

ORIGINAL ARTICLE

VALIDATION OF AN INSTRUMENT FOR THE CARE OF OLDER ADULTS WITH CUTANEOUS XEROSIS*

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ABSTRACT

Objective: To build and validate an instrument for nursing care to assess, prevent, and treat cutaneous xerosis in older adults.

Method: A methodological study, carried out from June 2017 to August 2018 in João Pessoa and developed in three stages: integrative literature review, instrument construction, and content validation by a panel of judges who subject matter experts.

Results: Upon completing the validation, the instrument displayed a total content validity coefficient equal to 0.887 from the aspects of language clarity, practical relevance, theoretical relevance and dimension, and Kappa index equal to 0.77.

Conclusion: The instrument proved to be valid, contributing to the practice of nurses as an integral part in the process of caring for the skin of older adults.

DESCRIPTORS: Nursing; Validation Studies; Aging of the Skin; Nursing Care; Health of the Older Adults.

*Article extracted from the Master's thesis entitled "Nursing Care for the Assessment, Prevention and Treatment of cutaneous xerosis in older adults". Federal University of Paraíba, 2019.

HOW TO REFERENCE THIS ARTICLE:

Cruz RA de O, Ferreira TMC, Figueiredo EG de, Agra G, Oliveira J dos S, Costa MML. Validation of an instrument for the care of older adults with cutaneous xerosis. *Cogitare enferm.* [Internet]. 2020 [accessed "insert day, month and year"]; 25. Available from: <http://dx.doi.org/10.5380/ce.v25i0.67951>.

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VALIDAÇÃO DE INSTRUMENTO PARA CUIDADO DA PESSOA IDOSA COM XEROSE CUTÂNEA*

RESUMO

Objetivo: construir e validar um instrumento para os cuidados de Enfermagem para avaliar, prevenir e tratar a xerose cutânea em pessoas idosas.

Método: estudo metodológico, realizado no período de junho de 2017 a agosto de 2018, em João Pessoa, desenvolvido em três etapas: revisão integrativa da literatura, construção do instrumento e validação de conteúdo sob um painel de juízes expertises na área.

Resultados: mediante a realização da validação, o instrumento apresentou um coeficiente de validade de conteúdo total igual a 0,887 a partir dos aspectos clareza da linguagem, pertinência prática, relevância teórica e dimensão e índice de Kappa igual a 0,77.

Conclusão: o instrumento mostrou-se válido, contribuindo para a prática dos enfermeiros como parte integrante no processo do cuidar da pele de pessoas idosas.

DESCRITORES: Enfermagem; Estudos de Validação; Envelhecimento da Pele; Cuidados de Enfermagem; Saúde do Idoso.

VALIDACIÓN DE UN INSTRUMENTO PARA EL CUIDADO DE ADULTOS MAYORES CON XEROSIS CUTÁNEA

RESUMEN:

Objetivo: construir y validar un instrumento para los cuidados de Enfermería con el fin de evaluar, prevenir y tratar la xerosis cutánea en adultos mayores.

Método: estudio metodológico realizado entre junio de 2017 y agosto de 2018 en João Pessoa, y desarrollado en tres etapas: revisión integradora de la literatura, construcción del instrumento y validación del contenido por parte de un panel jueces expertos en el área.

Resultados: una vez finalizada la validación, el instrumento presentó un coeficiente de validez de contenido total igual a 0,887 a partir de los siguientes aspectos: claridad de lenguaje, pertinencia práctica, relevancia teórica y dimensión e índice de Kappa igual a 0,77.

Conclusión: el instrumento demostró ser válido, lo que contribuye a la práctica de los enfermeros como componente del proceso del cuidado de la piel de los adultos mayores.

DESCRIPTORES: Enfermería; Estudios de Validación; Envejecimiento da Piel; Cuidados de Enfermería; Salud del Adulto Mayor.

INTRODUCTION

The senior population has been growing all over the world and this condition results in the transformation of the population profile. Situations such as the reduction in mortality and birth rates cause changes in the age structure to occur, requiring an adequate response from society, since life expectancy is estimated to be approximately 80 years old until 2040⁽¹⁾.

In this context, both in Brazil and in other countries, it has been perceived that the implications go beyond changes in the demographic picture, making the attention about the important changes in the epidemiological panorama salutary, due to the increase in Chronic Non-Communicable Diseases (CNCDs)⁽²⁾. However, chronological age should not be considered as an accurate marker for the changes that accompany aging, as there are differences related to health status, as well as the multi-factorial context in which the older adult is found⁽¹⁾.

Among the physical and structural changes found in older adults, cutaneous xerosis appears as the most common skin change. It is a modification in the stratum corneum characterized by impaired proliferation and differentiation of keratinocytes, lipid content, hydration, pH and sebum production, which provokes dryness and itching, causing loss of sleep, emotional distress, and reduced quality of life⁽³⁾.

Among several responsibilities, nurses are in charge of the assessment, prevention, and treatment of the conditions inherent to skin integrity, making indispensable the knowledge and practices about risk factors, physiology, anatomy, and stages of the healing process. This knowledge makes it possible to carry out a situational diagnosis of the injury, in addition to guiding the use of appropriate technologies for prevention and treatment. It should be noted that injury prevention and treatment are dynamic processes and must accompany scientific and technological developments⁽⁴⁾.

It is in the Nursing Process (NP) that it becomes possible to guide, target, and organize the professional care. During its execution, there is a need for theoretical support to facilitate the path of assistance with regard to care. In Brazil, the most widely used theoretical model has been Horta's Theory of Basic Human Needs (TBHN), which guides nursing care in the psychobiological, psychosocial, and psycho-spiritual dimensions⁽⁵⁾.

When performing the NP, nurses define diagnoses, results, and interventions, as well as record their actions and nursing care, supporting the professional practice. Under this light, it is necessary to build valid and reliable instruments for executing the care actions, as well as to develop research studies whose purpose is to measure phenomena in the health area. Content validity is one of the types of validation that include a judgment made by specialists in the field, and aims to determine whether the instrument is capable of representing a behavior of the sample under evaluation, in addition to verifying whether the representativeness of the items adequately expresses the content to be evaluated⁽⁶⁾.

There is lack of valid measuring instruments in the literature for nursing cares aimed at the skin of older adults. A number of researchers have warned about the need for an in-depth assessment of the measurement properties of questionnaires. It is necessary to remain attentive to the choice of an adequate and precise instrument in order to guarantee the quality of its results and the detailed understanding of the items, domains, types of evaluation and, especially, measurement properties before use⁽⁷⁾.

Given the above, this study aims to build and validate an instrument for nursing care in order to assess, prevent, and treat cutaneous xerosis in older adults.

METHOD

This is a methodological study of content validation, which took place in three stages carried out from June 2017 to August 2018. The first dealt with an integrative literature review about nursing cares for assessing, preventing, and treating cutaneous xerosis in older adults; the second was the construction of the instrument; and the third, the content validation process made by the judges.

First stage: Integrative literature review

The development process of the instrument involved a search for items representative of the construct under investigation, such as the Standardized Language Systems (SLS) in Nursing, as well as the construction of an integrative literature review on scientific articles indexed in on-line national and international databases and libraries, namely: LILACS (Latin American and Caribbean Literature in Health Sciences); SciELO (Scientific Eletronic Library Online Virtual Library); PubMed (U.S. National Library of Medicine) and CINAHL (Cumulative Index to Nursing and Allied Health Literature).

Second stage: Construction of the instrument

From this literature review process, an instrument consisting of 32 items and three dimensions was built: 1 – Evaluation of the skin of the older adult; 2 – Products used for preventing and treating cutaneous xerosis, and 3 – Nursing Care in the presence of the Impaired Skin Integrity Nursing Diagnosis related to cutaneous xerosis.

Third stage: Validation of the content of the instrument

For content validation, the process of elaboration and judgment by specialists aims to define the theoretical universe and the different dimensions of the concept to be observed and measured. Lynn⁽⁸⁾ recommends that, in relation to the number of judges, a minimum of five and a maximum of 10 experts are to be considered. For selection, the criteria were established according to the Fehring Model, which consists of having experience in the area, being a scholar and having carried out studies on the theme, participating in research groups, projects, and events that address the subject, in addition to obtaining adequate knowledge about the physical and psychosocial aspects that encompass the population^(9,10).

Five judges were selected based on Fehring's adapted criteria, and expertise was considered to be the one that obtained a score of at least five points. These criteria were the following: Master's degree in Nursing - four; Master's degree in Nursing with dissertation targeted to relevant content of the Nursing diagnosis under study - one; publication of an article on Nursing diagnosis in reference journals - two; published article on Nursing diagnoses and with content relevant to the area - two; PhD in the field of Nursing diagnosis - two; clinical experience of at least one year in the field of the diagnosis under study - one; and certificate of relevant clinical practice in the field of the diagnosis under study - two. The higher the score, the greater the evidence strength of the assessment⁽¹¹⁾.

As for the technique for the analysis of agreement between the judges, Delphi⁽¹²⁾ was chosen, since the objective is to achieve maximum consensus among a group of specialists on a given topic. The filling of the instrument occurs in rounds: in the first, the researchers are asked to provide opinions based on knowledge and experience and these are analyzed, reviewed, and grouped in a second version; the second consists of the analysis by the judges on the results of the first stage and in sending new answers or justifications, if they believe they are relevant⁽¹²⁾.

Agreement analysis

The judges were asked to evaluate adequacy in relation to the clarity of the language, practical relevance, theoretical relevance and dimension, which were displayed in tables,

followed by four columns. For the judges' answers, a five-point Likert scale was used: one (very little); two (little); three (mean); four (a lot), and five (extreme). In the case of inadequacies in items and/or domains, an area was reserved for comments, justifications, and suggestions.

For the statistical treatment, the data obtained were compiled using the Statistical Package for the Social Sciences (SPSS) software, version 25.0. To determine the relevance of each item addressed, scores from three on the Likert scale were considered, which comprised a 75% favorable consensus. The Kappa concordance test for multiple evaluators was also applied, in order to measure the degree of agreement beyond what would be expected only by chance. This measure of agreement has a maximum value of one, which represents total agreement⁽¹³⁾. In this study, a minimum value of 0.61 of agreement among the judges was considered, a substantial criterion for defining the number of rounds during Delphi⁽¹²⁾.

Then, the Content Validity Coefficient (CVC) was calculated, as shown in Figure 1, which made it possible to ascertain the degree of agreement for each judge. After calculating the Total Content Validity Coefficient (TCVC), items with TCVC values > 0.8 ⁽¹⁴⁾ were considered acceptable.

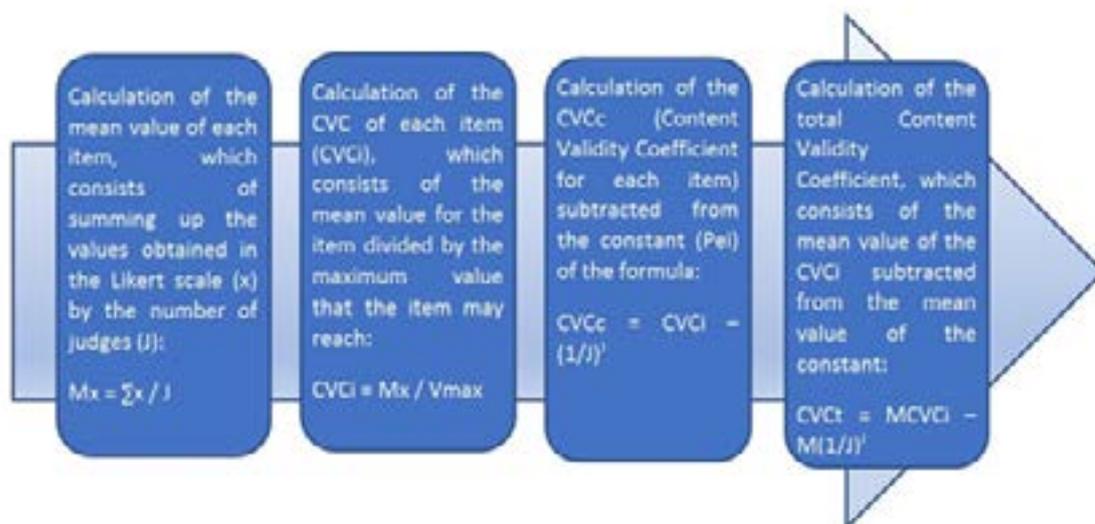


Figure 1 - Flowchart on the steps for calculating the TCVC. João Pessoa, PB, Brazil, 2018

The research was approved by the Research Ethics Committee of the Federal University of Paraíba, under Protocol No. 2,731,985.

RESULTS

The instrument was built from an integrative literature review on the theme, where 1,840 productions were found in the respective databases and nursing SLS and, of those, 14 were part of the final review corpus.

Content validation took place with five women judges, PhDs in Nursing, with expertise in the area of adult and older adult health; four were from the state of Paraíba and one from the state of Pernambuco, contemplating experience in teaching, research, extension, and assistance, with a mean age of 48 years old and a mean time of professional practice of 26 years. Based on Fehring's criteria, all scored above ten points.

It was up to the judges to identify items that were perhaps not adequate and, in the meantime, it was possible to determine the validity of the content from the aspects of language clarity, practical relevance, theoretical relevance and dimension, assuming a TCVC = 0.887 in the instrument in general from the calculation of the mean, according to the results of the TCVC per item displayed in Chart 1.

Chart 1 – Distribution of the TCVC values for the items of the “Nursing Care for assessing, preventing, and treating cutaneous xerosis in older adults” instrument. João Pessoa, PB, Brazil, 2018 (continues)

DIMENSION	ITEM	TCVC
I – Evaluating the skin of the older adult	1. It is important to consider the age group.	0.913
	2. I assess the color of the skin.	0.979
	3. I assess the turgor and elasticity of the skin.	0.813
	4. I observe the patient's temperature.	0.846
	5. I don't consider excess moisture.*	0.813
	6. I look for cracks.	0.813
	7. I observe the existence of injuries on the skin.	0.916
	8. I observe the presence of flaking.	0.946
	9. I observe the presence of itching.	0.896
	10. I keep an eye out for cold exposure.	0.913
	11. I use imported equipment that assesses skin hydration.	0.810
II – Products used for preventing and treating cutaneous xerosis	12. To choose the type of moisturizer I do not consider skin evaluation.*	0.814
	13. I use Essential Fatty Acids-based products.	0.996
	14. I use 10% or 20% urea creams.	0.996
	15. I use barrier cream.	0.846
	16. I use any moisturizer that is available.	0.929
	17. I apply Aloe Vera-based formulations.	0.846
	18. I use medium chain triglycerides-based formulations.	0.829
	19. I apply mineral oil.	0.946
III – Nursing care actions prescribed in the presence of the Impaired Skin Integrity Nursing Diagnosis related to cutaneous xerosis	20. Inspect skin conditions daily.	0.946
	21. Record the findings about the patient's skin.	0.946
	22. Identify patients at risk for skin injuries due to dryness.	0.841
	23. Hydrate the skin with the appropriate products.	0.996
	24. Be aware of maceration areas.	0.841
	25. Be aware on hyperemia areas.	0.916
	26. Carefully evaluate the lower limbs, especially the interdigital areas.	0.996

	27. Provide body hygiene whenever necessary.	0.913
	28. Provide intimate hygiene whenever necessary.	0.946
	29. Remove residues adhered to the skin from fixatives.	0.813
	30. Discuss with the nursing team the need to increase oral or parenteral hydration.	0.907
	31. Guide family members about the signs of dry skin in the patient.	0.996
	32. Guide the nursing team regarding the water temperature.	0.946
	33. Guide the nursing team regarding the use of the appropriate soap.	0.946
	34. Guide for self-care.	0.979
Calculation of the instrument's general TCVC.		0.887

*Items five and 12 are negative phrases and the score achieved depicts exactly the opposite.

The instrument, initially composed of 32 items, now has 34 after content validation, obtaining high TCVC values of 0.8 among the judges, thus allowing for the validation to be achieved. In the primary version, the only recommendation was to separate items 24 and 25, as well as items 27 and 28, which were together in the same statement. Regarding the Kappa index, the instrument obtained a value of 0.77, which is considered substantial, indicating good agreement from a significance level of 0.05.

With regard to the presence of each item within the three dimensions proposed for the instrument, there was a considerable level of agreement, with values over 80%, therefore considered adequate in view of the five women evaluators.

DISCUSSION

Considering the instrument in question, it was observed that items five and 12, which try not to consider excess moisture and do not consider the evaluation of the skin for the choice of a moisturizer, respectively, are negative statements. The use of negative statements in assessment instruments does not result in loss of internal consistency and still allows for the assessment of consistency and the presence of biases in the answers⁽¹⁵⁾.

The involvement of the skin of older adults is gradual and a natural aging process, which, by itself, constitutes a risk factor for the development of injuries. Nurses with knowledge on the physiology, types, and characteristics of the skin will be able to more accurately define exact Nursing Diagnoses (NDs), list Nursing Interventions (NIs), and prescribe the necessary care actions for promoting the prevention and treatment of cutaneous xerosis⁽¹⁶⁾.

Hydration is an essential condition for life and necessary for homeostasis, being intrinsically related to Wanda Aguiar Horta's Theory of Basic Human Needs, whose principles are hemostasis, holism, and adaptation. It represents a theoretical-methodological model that underlies Nursing Care Systematization (NCS) and is one of the most widely used Nursing theories in the country, guiding the construction of the knowledge of the profession, helping to recognize reality and to define roles, promoting qualification and improving professional performance⁽¹⁷⁾.

Dryness and flaking are complications triggered by changes in the amount of water and consequent complications in the barrier function. Thus, the most affected skin layer is the outermost layer of the epidermis, the stratum corneum, composed of corneocytes,

with their natural hydration factors, and an intracellular lipid bilayer that, when working in harmony, guarantee skin integrity and hydration⁽¹⁸⁾.

A study carried out in Berlin with 280 older adults residing in long-term institutions concluded that, of a total of 60 dermatological diseases, cutaneous xerosis was the most frequent, representing a total of 99.1%⁽¹⁹⁾. Regarding the use of products to treat and prevent dryness, a study conducted with 50 patients aged between 61 and 70 years old verified that 39.3% used essential fatty acids to prevent or treat skin injuries⁽²⁰⁾.

When subjected to cold, older adults have greater difficulties with regard to the regulation of body temperature, which leads some professionals to increase water temperature during the performance of procedures such as bathing and intimate hygiene. Even though they are scarce, publications on the ideal temperature value have recommended a variation between 34° and 36° for the bath, since hot water dries out the skin and removes natural oil⁽²¹⁾.

A study that evaluated the implications of bed bathing and the conditions for the appearance or worsening of dry skin conditions concluded that, in addition to choosing the appropriate soap, there is a need for hydration after the procedure. In view of the variety of products and with the availability of more than 100 different brands, knowledge and responsibility are required for the choice, indication of products, and specific care performed by these professionals, in order to maintain and promote skin integrity⁽²²⁾.

Some products continue to be used mainly for access in terms of availability, as well as because of their value. Hydrophobic dermocosmetics, rich in silicone and mineral oil, can improve the appearance of dry skin, with scars and/or stretch marks. On the other hand, with the availability of natural products, the use of products based on oils rich in linoleic acid and other polyunsaturated fatty acids has increased. The mechanisms by which these fatty acids act vary from changes in the organization of collagen to the inhibition of post-inflammatory mediators, in addition to helping normalize the integrity and development of the stratum corneum⁽²³⁾.

When subjected to moisture and consequent maceration, xerotic skin requires immediate cleaning care combined with the use of a moisturizer. In a systematic literature review carried out at the end of 2016, it was possible to conclude that, after carrying out these interventions, one should proceed with the application of a barrier cream. Skin protection is an essential stage, so it is advisable to use and apply a long-lasting barrier cream or polymer film in spray in cases where the skin is scaly and dehydrated⁽²⁴⁾.

Regarding the use of urea, creams or emulsions are available on the market at 10%, 5%, and 3% where there is significant moisturizing action in all the concentrations evaluated, especially within six hours after a single application. However, the intensity and duration of the moisturizing effect have a correlation with the concentrations used. However, in a controlled, double-blind and randomized clinical trial carried out in São Paulo-SP, the presence of symptoms related to irritation (burning, tingling, and itching) was verified with a concentration of 10%, suggesting that the irritation caused by urea can be reduced by simply reducing the concentration. In order to achieve significant hydration levels over time, a higher frequency of application is recommended when lower concentrations are used⁽²⁵⁾.

The evaluation in a systematic and daily way contributes to the prevention of injuries, as well as the registration for the purposes of monitoring and aid in decision making. A study conducted in Campo Grande-MT with 104 nurses verified that skin inspection was prescribed by 18.3% of the nurses to patients and obtained a statistical association with the absence of pressure injuries. The assessment must include risk stratification or presence of skin injuries⁽²⁶⁾.

Regarding xerosis related to specific areas, it has been observed that the feet and legs are the most affected places. In Berlin, during a study conducted with 835 subjects in hospitals and long-stay institutions (LSIs), it was found that 48.8% had dry skin. The

prevalence was higher in LSIs, and the most affected areas were feet and legs, followed by hands and arms⁽²⁷⁾.

The limitations of the study correspond to the technique of selection of judges, which restricted its number and geographical distribution, in addition to the need for its clinical application, in search for more precise and specific indicators.

CONCLUSION

The study allowed for the construction and validation of the "Nursing Care for the assessment, prevention, and treatment of cutaneous xerosis in older adults" instrument. It proved to be valid and reliable after the content validation process by expert judges, allowing for the possibility of contributing to the practice of nurses with skin care actions for the older adults. It is highlighted that, as its theoretical-conceptual basis, it presented Horta's Theory of Basic Human Needs, being possible to add the care herein presented when considering the need for hydration inherent to the set of psychobiological needs.

The instrument may contribute to improvements with regard to the skin care actions for older adults, in addition to instigating researchers to carry out new studies that can assess the quality of care related to the theme, since its application will enable assistance in managerial decision making and achieving effectiveness in the care management.

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Received: 11/07/2019

Finalized: 23/06/2020

Associate editor: Susanne Elero Betioli

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Final approval of the version to be published - TMCF, EGF, GA, JSO, MMLC



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