The translation and adaptation of the Gaudenz-Fragebogen to the Brazilian culture*

TRADUÇÃO E ADAPTAÇÃO PARA A CULTURA BRASILEIRA DO GAUDENZ-FRAGEBOGEN

TRADUCCIÓN Y ADAPTACIÓN PARA LA CULTURA BRASILEÑA DEL GAUDENZ-FRAGEBOGEN

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ABSTRACT

The article describes the translation and adaptation of the Gaudenz-Fragebogen, an instrument of German origin used to diagnose female urinary incontinence, to the Brazilian culture. The steps recommended by international literature were followed: translation, synthesis of translations, back translation, valuation of the synthetic version by a board of specialists and pre-test. The process of translation and adaptation was adequately accomplished, and the instrument was demonstrated to be easily understood. This instrument was used in other studies prior to the validation process, and using the instrument in other studies is crucial so that its measurement properties can be assessed.

DESCRIPTORS

Urinary incontinence Questionnaires Translating Women's health Nursing

RESUMO

O artigo visa descrever o processo de tradução e adaptação para a cultura brasileira do Gaudenz-Fragebogen, instrumento de origem alemã, utilizado no diagnóstico da incontinência urinária feminina. Seguiram--se, nesse intuito, as etapas recomendadas pela literatura internacional: tradução, síntese das traduções, retrotradução, avaliacão pelo comitê de especialistas e pré-teste. Os processos de tradução e adaptação foram realizados a contento e o instrumento demonstrou ser de fácil compreensão. Entretanto, este é um estudo que antecede o processo de validação e será premente o emprego do instrumento em novas pesquisas para que sejam avaliadas suas propriedades de medida.

DESCRITORES

Incontinência urinária Questionários Tradução Saúde da mulher Enfermagem

RESUMEN

El artículo apunta a describir el proceso de traducción y adaptación para la cultura brasileña del Gaudenz-Fragebogen, instrumento de origen alemán utilizado en el diagnóstico de la incontinencia urinaria femenina. Se siguieron las etapas recomendadas por la literatura internacional: traducción, síntesis de las traducciones, retro-traducción, evaluación por el comité de especialistas y pre-test. El proceso de traducción y adaptación se realizó a tiempo, el instrumento demostró ser de fácil comprensión. Sin embargo, este es un estudio que antecede el proceso de validación y será apremiante el empleo del instrumento en nuevas investigaciones para que sean evaluadas sus propiedades de medida.

DESCRIPTORES

Incontinencia urinaria Cuestionarios Traducción Salud de la mujer Enfermería

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INTRODUCTION

Urinary Incontinence (IU) is defined by the *International Continence Society* (ICS) as the complaint of any involuntary loss of urine, causing a social or hygienic problem to the individual⁽¹⁾.

Known for triggering relevant alterations that affect the individuals' quality of life, UI has been considered as a public health issue⁽²⁾. The suffering caused by UI generates feelings of incapacity, which causes significant morbidity among the women, whose lives are affected in the social, occupational, domestic, physical, and sexual aspects⁽³⁾. This can be expressed by a feeling of vulnerability⁽⁴⁾.

The several types of UI have specific etiology and physiopathology, and understanding these differences is crucial to obtain promising treatment and prognosis. The most common types of UI among women are the stress urinary incontinence (SUI), urge urinary incontinence (UUI), and mixed urinary incontinence (MUI)⁽⁵⁾.

Urodynamic studies (UDS) are invaluable to guide the diagnosis and form of treatment, as well as to provide information that would support post-surgical follow up, if that is the case⁽⁶⁾.

Women subjected to UDS present good tolerance to the examination⁽⁷⁾, although they report they hope not having to undergo this experience again⁽⁸⁾. They state their expectation of pain in the pre-examination is actually greater than the pain they actually experience and report in the post-examination, thus it is important to emphasize that the fear that is caused by this tension can interfere in the trustworthiness of the outcome⁽⁹⁾. Because it is an

invasive exam, a correlation has been observed with urinary tract infections⁽¹⁰⁾.

One other way of identifying the type of female UI is to use specific questionnaires. In Brazil, the conception and development of instruments with this purposes is practically null.

Investments in the development of instruments that could be used by health care professionals and researchers are invaluable⁽¹¹⁾. Among the many instruments developed abroad, the *Gaudenz-Fragebogen* – an instrument designed specifically for the differential diagnosis of female UI – has gained popularity in German-speaking countries since its publication in 1979⁽¹²⁾.

The *Gaudenz-Fragebogen* has been used in countries such as: Japan, Austria, Poland, and Czech Republic as a complementary tool to reach a diagnosis or to control pre- and post-surgery treatment, or to monitor drug treatments in groups of incontinent women⁽¹³⁻¹⁸⁾.

By administering the *Gaudenz-Fragebogen* it is possible to establish an initial and differential diagnosis of female UI without an urodynamic investigation, and thus allowing for indicating the corresponding treatment or, yet, the real need for an UDS⁽¹²⁾.

Differential diagnosis obtained by means of a final score is simple and clinically effective. It is not an invasive procedure and can thus be used by healthcare professionals treating women with UI considering the increased number of cases⁽¹²⁾.

In view of these considerations, the purpose of the present study is to describe the process of translation and cross-cultural adaptation of the *Gaudenz-Fragebogen*.

METHOD

Design

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The methodological process of cross-cultural adapta-

tion has the purpose of attaining an instrument that is consistent with the original, but adapted to the culture of the country where the version will be administered⁽¹⁹⁾.

This study was conducted following the guidelines of the American Academy of Orthopaedic Surgeons, with the purpose of standardizing the cross-cultural adaptation method of health status measures, grounded on theoretical findings and by a systematic review on this methodology. Therefore, this process was performed in the following stages: translation of the original instrument; synthesis of the translations; backtranslation to the source language; submission of the translation to a committee of

experts; and pretesting (19).

Ethical aspects

Before beginning the study, the author was contacted and provided formal authorization for the translation and cross-cultural adaptation of the original instrument. The study was approved by the Research Ethics Committee at the institution, under number 616/2008.

Instruments

Sample Characterization Form: used with the purpose of outlining the profile of the studied sample, including sociodemographic, gynecologic, obstetrical and clinical information.

Gaudenz-Fragebogen instrument: a specific instrument used for the differential diagnosis of female UI, developed originally in the German language by Reto Gaudenz⁽¹²⁾. It comprises 16 dichotomous items in the



form of questions that allow for two final scores, the *urge-score* (U-S) which grades urge urinary incontinence (UUI), and the *stress-score* (S-S) for stress urinary incontinence (SUI).

Each question has two answer choices; the first corresponding to the S-S and the second to the U-S. The score ranges between zero and three for each type of UI, and the final sum of the scores ranges between zero and 26 for either U-S or S-S. To obtain the S-S, items 1, 2, 4, 5, 11, 14 and 15 are worth one point each; items 3, 7, 8, 9, 10, 12, 13, and 16 are worth two points each, and item 6 is worth six points. Similarly, for the U-S, six items (1, 2, 3, 4, 11 and 14) are worth one point, four items (6, 8, 13 and 15) are worth two, another four items (7, 9, 10 and 12) are worth three, and two items (5 and 16) are not worth any points.

According to the instrument⁽¹²⁾, scores between 13 and 26 for U-S and between zero and six for S-S indicate a 97% probability of UUI diagnosis. On the other hand, for scores between 13 and 26 for S-S and zero to six for U-S, there is a 87% probability for a positive diagnosis for SUI⁽¹²⁾.

Stages of the cross-cultural adaptation

Initial Translation

In this first stage, two initial translations of the *Gaudenz-Fragebogen* questionnaire (T_1 and T_2) were performed by two independent translators (a sworn translator and a language professional), who were both Brazilian, proficient in the German language, and used Portuguese in a way that reflected the language used by the overall Brazilian population.

The first translator was constantly in touch with her relatives, who worked in the health area and lived in Germany. She was informed of the fundamental objectives approached by the instrument, and about the methodological process, in order to be able to produce a translation that would weigh the specificities of the theme and consider the clinical perspective that would maintain the best equivalence.

The second translator was unaware of the objectives of the instrument and did not have any connection with the filed of study.

Synthesis of these translations

After completing the first stage, a third translator, also Brazilian, who had lived in Germany and worked in the medical field (gynecology), joined the two translators responsible for versions T_1 and T_2 to reach consensus and obtain a single version $(T_{1,2})$.

In order to obtain $T_{1,2}$ it was necessary to perform a meticulous analysis of the discrepancies found between T_1 and T_2 , and the suggested changes were made upon their agreement.

Back-translation of the instrument

This consists in translating the synthesized version back to the source language, with the objective of identifying any differences in meaning and content between the source and the target instrument.

In this stage, two translators participated, who were German teachers, born and educated in Germany. Both mastered the Brazilian language and culture, and were naive to the original instrument. The translators received the synthesized version $(T_{1,2})$ and were instructed to translate from Portuguese to German, thus resulting in two versions $(BT_1$ and BT_2).

Expert committee review

The expert committee was comprised by eight judges: one nurse researcher proficient in the methodology in use, two translators, one linguistics Ph.D., one biology Ph.D., and one French nurse who had practiced in Brazil and in Germany, one urologist, and one subject of the target population, i.e., one woman with urinary incontinence.

Three of the experts were not fluent in the German language; however, five were bilingual and mastered the German and Portuguese language and culture. All the committee members received, beforehand, the original instrument and the translations (T_1 , T_2 , $T_{1,2}$, BT_1 and BT_2), with instructions about how they should proceed to evaluate the semantic, idiomatic, conceptual and cultural equivalences to the *Gaudenz-Fragebogen*.

The evaluation by the experts was performed in two steps. The first consisted of an independent evaluation, in which the agreement rate was considered satisfactory if equal to or above 80% of the items. The second step consisted of a meeting for the judges to perform a qualitative analysis of the items, which resulted in the final Portuguese version of the instrument to be used in the pre-test.

Pre-test

The pre-test is the final stage of the adaptation process. The new version of the *Gaudenz-Fragebogen* was administered to a sample of 35 subjects of the target population.

The participants were informed about the purpose of the questionnaire and the current stage of the study, with emphasis on the importance of their giving their opinion about how well they understood the meanings of each item they answered.

RESULTS

The first stage, corresponding to the initial translation of the *Gaudenz-Fragebogen*, required a considerable amount of time due to the lack of bilingual professionals



(German and Portuguese). The first to versions presented relevant discrepancies and after being analyzed and discussed with a third translator, it was realized that the quality of the versions was questionable. Because it was not possible to use any of the first two initial translations, it was necessary to restart this stage, i.e., perform two new translations, by two new translators. The following stages (synthesis and back-translation) were carried out satisfactorily.

The experts made independent considerations for each item before meeting, and their agreement was calculated based on their answers.

Items 2, 4, 5, 6, 7, 9, 11, 14 and 15 obtained an agreement rate equal or superior to 80% for the semantic, idiomatic and cultural equivalences. A 25% agreement rate was obtained among the experts regarding the cultural equivalences for seven items (1, 3, 8, 10, 12, 13, and 16). All items obtained agreement equal or superior to 80% for conceptual equivalences.

After the experts meeting, which lasted approximately three hours and fifteen minutes, seven items were changed (1, 3, 8, 10, 12, 13 and 16) with a agreement rate superior to 80%.

Of the 16 items comprising the questionnaire, the word *toilette* in item eight was initially translated to *toalete* (toilet), with the purpose to preserve the semantic equivalence. The group of experts, however, suggested it be changed to *banheiro* (bathroom), because *toalete* is an uncommon word among the Brazilian women, and could be of difficult understanding by the target population.

One feature of the *Gaudenz-Fragebogen* is that it is self-administered, therefore it was understood that in order to contemplate cultural equivalence, items 1, 3, 10, 12, 13 and 16 should have the sentences (some time of the questions and at others of the answer choices), with the purpose to improve the understanding of the instrument for the target population. The changes are presented in Chart 1.

Chart 1 – Comparison between the altered questions of the Portuguese versions and final synthesis of the *Gaudenz-Fragebogen* - Campinas. SP – 2009

Questions	Synthesis of the Translations presented to the experts	Final Portuguese version approved by the experts
1	Quantas vezes você involuntariamente perde urina? -raramente, às vezes -diariamente, algumas vezes durante o dia, constantemente	Quantas vezes você perde urina de maneira involuntária? -raramente, às vezes -diariamente, algumas vezes durante o dia, constantemente
3	3. A perda de urinaincomoda-me às vezes -incomoda-me enormemente	3. A perda de urinasomente às vezes me incomoda -me incomoda demais
8	8. A caminho da toalete você perde urina? -nunca, raramente -quase sempre	8. A caminho do banheiro você perde urina? -nunca, raramente -quase sempre
10	10. Você repentinamente sente vontade de urinar e logo em seguida perde urina sem poder impedir? -nunca -às vezes, frequentemente	10. Você sente repentinamente vontade de urinar e logo em seguida perde urina sem poder impedir? -nunca -às vezes, frequentemente
12	12. Existe a frequente necessidade de urinar que não pode ser reprimida? -praticamente nunca, somente às vezes -frequentemente, incomoda-me muito	12. Você sente com frequência a necessidade de urinar que não pode ser reprimida? -praticamente nunca, somente às vezes -frequentemente, me limita muito
13	13. A frequente necessidade de urinar difícil de reprimir para mim -não é um problema -incomoda, me limita extremamente	13. A frequente necessidade de urinar que é difícil de reprimir - para mim , não é realment e um problema -incomoda, me limita muito
16	16. Qual é o seu peso? -acima de 70 kg -abaixo de 70 kg	16. Qual é o seu peso? -acima de 70 kg -igual ou abaixo de 70 kg

With the consent of all the experts, the name of the final version of the instrument was kept as the original: *Gaudenz-Fragebogen*.

The layout was slightly changed with the purpose to make it easier for the respondents to mark their answer. On the original instrument, the space meant for the answers was specified at the end of each sentence, while on the final Portuguese version, the answer space was in the beginning.

The Brazilian version of the *Gaudenz-Fragebogen* (Chart 2) was forwarded to the author, before beginning the pretest stage, who did not make any opposing statements.



Chart 2 – Proposal for the cross-cultural adaptation of the *Gaudenz-Fragebogen* instrument to the Portuguese language - Campinas, SP – 2009

<i>Gaudenz-Fragebogen</i> Favor assinalar com um X a questão que mais se aplica a você.		
1. Quantas vezes você perde urina de maneira involuntária?		
raramente, às vezes		
diariamente, algumas vezes durante o dia, constantemente		
2. Qual a quantidade de urina que você perde?		
algumas gotas		
quantidades maiores		
3. A perda de urina		
somente às vezes me incomoda		
me incomoda demais		
4. Em quais situações você perde urina?		
ao tossir e espirrar		
sentada e deitada		
5. Você deu à luz?		
□ Sim		
□ Não		
6. Quantas vezes por dia você precisa urinar?		
de 3 a 6 horas		
de 1 a 2 horas		
7. Você precisa urinar durante a noite?		
□ nunca a 1 vez		
☐ 2 a 4 vezes, com mais freqüência		
8. A caminho do banheiro você perde urina?		
nunca, raramente		
☐ quase sempre		
9. Ao sentir vontade de urinar você precisa ir imediatamente ou pode esperar?		
posso esperar, preciso ir em breve (10-15minutos)		
preciso ir imediatamente		
10. Você sente repentinamente vontade de urinar e logo em seguida perde urina sem poder impedir?		
□ Nunca		
☐ às vezes, frequentemente		
11. Você perde urina a noite durante o sono?		
□ não, nunca		
☐ frequentemente, regularmente		
12. Você sente com frequência a necessidade de urinar que não pode ser reprimida?		
praticamente nunca, somente às vezes		
☐ frequentemente, me limita muito		
13. A frequente necessidade de urinar que é difícil de reprimir		
para mim, não é realmente um problema		
☐ incomoda, me limita muito		
14. Você tem a sensação que após urinar a sua bexiga está completamente vazia?		
□ Sim		
□ Não		
15. Você pode interromper o jato de urina voluntariamente?		
□ Sim		
□ Não		
16. Qual é o seu peso?		
acima de 70 kg		
gual ou abaixo de 70 kg		

Participants of the pre-test were 35 women with complaints of urinary incontinence, of ages ranging between 31 and 87 years (mean age 53.9 years; SD = 13.1), with a mean 4.9 years of education (SD= 3.7). The declared skin color was distributed into 11 (31.4%)

white, 1 (2.9%) black, 21 (60%) brown, and 2 (5.8%) yellow. The mean family income was 2.2 minimum salaries (SD= 0.8). Most women (71.4%) were engaged in domestic activities. The mean number of pregnancies was 5.1 (SD= 2.83) and most women had vaginal childbirths



(141 or 91%). Regarding the comorbidities, 12 (37.1%) patients suffered with hypertension, and 5 (14.1%) with diabetes mellitus.

The participants took a mean time of 16 minutes to complete the questionnaire, although five women (14%) took approximately 30 minutes.

After administering the questionnaire, the women were asked for their opinion regarding the clarity of the items. Most of them (91.5%) reported that the instrument was of easy understanding. Three (8.5%) women found it difficult to understand the word *jato* (squirt). Several attempts were necessary for them to learn the appropriate definition of the word. However, when asked, none of the participants suggested making any changes to the instrument.

The difficulty presented by some women regarding their understanding of the meaning of the word *jato* was reported to incontinence experts for further discussion. However, the committee of experts chose not to replace the term.

DISCUSSION

Due to the fact that the German language is not common in our environment, the subsequent steps to achieve the final version of the instrument were costly. Both the professionals that were contacted and initially selected to participate in the process of cross-cultural adaptation of the questionnaire received clarification that had been carefully outlined, which were pertinent to the chosen method. However, the first translations were of very poor quality.

Therefore, we recommend that the translators involved in the process of translation and cross-cultural adaptation be, preferably, individuals with previous experience in research, and it is indispensible that they express their recognition of the importance of their role in terms of assuring the quality.

As previously noted by other authors, the presence of more than one translation allowed making small corrections of specific and general meaning to appropriately create the synthesis of the translations, which in addition to the fact that the third translator was from the health area and had worked in Germany made the synthesis process easier to accomplish⁽¹¹⁾.

It is important to emphasize that the qualitative interdisciplinary evaluations are of great value in the process of cross-cultural adaptation of instruments⁽¹⁹⁾. The experts meeting, despite being long, allowed for the final understanding of the instrument. The connection between healthcare and language professionals was enriched and facilitated by the presence of the representative of the target population. The participant gave important opinions that were considered by the rest of the committee, as it regarded the opinion of an essential part of a study – the subject.

One attribute of the technical and scientific language in German is the *nominal style*, when in which there is an agglutination of several morphic elements in a single word, thus evidencing the unique characteristic of both the vocabulary and the terminology of the German language. In the intercultural analysis of the discourse, in German there is a tendency for longer phrases and heavier syntax compared to Portuguese⁽²¹⁾. Being in contact with another language invariably means to be in touch with another culture. Therefore, the six modified items occurred due to the need to adapt the cultural equivalences between the original questionnaire in German and the version in the source language (Portuguese) in order to perform the pre-test among Brazilian women.

Regarding the layout of the original instrument in German, the scores for UUI and SUI should preferably not be visible to the subjects completing the questionnaire, as the author stated that this fact could affect the subject's answer choice. Therefore, it is only necessary for the researcher to be in possession of the score for each item in order to calculate the final scores⁽¹²⁾.

Considering that it was not necessary for the scores to be visible for the subjects, the author's recommendation collaborated directly to making the layout change on the instrument. Originally, the answer fields on the questionnaire were located at the end of each item. After the change, the area used for this purpose was located before each item on the questionnaire. This way, the change made the final Portuguese version clearer and more practical, in addition to being closer to the common layout of questionnaires used in Brazil.

The experts agreed the final version of the *Gaudenz-Fragebogen* would maintain its original name, with the purpose of facilitating possible database searches.

In the fifth and final stage, it was verified that the instrument was fully accepted by the group of interviewed women. However, a minority of the women identified some hindrances regarding the understanding of the word jato (squirt; item 15), but, when asked, they did not make any suggestions of a possible word to replace the term. This issue was presented and discussed with some experts, and, to their opinion, there is no simpler or more common word used among the women; therefore, they decided to keep the original wording and, in case a subject did not understand it, the interviewer would explain its meaning.

It was observed that the predominance of subjects with an educational level between low and medium restricted, in part, their understanding of the instrument. Some authors have defined this characteristic



as a limitation⁽²²⁾, particularly when it regards a questionnaire that was created to be self-administered. In this view, although the original instrument is self-administered, in the Brazilian version not always will this be possible.

Because it is a simple instrument⁽¹²⁻¹³⁾, we believe that it is possible for different healthcare professionals working in different settings to administer it and calculate the final scores, thus promoting a multidisciplinary intervention in women's healthcare. It should be noted that this instrument would be particularly useful in choosing the appropriate conservative treatment to be implemented by the nurse or other healthcare professional (e.g., rehabilitation of the pelvic floor in cases of stress urinary incontinence).

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CONCLUSION

The process of cross-cultural adaptation of the *Gaudenz-Fragebogen* to the Brazilian culture was satisfactory. The use of a carefully defined methodology provided the necessary support and promoted the achievement of a final trustworthy Portuguese version.

The pre-test results demonstrated that the instrument is easy to understand and confirmed its functionality. The doubts that emerged due to the low educational levels of the subjects will imply subsequent outcomes in further applications.

This study precedes the process of validation and it is imperative that this questionnaire be used in further studies in order to evaluate its measure properties.

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