, the epidemiological picture has repercussions on health services at the three levels of the health care network - primary, secondary, and tertiary. Although it presents feasible diagnosis, free treatment and systematic monitoring recommended by the Ministry of Health (MH), intrinsic factors, such as the immunopathological response developed by the body against the disease and extrinsic factors, such as late diagnosis and inadequate assistance, hinder early actions, which culminate in the installation of injuries, disabilities, and physical deformities<sup>(5)</sup>.

Considering the morbidity of the disease, Hansen's disease is the leading cause of permanent physical disability among infectious diseases. The risk of developing disabilities and deformities increases when multidrug therapy is started late and associated with inadequate clinical follow-up in the health services <sup>(6)</sup>.

Among the difficulties in facing the disease and caring for individuals, there is the evidence that social inequality is directly related to increased susceptibility to Hansen's disease, since it produces unmet social needs that affect community health. In this context, the territorial extension of Brazil presents social heterogeneities among the regions and, therefore, specific needs among the services and, in these, among the users<sup>(7)</sup>. The historical and self-reported stigma factor is also added.

It is understood, therefore, that caring for individuals affected by Hansen's disease involves prioritizing strategies that fit into their psychosocial, cognitive, and pathological reality. Thus, self-care activities must be performed giving priority to what can be done at the patient's home, giving veracity and concreteness to the continuity of treatment in the patient's environment.

Under this prism, although there are recommended measures, the commitment to early case detection, contact assessment, evaluation of the degree of disability at diagnosis and follow-up every three months during treatment, health education and guidance on self-care measures, it is essential to evaluate the specific needs of individuals, as well as the development of coordinated services for the identification of inequalities and the most effective use of health resources<sup>(8)</sup>.

Based on the assumption that, in their individuality, people have different degrees of knowledge and adopt attitudes and practices that are often cognitively incoherent, there is a need for technologies that enable the knowledge of the behavior directed, or not, to self-care, that guide which actions should be guided, and that allow the monitoring and evolution of these individuals, as a tool for care.

Regarding the evaluation of self-care practices in Hansen's disease, although there is a reference to a study that addresses the subject through its research instrument <sup>(9)</sup>, it was not found, in the main national databases, a study that addresses the existence of a validated instrument specifically for this purpose (evaluation of attitude and self-care practices in Hansen's disease).

Consequently, the justification for this study is based on the absence of valid instruments to measure attitude and practice of self-care in Hansen's disease. Thus, the construction and validation of a tool that serves this purpose may contribute to the organization of services and to the quality of care, as it enables health professionals to develop comprehensive care strategies and transform clinical practice.

Given the above, this study aimed to construct and test the content validity of the instrument "attitude and practice of self-care in Hansen's disease, with face, hands and feet".

## MATERIAL AND METHOD

This is a technology construction and validation study, of the methodological development research type with a quantitative approach. It was carried out in João Pessoa/Paraíba/Brazil.

To construct the instrument named Attitude and Self-Care Practice in Leprosy - APAHansen, we first delimited the definitions of the constructs of interest: attitude and practice.

According to the theorist Everett Rogers<sup>(10)</sup>, the attitude and practice constructs are closely related, whereas they define attitude as the individual's values and beliefs about something, determining his actions, which assumes the condition of the practice construct, towards them influencing positively or negatively in the decision making for accepting them.

In a complementary way, attitude relates to the affective domain - emotional dimension, while practice is the decision making for doing and relates to the psychomotor affective and cognitive domain - social dimension<sup>(11)</sup>.

The process of construction and content validation of the instrument called Attitude and Self-Care Practice in Hansen's disease - APAHansen followed the theoretical framework of the author Raymundo<sup>(12)</sup>, which presents three consistent stages (each stage in turn addresses three phases) for scale validation: error collection, initial instruments, and final instruments. In this study, the three phases that make up the first stage of the process explained by the author<sup>(12)</sup> were performed, namely: generation of items; analysis of redundancy added to the composition; content validation.

The first validation phase "Generation of items" covered the literature search for the formulation of items on self-care measures in Hansen's disease. We chose to develop the items of the form according to the practices recommended by the Ministry of Health guide for face, hands, and feet<sup>(13)</sup>. This reference systematically approaches self-care measures directed to the three dimensions. It covers hydration and lubrication guidelines, correct nail cutting, type of shoe, care when exposed to the sun or to work routines, muscle strengthening exercises, among others.

Based on these propositions, the errors were grouped according to the similarity of the items and the consequent composition of the instrument. Thus, the two constructs - attitude and practice - were broken down into 45 items, being 3 attitudinal items and 42 practical items. The latter was subdivided into three dimensions - face, hands, and feet. They were also arranged in positive and negative affirmative sentences, under the same response scale (totally disagree, disagree, do not know, agree, totally agree).

In the second phase "Compositional Aggregate Redundancy Analysis" the items were formulated as statements, grouped according to construct similarity, and stated on a Likert scale format.

The Likert scale format was chosen because it allows a construct to be developed through statements about which respondents express their degree of agreement<sup>(14)</sup>. To avoid the order effect and the acquiescence effect, we chose to keep the positive items on the right and the negative items on the left, as well as to insert negative items into the instrument, compensating for both effects<sup>(11)</sup>

Then, in the third phase "Content Validation", the instrument was sent to a panel of judges with renowned theoretical and practical experience in the subject. This process took place between October and December 2016. The selection criteria used were health professionals with at least a master's degree, at least 5 years of experience in the area, and authorship of at least two scientific articles on the subject in the last five years.

The strategy for search and selection of judges was obtained through the Lattes Platform of the National Council for Scientific and Technological Development (CNPq), using the Hansen's disease filter. Under the inclusion criteria, 54 professionals were contacted, of which only 11 responded positively to the request for evaluation of the instrument. As the quantity was in accordance with Pasquali's definitions<sup>(15)</sup>, which defines as ideal a sample of 6 to 10 evaluators, without the need of sample calculation related to statistical inferences, we proceeded with this sample quantity.

Operationally, each item of the instrument was evaluated by the judges according to its clarity (they are understandable, without ambiguities and with easy expressions, with coherence between the questions) and relevance (they are important and consistent with the attribute of measuring the attitude and practice of the subjects) within the dimensions and respective constructs. The answers were graded between agree, partially agree, and disagree, with room for suggested reformulations. After evaluating the items present in the instrument, there was one more question about the need for inclusion of a new item, about which the judges should give their opinion and discuss.

To analyze the data obtained by the content validation strategy, the Content Validity Index (CVI) was used. In this measure, the instrument was considered valid if, when computing the evaluations, it obtained an approval/agreement index above 80% (0.8)<sup>(16)</sup>. For items with CVI below this value, there was exclusion or reformulation, according to the judges' suggestion.

After all corrections and suggestions were made, the instrument was sent again to the 11 specialists who participated in the first moment of evaluation. The criteria for theoretical analysis and validation of the items were the same as previously adopted. After reviewing the evaluation criteria to finalize the process, the acceptable agreement rate among the judges was increased to 0.90<sup>(17)</sup>.

For data analysis, at the time of reevaluation, it was decided to perform an interobserver assessment, to measure the intensity of agreement between the judges, through the *Kappa* index (K). In this way, only the experts who judged the instrument in both moments were considered. The judges had 30 days to respond, since they were already familiar with the research proposal. However, only 08 experts sent their considerations within the deadline. Thus, the "K" index was measured for this sample, acceptable to the parameters adopted at the beginning of the process<sup>(15)</sup>.

For the "K" measure, the following interpretation was considered: <0 - no agreement; 0 to 0.19 - poor; 0.20 to 0.39 - reasonable; 0.40 to 0.59 - moderate; 0.60 to 0.79 - substantial; and 0.80 to 1.00 - excellent/approximately perfect<sup>(18)</sup>. Corroborating with another author<sup>(17)</sup>, values  $\geq 0.90$  represent excellent/approximately perfect agreement. Thus, this was the parameter adopted. The study was approved by the Ethics Committee of the Universidade Federal da Paraíba of the Health Sciences Center (UFPB/CCS) through an addendum to a larger project developed in the research group (Opinion No. 0785/2016). The professionals involved signed the Informed Consent Form and the participants' anonymity was respected.

## RESULTS

To build the instrument of attitude and practice of self-care in Hansen's disease, we first delimited the definitions of the constructs of interest: attitude and practice, having as reference the conceptions of the theorist Everett Rogers<sup>(10)</sup>.

In a complementary way, attitude relates to the affective domain - emotional dimension, while practice is the decision making for doing and relates to the psychomotor affective and cognitive domain - social dimension<sup>(19)</sup>.

In view of the constructs, the instrument's starting point for its construction was the 1st step "Generation of items" of the instrument. Its construction was based on the guidelines for self-care with face, hands and feet expressed in the technical manual of the Brazilian Ministry of Health<sup>(13)</sup>. This reference systematically addresses self-care measures directed to the three dimensions. It covers hydration and lubrication guidelines, correct nail cutting, type of shoe, care when exposed to the sun or to work routines, muscle strengthening exercises, among others.

Based on these propositions, the second step was to group the errors according to the similarity of the items and the consequent composition of the instrument. Thus, the two constructs - attitude and practice - were broken down into 45 items, being 3 attitudinal items and 42 practical items. The latter was subdivided into three dimensions - face, hands, and feet. They were also arranged in positive and negative affirmative sentences, under the same response scale (totally disagree, disagree, don't know, agree, totally agree). Finally, the instrument was named: Attitude and self-care practice in Hansen's disease: face, hands, and feet - APAHansen.

In the third phase, the items of the instrument were submitted to analysis of representativeness, content validation, by a committee composed of 8 judges, five nurses, one anthropologist, one physician, and one occupational therapist. This committee was 100% female (100%), over 50 years old (62.5%), with more than 20 years of experience in the field (75%). Among the judges, 62.5% had a doctoral degree, 25% a post-doctoral degree, and one a master's degree. All presented themselves as experts for the evaluation of the construct, evidenced by meeting the selection criteria.

Regarding the specialists' judgment about the clarity and relevance of the items in the preliminary version of the instrument, none of them was evaluated as disagreeing/inadequate. All items obtained agreement within the established level (CVI  $\geq$

0.80) concerning relevance. Only items A, B, C (attitude construct) and 1.9 (practice construct) showed  $CVI \leq 0.75$  regarding clarity, indicating the need for reformulation.

The overall CVI of the instrument was 0.91 for clarity and 0.96 for relevance of the items, showing satisfactory content validity. The item-by-item results are presented in Table 1.

**Table 1** - Content validity index of the scale obtained through the judges' assessment of the adequacy of the constructs to the psychometric criteria: clarity and relevance (n=8). João Pessoa, Paraíba, Brazil, 2017.

Items		judgment				CVI
		Agree		Agree w/ amendments		
		n	%	n	%	
A. Observing and caring for the nose daily are necessary.	Clarity	6	75	2	25	0.75
	Relevance	7	87.5	1	12.5	0.87
B. Observing and caring for the hands daily are necessary	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
C. Observing and caring for the feet daily are necessary.	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.1 Wash your nose several times a day	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.2 Remove bark from nose	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.3 Rub your nose hard	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.4 Use sunscreen daily	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.5 Observe your eyes daily	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.6 Remove eyelashes that are turning inward	Clarity	7	87.5	1	12.5	0.87
	Relevance	7	87.5	1	12.5	0.87
1.7 Use eye drops daily	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.8 Perform exercises to lubricate your eyes	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
1.9 Wear hat/bonnet and sunglasses when exposed to the sun	Clarity	6	75	2	25	0.75
	Relevance	8	100	-	-	1.00
1.10 Scratch/scrub your eyes frequently	Clarity	7	87.5	1	12.5	0.87
	Relevance	7	87.5	1	12.5	0.87
1.11 Frequently wipes your eyes with your hands or shirt sleeve	Clarity	7	87.5	1	12.5	0.87
	Relevance	7	87.5	1	12.5	0.87
2.1 Moisturizes and lubricates your arms and hands daily	Clarity	7	87.5	1	12.5	0.87
	Relevance	7	87.5	1	12.5	0.87

2.2 Use moisturizer to hydrate your arms and hands	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
2.3 Use oils to lubricate your arms and hands	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
2.4 Observes hands daily for redness, sores, calluses, or cracks	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
2.5 Protects hands when doing any work or daily activity	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
2.6 Performs compress to soften the calluses on the hands, moisturizes, and then sandpaper.	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
2.7 You remove the calluses with pliers or other sharp objects	Clarity	8	100	-	-	1.00
	Relevance	7	87.5	1	12.5	0.87
2.8 You avoid touching the calluses because they don't bother you	Clarity	8	100	-	-	1.00
	Relevance	7	87.5	1	12.5	0.87
2.9 You seek health care when you have an injury	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
2.10 Ask for help at home or neighbors to take care of your wounds	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
2.11 Performs some exercise at home to avoid weakness in the hands.	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.1 You wash your feet with soap daily when you take a shower	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
3.2 You moisturize and lubricate your legs and feet daily	Clarity	7	87.5	1	12.5	0.87
	Relevance	7	87.5	1	12.5	0.87
3.3 You use moisturizer to moisturize your legs and feet	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
3.4 Use oils to lubricate your legs and feet	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.5 Moisturizes between your toes	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.6 When you wash your feet, you wipe them between your toes.	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.7 You observe your feet daily for redness, sores, blisters, calluses, or cracks.	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00

3.8 Performs compress to soften calluses on feet, moisturizes, and then sanding.	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.9 Remove calluses with pliers or other sharp objects.	Clarity	8	100	-	-	1.00
	Relevance	7	87.5	1	12.5	0.87
3.10 Use home remedies to remove corns	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.11 Avoid touching your corns because they don't bother you	Clarity	8	100	-	-	1.00
	Relevance	7	87.5	1	12.5	0.87
3.12 Examine your shoes before you put them on	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.13 Wears closed shoes (sneakers) at home and when going out	Clarity	7	87.5	1	12.5	0.87
	Relevance	8	100	-	-	1.00
3.14 Uses shoes even if they squeeze the toes	Clarity	7	87.5	1	12,5	0.87
	Relevance	8	100	-	-	1.00
3.15 Uses shoes with high heels or a thin beak	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.16 Wears cotton socks when wearing shoes/tennis	Clarity	7	87.5	1	12,5	0.87
	Relevance	8	100	-	-	1.00
3.17 Seek health care when you have a foot injury	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.18 Ask for help at home or from neighbors to care for foot wounds	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00
3.19 Do some exercise at home to avoid weakness in your feet	Clarity	7	87.5	1	12,5	0.87
	Relevance	7	87.5	1	12,5	0.87
3.20 Take long walks without resting	Clarity	8	100	-	-	1.00
	Relevance	8	100	-	-	1.00

Legend: Items A to C - refer to the ATTITUDE construct; Items 1.1 to 3.20 - refer to the PRACTICE construct.

**Source:** Research Data, 2017.

As seen in Table 1, of the total 45 items, 20 showed a perfect agreement index (CVI = 1.00) for clarity and 32 for relevance. The items of the Attitude construct were the ones that presented the greatest need for adjustments. Although only 4 items of the instrument presented CVI below the established standard (CVI < 0.80), the suggestions for adaptation were accepted, also for those items that did not get perfect agreement, since they were very relevant to reach a better understanding of the instrument. The exception to the adjustments were the items with negative statements (2.7, 2.8, 3.9, 3.11, and 3.14).

The attitudinal items were scored as less clear ( $CVI \leq 0.75$ ), and the suggestions to divide them between questions about observation and care (Is it necessary to observe the face daily? / Is it necessary to care for the eyes and nose daily?) were considered. A similar direction was adopted regarding practical item 1.9 (Do you wear a hat/bonnet and sunglasses when exposed to the sun) (Table 1).

In Chart 1, the items evaluated as "partially agree/with changes", the requirements related to the problem and the suggestions for improvement or reformulation are presented.

**Chart 1** - Suggestion of the judges about the items considered adequate with changes. João Pessoa, Paraíba, Brazil, 2017.

Items	Evaluated requirements that required a change	Suggestion from the Judges
Item A	Clarity Topic sequence Vocabulary	Separate the actions: Observing and caring on separate topics Fragment the attitude construct items from the practice construct items The item should be described as a question and not a statement
Item B	Clarity Topic sequence Vocabulary	Separate the actions: Observing and caring on separate topics Fragment the attitude construct items from the practice construct items The item should be described as a question and not a statement
Item C	Clarity Topics Sequence	Separate the actions: Observing and caring on separate topics Fragment the attitude construct items from the practice construct items The item should be described as a question and not a statement
Item 1.1	Clarity	Describe in detail the step: Wash the nose (aspirate and eject water) Remove the adverbs related to temporality
Item 1.2	Vocabulary	Replace the verb "to withdraw" with "withdraw".
Item 1.3	Vocabulary	Replace the verb "to blow" with "blow".
Item 1.4	Clarity	Remove the adverbs related to temporality
Item 1.5	Clarity Topics Sequence	Describe the step-in detail: Watch the eyes in the mirror Remove the adverbs related to temporality The item should be placed after 1.3
Item 1.6	Clarity	Reword the item to: Try to remove the lash that is facing inward on your eyes by yourself
Item 1.7	Clarity	Remove the adverbs related to temporality
Item 1.8	Clarity	Reword the item to: Performs exercises to strengthen eye muscles
Item 1.9	Clarity	Fragment the item options: Wear hat / cap when exposing to the sun

		Wear sunglasses when exposed to the sun
Item 1.11	Clarity	Remove the adverbs related to temporality
Item 2.1	Clarity	Remove the adverbs related to temporality
Item 2.2	Vocabulary	Eliminate redundancy
Item 2.3	Clarity	Remove the adverbs related to temporality
Item 3.1	Clarity	Remove the adverbs related to temporality
Item 3.2	Clarity	Add the soap option to the item: Wash your feet with soap/soap when you take a shower
Item 3.3	Vocabulary	Eliminate redundancy
Item 3.7	Clarity	Remove the adverbs related to temporality
Item 3.13	Clarity	Reword the item to: Wears closed shoes (like sneakers) at home and when out on the street
Item 3.16	Clarity	Reword the item to: Wears cotton socks, NO SEWING when wearing shoes/sneakers
Item 3.19	Clarity	Reword the item to: Performs some exercise at home to avoid weakness in the legs and feet.

**Source:** Research Data, 2017.

In addition to the adjustments postulated above, the inclusion of two items to the Practice Construct ("Wear's eye protection [mask] when sleeping" and "Cuts his nails in a straight shape"); change in the scaling of the instrument through temporal adverbs; and a third construct: limitations for self-care were recommended.

The alternative answers were considered a distorting factor to understanding, because they make it difficult to make a judgment. As for the scale of answers, the number of options was kept at five, but adjustments were made to the options: 1 "Never"; 2 "1 to 2 times a week"; 3 "Don't know"; 4 "3 to 6 times a week"; 5 "Always".

The third construct - "limitations to self-care" - was postulated through a question at the end of the instrument, with a dichotomous answer, for which a second question is asked - which ones? - when the answer is positive - "yes".

These suggestions served as a basis for adapting the initially proposed instrument, which contained 45 items in its primary version, to 52 items, which was then submitted to a second evaluation by the judges.

Regarding the judges' considerations to the "relevance" requirement, it is observed that the disagreements occurred on the negative questions. However, these suggestions were not incorporated, since the inclusion of this statement format is a strategy used in scale development, and the CVI remained above the proposal (CVI  $\geq$  0.80).

In the judges' final opinion, based on the requirements of clarity and relevance, all items obtained a CVI between excellent and perfect. In this step, besides this measure, Kappa index was also calculated between the two evaluations performed by each judge, showing perfect classification, or total agreement, for both constructs in the face, hands, and feet dimensions, as shown in Table 2.

**Table 2** - Final opinion of the judges (n=8) about the clarity and relevance of the instrument for the assessment of Attitudes and Self-Care Practices in leprosy. João Pessoa, Paraíba, Brazil, 2017

Requirements	Construct/dimension	2nd assessment	
		CVI	Index Kappa
Clarity	Attitude	1.00	1.00
		Face	1.00
	Practice	Hands	1.00
		Feet	0.99
Relevance	Attitude	1.00	1.00
		Face	1.00
	Practice	Hands	1.00
		Feet	0.99

Source: Research Data, 2017.

## DISCUSSION

The construction of a measurement instrument requires preparation of items that will represent the behavior through the construct of interest<sup>(20)</sup>. However, it is essential that these instruments have reliability and validity to minimize the possibility of subjective judgments<sup>(12)</sup>. Thus, the recognition of the quality of the instruments becomes a fundamental aspect for the legitimacy and credibility of the research results, which reinforces the importance of the validation process<sup>(21)</sup>.

Nesse sentido tem sido frequente a realização desses processos por pesquisas em enfermagem <sup>(21-23)</sup>, no entanto, não foi evidenciado pelas pesquisadoras desta pesquisa, artigos que com perspectiva similar a apresentada relacionada a atitude e prática de autocuidado na hanseníase. In this sense, it has been frequenting the accomplishment of these processes by nursing research <sup>(21-23)</sup>, however, it was not evidenced by the researchers of this research, articles with similar perspective to the one presented related to attitude and practice of self-care in Hansen's disease.

The choice of Raymundo's conceptual model<sup>(12)</sup> and the content analysis technique allowed us to identify and arrange relevant topics to cover the constructs (attitude and practice) and dimensions of self-care with face, hands, and feet in Hansen's disease.

Regarding the two constructs listed for the composition of the instrument, it is worth mentioning that they were arranged together in the same assessment, because attitudes and self-care practices are complex axes of the same adherence process. In general, the instrument assumes that the attitude directs the practice, being the one related to values and/or beliefs that influence decision making, a conjecture pointed out by other studies on the subject <sup>(24,25)</sup>.

Thus, the three items A/B/C (which, after the first assessment by the judges, became six) were arranged with the objective of identifying attitudes, which determine actions influencing positively or negatively the decision to adhere to the practice, identified through items 1.1 to 3.20<sup>(10)</sup>. The judges' considerations about these items consisted in differentiating the issues between observation and care.

The action of observing refers to considering something with attention, while the action of caring is related to the effort of dedicating time (to something) with a certain objective. In this sense, the changes improve the instrument and make it more convergent with the objectives it proposes.

Some items of the construct practice (2.7; 2.8; 3.9; 3.11; 3.14), although reaching CVI  $\geq 0.80$ , received suggestions for reformulation due to their low relevance. It is understood that these are considered practices that should be avoided, as they have great potential to worsen the deformities and physical disabilities of individuals affected by Hansen's disease. In this way, describing them in a positive way would imply in the inversion of the answer scale, a characteristic that is not recommended by the pertinent literature<sup>(11)</sup> because it may cause confusion among the respondents. Thus, the response scales should clearly present a direction continuum.

The change in the response scale (from an agreement scale to a time scale) in the practice construct seems to contribute to clarify the meaning of self-care actions, since it is defined as "procedures, techniques and exercises that the patient himself, duly guided, can regularly perform (emphasis added) at home and in other environments"<sup>(25-27)</sup>.

A study by Galan and collaborators on the evaluation of self-care practices in Hansen's disease, points out that not everyone can adequately practice self-care, showing difficulties in incorporating this activity as a daily life practice. This finding<sup>(24)</sup>, corroborates and justifies the request of the experts.

The practices for self-care are routine, however, performing them sporadically does not make them relevant to the problem of Hansen's disease. In this sense, the individual needs to understand what exactly each action consists of, why it is important for his or her condition specifically, and what possibilities for improvement can be achieved from his or her commitment. They must also be easy to apply and feasible in relation to their motor and financial conditions.

What is observed in the practice of care are "people" on the margins of ready-made orientations, when in the transversality of professional responsibility, the integrality of the subject being cared for should exist.

Concerning the incorporation of instruments adapted for the routine self-care practices of people with Hansen's disease, the research by Maia and collaborators<sup>(28)</sup> revealed relevant contributions to the care of this clientele concerning feelings, perceptions, and significant contents about the social, family, and individual dimensions and the stigma associated to Hansen's disease.

Cavalcante and collaborators<sup>(29)</sup> emphasize in a review about health technologies for the promotion of self-care in leprosy patients, that these are understood as a set of resources developed based on scientific knowledge and real experiences, therefore acting as a transformer of health conditions and re-signifying care practices.

Still on the judges' suggestions regarding the inclusion of the construct "limitations for self-care", this was added to the instrument, since the scientific literature cites a diversity of factors that hinder or limit self-care<sup>(24)</sup>, thus, the factors that make it difficult

to cope with the disease affect self-care and, therefore, should be identified by the health team, which, knowing these coefficients, better directs the individual's care<sup>(30,31)</sup>.

In view of the above, the psychometric validity of the instrument is substantiated as to the evaluation of its content, that is, the representativeness of the items in relation to the content areas and the relevance of the objectives to be measured<sup>(14)</sup>.

Some difficulties were encountered in this study, among which were the small number of specialists who responded positively to the participation request and the high time (over 60 days) for returning the evaluations.

## CONCLUSION

The Hansen's disease process, although potentially known in the scientific community, shelters investigative nuances that border the universe, among other points, of adherence to self-care practices. From this point of view, the development of technologies, strategies and permissive means to its understanding and stakeholders in the care process, culminate as facilitators in the evolution of the quality of care.

Based on this need to expand knowledge, the proposal of an instrument that enables the knowledge of previous practices of individuals, that elucidates the failures of these practices, and that operationalizes the systematization of adherence to self-care practices is not only pertinent but also significant.

The results indicated satisfactory content validity, with the total set of items showing CVI's of categories between great and perfect, while the *Kappa* index showed full agreement for permanence in the instrument.

The choice of the conceptual model allowed us to identify and arrange relevant topics to cover the constructs (attitude and practice) and dimensions of face, hand, and foot self-care in Hansen's disease.

We conclude, therefore, that the technology instrument "Attitude and Self-Care Practice in Hansen's disease: face, hands and feet - APAHansen", validated in this study, presents psychometric characteristics (clarity and relevance), that is, it is compatible with its proposed purpose, that is, to measure the attitude and practice of self-care in Hansen's disease.

It is understood that the process of instrument validation is complex and involves different stages and forms; therefore, the performance of content validity only presents itself as a limitation of this research, although, it should be said, it corresponded to the listed objectives.

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