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Adaptation of "Perineal Assessment Tool" for Brazilian culture

Adaptação do instrumento "Perineal Assessment Tool" para a cultura brasileira

Adaptación del instrumento "Perineal Assessment Tool" para la cultura brasileña

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ABSTRACT

Objective: To translate and adapt the "Perineal Assessment Tool" for Brazilian culture. **Method:** A methodological study constituted by the following stages: translation, synthesis, back-translation, analysis by a judges committee and pre-test. **Results:** The evaluation of produced versions was realized by a committee of five judges who analyzed the semantics, idiomatic and cultural equivalence. A cultural validation index equal to or greater than 0.91 was obtained. A pre-test was performed, applying the pre-final version to 37 nurses, with the purpose to evaluate the understanding and relevance through the application of an instrument elaborated based on the Likert analysis. An average of 4.6 was obtained. **Conclusion:** Cultural adaptation of the instrument "Perineal Assessment Tool" performed in a satisfactory way, however, it is necessary to evaluate the psychometric properties, already in the process of development.

DESCRIPTORS: Dermatitis; Fecal incontinence; Validation studies; Stomatherapy

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RESUMO

Objetivo: Traduzir e adaptar o instrumento "*Perineal Assessment Tool*" para a cultura brasileira. **Método:** Estudo metodológico constituído pelas seguintes etapas: tradução, síntese, retrotradução, análise por um comitê de juízes e pré-teste. **Resultados:** A avaliação das versões produzidas foi realizada por um comitê de cinco juízes que analisaram a equivalência semântica, idiomática e cultural. Foi obtido um índice de validação cultural igual ou superior a 0,91. Foi realizado um pré-teste, aplicando-se a versão pré-final a 37 enfermeiros, com o objetivo de avaliarem a compreensão e relevância por meio da aplicação de um instrumento elaborado com base na análise de *Likert*. Foi obtida uma média de 4,6. **Conclusão:** Adaptação cultural do instrumento "*Perineal Assessment Tool*" realizada de maneira satisfatória, entretanto mostra-se a necessidade da avaliação das propriedades psicométricas, já em processo de desenvolvimento.

DESCRITORES: Dermatite; Incontinência fecal; Estudos de validação; Estomaterapia

RESUMEN

Objetivo: Traducir y adaptar el instrumento "*Perineal Assessment Tool*" para la cultura brasileña. **Método:** Estudio metodológico constituido por las siguientes etapas: traducción, síntesis, retrotraducción, análisis por un comité de jueces y pre-prueba. **Resultados:** La evaluación de las versiones producidas fueron realizadas por un comité de cinco jueces que analizaron la equivalencia semántica, idiomática y cultural. Fue obtenido un índice de validación cultural igual o superior a 0,91. Fue realizada una pre-prueba, aplicándose la versión pre-final a 37 enfermeros, con el objetivo de evaluar la comprensión e importancia por medio de la aplicación de un instrumento elaborado con base en el análisis de *Likert*. Fue obtenido un promedio de 4,6. **Conclusión:** Adaptación cultural del instrumento "*Perineal Assessment Tool*" realizada de manera satisfactoria, sin embargo se muestra la necesidad de la evaluación de las propiedades psicométricas, ya en proceso de desarrollo.

DESCRIPTORES: Dermatitis; Incontinencia fecal; Estudios de validación; Estomaterapia

INTRODUCTION

Incontinence-associated dermatitis (IAD) is a type of irritative contact dermatitis that causes an inflammatory process of the skin associated with exposure to the urine and feces of incontinent patients, often accompanied by erosion and the risk of secondary infections, among them, fungal and bacterial infections. It is a complex disease that causes considerable discomfort; is painful and can be slow and expensive to treat[1-3].

The IAD is derived from the damaging effects of urine and feces on the skin and is related to the pH of the aggressor agent, the contact time of the agent with the skin, the type of restraining device used and the physiological conditions of the epidermis. The normal pH of the epidermis varies from 5.0 to 5.9 and this value contributes to the functions of skin barrier and the defense mechanisms to microbial agents. The urine and feces pH ranges from 5.5 to 6.5 and 7.0 to 7.5, respectively, and alkalinity also contributes to damaging effects on the epidermis[4].

The moisture of the skin is not necessarily harmful, however, excess moisture and prolonged contact with acid or alkaline substances present in the urine or feces can alter the endogenous microbial flora of the epidermis and increase the permeability of the stratum corneum, making it more susceptible to friction and erosion. Microorganisms from enteric flora or environmental exogenous flora can colonize injured skin, increasing the risk of secondary infection[1,2,4].

The prevention is based on avoiding or minimizing exposure to feces or urine integrated with a structured skin care program based on principles of gentle cleaning, hydration and application of a skin protector. The treatment of IAD is based on three main objectives: removal of irritant substances to the skin, treatment of secondary infections and containment or deviation of urine or incontinent feces[1,2].

The IAD is not related with gender, age or ethnicity, and the main risk factor is urinary and/or anal incontinence in people using protection devices (diapers/napkins), although a higher prevalence is indicated in bedridden and elderly individuals[5].

The incidence of IAD has a high variation and depends on the population studied and on the design of the study itself[1]. Some studies highlight the necessity for differential diagnosis of pressure injuries in categories I and II, since clinical signs of persistent erythema, inflammation, rash, pain and prurigo are similar to these lesions[2].

In the literature, there are still few quantitative studies about IAD, which results in a discrepant variation in terms of incidence and prevalence. Epidemiological studies are usually performed with specific populations and there is the necessity of development of research to determine the occurrence of IAD in health care services[2].

In most health care services in Brazil, there are no validated instruments for the evaluation and identification

of IAD, which makes it difficult to control risks and to systematize nursing care[2]. Instruments like "Perineal Assessment Tool", elaborated by Denise Nix[6], "Perirectal Skin Assessment Tool", proposed by Brown and Sears[7], and "Skin Assessment Tool" developed by Kennedy and Lutz[8], if adapted and validated for the Portuguese language can be facilitators in this process[5].

The evaluation scale elaborated by Denise Nix identifies the risk factors for the development of IAD: type of irritant agent, duration of contact, perineal skin condition and total number of risk factors for diarrhea, such as decreased serum albumin, tube feeding , use of antibiotics and colonization or enteral infection with *Clostridium difficile*[6].

Several terms were used to describe skin lesions associated with incontinence prior to the consensus proposed by Gray and colleagues[2] in 2007, such as moisture maceration, perineal dermatitis, irritative dermatitis, contact dermatitis, diaper dermatitis, intertrigo and heat rash, being that many injuries described were not always associated with fecal or urinary incontinence[2].

Studies emphasize that prevention measures, diagnostic criteria and skin care protocols can reduce the incidence of IAD[9, 10]. Therefore, the translation and adaptation of an instrument for perineal evaluation will serve as a tool for the early recognition of risks for the development of IAD and its complications.

OBJECTIVE

To translate and adapt the "Perineal Assessment Tool" for Brazilian culture.

METHODS

It is a methodological type study characterized by the process of development and testing of a data collection instrument. This research approaches the measurement and statistics that involve the theoretical aspects of the data collection instrument[11].

The process of cultural adaptation of the instrument "Perineal Assessment Tool" was followed by the stages of translation, synthesis, back-translation, analysis by a judges committee and pre-test, recommended by the international literature[12,13]. These methodological steps have been followed in order to guarantee the quality of the adapted instrument, as well as its equivalence with the original instrument.

The approval for the translation and adaptation of the instrument "Perineal Assessment Tool" was authorized by Denise H. Nix.

The original instrument has the purpose of identify risk factors for the development of IAD and consists of the evaluation of 17 items regarding the type of irritant agent, the duration of the contact, the condition of the perianal skin and the number of contributing factors that can cause diarrhea. Each risk factor is divided into scores, ranging from one (lower risk) to three (higher risk), with seven to eight being the best range to distinguish high from low risk for developing IAD.

Translation, synthesis and back-translation

The translation of the instrument from the English version into the Portuguese language was realized by two Brazilian translators, independently, and only one of them was informed about the objectives of the study. The original version was provided for the two translators: one resident of the United States of America (USA) for more than six years and one who has resided in the USA for more than 15 years and it is a health professional.

Each translator produced a Portuguese version, which is called "Portuguese translation version 1" and "Portuguese translation version 2".

To produce the synthesis, the researchers of the study had the participation of an external researcher and the advisor, who gathered the two versions translated for the culture of Brazil, comparing them and obtaining a consensual version in Portuguese, from the divergences and similarities in translations.

The back-translations were realized by sending the synthesis of the Portuguese version to two North American translators, who had lived in Brazil for over five years, being a nurse and a language teacher, fluent in the target language (Portuguese) and who had English as native language.

These translators were not aware of the purpose of the study and did not have access to the original version of the instrument. Each one of them elaborated their respective version, denominated "version for English - translator 1" and "version for English - translator 2".

Judges Committee

The evaluation of the produced versions was realized by a committee of five judges, composed of three specialist nurses in patients care with IAD, a specialist nurse in methodological studies and a linguist, who received a letter of invitation clarifying the purpose of the research.

Each member of the judges committee was informed about the measures and concepts involved and received an assessment instrument designed to guide the application of the process, with specific instructions for analyzing the semantics, idiomatic and cultural equivalences for each of the items of the instrument.

The semantics and idiomatic equivalence refers to the meaning of words and the use of equivalent expressions in both languages. In the analysis of the idiomatic equivalence, the judges were invited to verify expressions or words of colloquial use. The cultural equivalence refers to terms that express daily situations or activities in our cultural context[12].

The first stage of this phase consisted in the quantitative analysis of the individual answers of the specialists for each of items, and the content validity index (CVI) was determined. The items were evaluated individually and for each of them the semantics-idiomatic and cultural equivalences were evaluated as: 1 = not equivalent; 2 = impossible to evaluate equivalence without reviewing the item; 3 = equivalent, but requires minor changes; and 4 = absolutely equivalent.

In order to ensure the reproducibility of the instrument in Brazilian culture, judges were allowed to suggest adaptations, modify or eliminate items considered irrelevant, inappropriate and/or ambiguous, and, if this is the case, to present others more culturally appropriate, in order to minimize misunderstandings.

To obtain agreement on the conceptual equivalence, the calculation of the CVI (Eq. 1) was adopted. The evaluations of each judge were contrasted, calculating the CVI for each judge. Scores below score 4 were revised and, if necessary, modified[14,15].

$$CVI = \frac{\text{Nº. of items evaluated as equivalent (score 3 or 4)}}{\text{Total Scale Items}}$$

where: CVI = content validity index.

In order to verify the validity of new instruments in general, some authors suggest a minimum agreement of 0.80[16-18]. In this study, the established values were 0.90 or more.

The qualitative analysis of the items was performed through the evaluation of the suggestions and disagreements in the proposed version and the original instrument, aiming for identification and modification to the activities considered culturally not compatible with the target population.

After completing this phase, the pre-final version of the instrument was obtained, called "Perineal Assessment Tool - Brazilian version".

Pre-test

The feasibility of the pre-final version of the Perineal Assessment Tool - Brazilian version was tested by guest care nurses from the city of São Paulo, after their consent. The evaluation of the translated instrument was realized by means of a sociodemographic characterization form, followed by a modified feasibility assessment instrument and the Perineal Assessment Tool - Brazilian version. The instrument consisted of two items, on a five-point Likert type response scale, in which: 1 = totally disagree and 5 = totally agree.

The pre-test had a sample of 37 care nurses. The answers were presented through a table with absolute frequency (n) and percentage (%) values for each of the response alternatives. Averages close to five indicate a greater understanding of the items[19].

RESULTS

The stages of translation, synthesis and back-translation were successfully achieved without difficulties and did not require significant modifications. The evaluation of the synthesis version of the scale by the judges committee had a variation of five to seven days for devolution.

The committee members suggested changes in the title and translation of the word "irritant" and these items were re-evaluated and modified. The layout and name of the final version of the instrument were kept as in the original instrument, with the name "Perineal Assessment Tool" plus the term "Brazilian version", to facilitate international scientific access. All items of the instrument obtained an CVI equal to or greater than 0.91.

After the suggested modifications, the pre-final version was obtained and the pre-test was performed. The pre-test consisted in the presentation of the pre-final version for 37 nurses, being 81% women and 19% men. The mean age

was 33 years (SD = 6.07), with 59% of the nurses having specialization in different areas and 11% with stricto sensu postgraduation in master's degree (Table 1).

With regard to occupational categories in the institution, 19% of the respondents work in critical units with care for serious patients, 54% work in a medical-surgical unit and 27% work in a specialized medical outpatient clinic or in a home care service (Table 1).

The items of the instrument were reported as easy to understand by 68% of respondents and 70% reported interesting to have support from an instrument for perineal assessment (Table 2).

DISCUSSION

In the Brazilian culture, publications of instruments were not found with the purpose to evaluate the perineum for the risk classification of IAD. The cultural adaptation has been recommended when instruments for a given purpose are not available in a culture and also for contribute to the comparison of results and facilitating cross-cultural studies[20].

Rating scales are used both in generic instruments that assess a wide variety of health problems and in specific instruments that assess aspects restricted to a particular disease and/or treatment or risk to its development. Although health problems are similar in people with the same needs or under the same care or procedures, many instruments are created in a specific culture and reflect the reality of that population. For this reason, translation and standardization of foreign instruments have become a new area of activity in scientific production, mainly among health professionals[21].

During the translation and back-translation stages, there was not necessity to change the direction of the questions or the withdrawal or addition of sentences, so the greatest care was to reach a consensus when it tried to obtain semantics, idiomatic and cultural equivalence.

Table 1. Distribution of the number of patients according to gender, schooling and occupation. São Paulo, São Paulo, Brazil, 2013.

Variables	n	%
Gender		
Female	30	81
Male	7	19
Schooling		
Graduation	11	30
Specialization	22	59
Master Degree	4	11
Occupation		
Critical units	7	19
Medical-surgical unit	20	54
OSD (Outpatient Specialty Doctor)/ Home care	10	27

Table 2. Assessment of the feasibility of the Perineal Assessment Tool - Brazilian version according to nurse's opinion (n = 37). São Paulo, São Paulo, Brazil, 2013.

Nurses opinion	TD		PD		NO		PA		TA	
	n	%	n	%	n	%	n	%	n	%
I thought easy to understand the scale evaluation items	0	0	0	0	1	2	11	30	25	68
I thought interesting to have a support of an instrument for perineal risk assessment	0	0	0	0	2	6	9	24	26	70

PA = partially agree; TA = totally agree; PD = partially disagree; TD = totally disagree; NO = I have no opinion.

The participation of professionals from both the linguistic and health areas for the production of the translations facilitated the adaptation of the items of the instrument to the Brazilian culture and the appropriate use of the language. The back-translations were performed by professionals who did not have access to the original version of the instrument and verified that the translated version reflects the content of the original version.

In the judges committee, there was the participation of different professionals with experience in the methodological procedure and the concept explored. The specific instructions provided for the analysis of equivalences allowed that the judges developed an initial assessment independently.

The pre-final version of the synthesis that was applied to health professionals had the purpose to evaluate the difficulties in filling in and identify questions or words that are difficult to understand through an instrument developed by the researchers themselves. With the pre-test, it was possible to evaluate different interpretations of the meaning of each item of the instrument. We highlighted that the profile of these professionals, all with academic background and experience in clinical practice, may have contributed to the understanding of the items and the relationship with IAD.

Regarding the practicability and relevance of the instrument, a significant percentage of nurses who considered it important to use the scale in their practice, showed a recognition of the problem.

The methodological rigor of the cultural adaptation of this instrument made possible the equivalence of the original version with the obtained version. The procedure of translation and cultural adaptation of the Perineal Assessment Tool - Brazilian version (Appendix I) was realized in a systematized way and considered satisfactory.

CONCLUSION

The phases of cultural adaptation, translation, synthesis of translations, back-translation, review by the committee of experts and pre-test of the instrument "Perineal Assessment Tool" were realized satisfactorily.

The availability of this instrument for Brazilian culture may contribute to the prevention of IAD in the at-risk population. Further studies with larger casuistry and evaluation of other properties of psychometric measures will be performed.

AUTHOR'S CONTRIBUTION

Conceptualization, Brandão ACMAG; Gambin CC; Majado CA; Kunitake N and Dantas SRPE; Methodology, Alexandre NMC and Dantas SRPE; Writing - First version, Brandão ACMAG; Gambin CC; Majado CA and Kunitake N; Writing - Review and Editing, Brandão ACMAG and Dantas SRPE.

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APPENDIX I

Perineal Assessment Tool – Brazilian version

Intensidade do irritante *Tipo e consistência do irritante*	**3** Fezes líquidas com ou sem urina	**2** Fezes amolecidas/ pastosas com ou sem urina	**1** Fezes formadas e/ou urina
Duração do irritante *Tempo de exposição da pele ao irritante*	**3** Troca de lençol ou fralda ao menos a cada 2 horas	**2** Troca de lençol ou fralda ao menos a cada 4 horas	**1** Troca de lençol ou fralda ao menos a cada 8 horas
Condição da pele perineal *Integridade da pele*	**3** Desnudada/ com erosão, com ou sem dermatite	**2** Eritema/dermatite com ou sem candidíase	**1** Íntegra e sem alteração de coloração
Fatores contribuintes (diarreia) **Albumina sérica baixa, uso de antibióticos, cateteres de alimentação ou infecção por *Clostridium difficile* e outros**	**3** Três ou mais fatores contribuintes	**2** Dois fatores contribuintes	**1** Nenhum ou um fator contribuinte