TRADUÇÃO E ADAPTAÇÃO DO INSTRUMENTO “SUITABILITY ASSESSMENT OF MATERIALS” (SAM) PARA O PORTUGUÊS

ABSTRACT

Objective: to carry out the translation and adaptation of the instrument Suitability Assessment of Materials (SAM) from the original English version into a Portuguese version. Method: the process of adaptation included translation, back-translation and submission to a committee composed of five judges, obtaining the Portuguese version of the instrument at the end of the process. The instrument SAM is composed of 30 items and used to assess the understanding of educational material. It is a resource that can ensure the suitability of that material for the target audience. Results: 56.7% of the items had a content validity index exceeding 80%. The other items were assessed by the author of the original instrument and adapted to Brazilian language. Conclusion: the translated instrument was adapted to the Brazilian culture and may help in assessing patients’ understanding about the educational material. When the latter is better understood, it can improve the professional-patient communication process, thus becoming an effective guidance method. Descriptors: Translation; Patients’ Education as Topic; Prospectus for Patients’ Education.

RESUMO

Objetivo: realizar a tradução e adequação do instrumento Suitability Assessment of Materials (SAM) do original em inglês para o português. Método: o processo de adaptação envolveu tradução, retrotradução e submissão a um comitê com cinco juízes, alcançando ao final do processo a versão em língua portuguesa do instrumento. O instrumento SAM é composto por 30 itens e utilizado para avaliar a compreensão de material educativo. Trata-se de um recurso que pode garantir a adequação deste material ao público alvo. Resultados: 56,7% dos itens apresentaram índice de validade de conteúdo superior a 80%. Os demais itens foram avaliados pelo autor do instrumento original e adaptados à linguagem brasileira. Conclusão: o instrumento traduzido foi adaptado à cultura brasileira e poderá contribuir na avaliação da compreensão do paciente sobre o material educativo. Este último, quando melhor compreendido, pode melhorar o processo de comunicação profissional-paciente, tornando-se um método eficaz de orientação. Descriptores: Tradução; Educação de Pacientes como Assunto; Prospecto para Educação de Pacientes.
INTRODUCTION

The ability of understanding has become a public health dilemma, because it is not easy to identify functional illiterates who may be poor or rich and may have attained any education level.\textsuperscript{1} It is estimated that more than 23 million American adults cannot understand the instructions or materials supplied by healthcare providers.\textsuperscript{1} The situation in Brazil is no different. According to the Census 2000, the rate of functional illiteracy is close to 27%.

Another factor for low understanding of information is related to immigrants who have a language barrier during oral/written communication and, when they do not understand well the language, they cannot meet the requests or follow the guidelines correctly.\textsuperscript{3} In addition to these aspects of immigration, it is important to consider the Brazilian regional language variations that may also hinder communication.

Two aspects interfere with the nurse-patient relationship in hospital practices: communication; and early hospital discharge that does not allow the patient to assimilate the information provided by health professionals. The assessments of the conditions that allow early hospital discharge do not always consider the level of patients' preparation, the guidelines received, and the understanding of that information. Most information is given through an oral, repetitive, and fragmented manner by various types of professionals who regard every healthcare procedure in a different way.\textsuperscript{4}

Written educational materials can contribute positively in the communication process and increase adherence to treatments and decision-making power. These instruments provide consistent information, allowing portability, flexibility, return visits of the patient, and reinforce oral statements.\textsuperscript{5} There is a consensus in the literature that oral guidelines are less effective than written guidelines, since the latter increase patients' understanding and promote better recovery.\textsuperscript{6} As an information strategy for patients, written material can reduce the possibility of confusion with the information provided by health professionals. Even though patients receive oral guidance during the consultations, they often claim that they wish to receive written guidelines.

Professionals want to communicate clearly, but they tend to use technical terminology. In addition, they offer more information than patients may process. Even patients with a better level of understanding exhibit difficulties in processing medical information due to the fact that they are not familiar with this terminology; they have low educational level; and they are anxious and worried about their symptoms, which makes it difficult for them to focus on the guidelines.\textsuperscript{4}

Patients forget or are not able to remember 50% of the clinical information provided to them by healthcare professionals during consultations. Professionals should be aware that some patients—especially older adults—may have low literacy level and require different forms of communication.\textsuperscript{4}

Although the procedures to elaborate educational/informative materials targeted at patients are universally known, the production process on the part of institutions that produce knowledge in health sciences is rarely described, leading to unsatisfactory results due to the absence of methods.\textsuperscript{7}

In this way, health institutions have provided educational materials with technical jargon and medical terminology, which intimidates and confuses the patients, because these materials have not been developed according to the patients' capacity of understanding. When the process of revising an educational material is developed or started, the goal should be determined and the target audience identified. The goal will determine what information should be included in the text and whether the illustrations should be used to make understanding easier.\textsuperscript{8}

The characteristics that should be taken into consideration in the design of educational material can be grouped into the following categories: content; language; organization; layout and typography; illustrations and learning; and motivation. The proposal of the educational material—as well as the goal—should be clear to the reader. If the proposal is not clear, the patients can no longer pay attention to the material.\textsuperscript{9}

When the educational material has been produced, its validation with the patients is required to ascertain the suitability of the material, in addition to provide a feedback on the material before its distribution.\textsuperscript{10}

In Brazil, there are no instruments to assess educational materials regarding their suitability for the patients. In order to use an instrument to assess the adequacy of educational material for patients of orthognathic surgery, the goal of the present study was to perform the translation and adaptation of the instrument “Suitability Assessment of Materials” (SAM) from the original version in English into a Portuguese version. This instrument has already been

Tradução e adaptação do instrumento “Suitability...
The present study’s judges were informed about the purpose of the translation and back-translation technique, according to specific literature. This strategy allows detecting errors and divergent interpretations of ambiguous items from the original version. The professionals that performed the translation did not know each other nor had any contact during the translation process of the instrument into Portuguese. Minimal changes were observed between the two translated versions. A synthesis of the instruments was carried out by the researcher and, subsequently, the next step started.

**Back-translation:** The first Portuguese version was submitted to other two bilingual professionals (Portuguese/English) as recommended by the literature. The back-translation—i.e., translating from the language to which the target version is intended into the version of origin—increases the quality of the final instrument. Each translation should have its back-translation being independent of each other.

After this procedure, the instruments back-translated into English were compared and, because they were similar, we chose one of the translations to be sent to the authors of the original instrument for assessing the similarity of the words and maintenance of the purpose of the original version.

**Committee of judges:** This was a committee of judges formed by a multidisciplinary team (an oral and maxillofacial surgeon, a nurse, two teachers of English, and a communication professional) that knew English and Portuguese in order to assess the instrument translated with respect to semantic, idiomatic, conceptual, and cultural equivalence between the original instrument and the second version in Portuguese.

An instrument was developed for assessing the equivalence between the original version and the back-translation (the evaluator compares the two versions and points out the item: equivalent; indecisive, or non-equivalent). A letter was sent to the judges to report the goal of the study including guidelines on how to proceed regarding the assessment of the instrument.

In order to determine the number of experts required for this stage of the assessment, as well as the proportion of agreements necessary to establish the validity of content, we used the recommendation of the literature, i.e., from three to five experts.

For the process of translation and adaptation of the instrument SAM into Portuguese, we requested authorization from the authors of the original version of the instrument via electronic contact and, under the consent of the American authors, the process began.

**DATA ANALYSIS**

In addition to the qualitative assessment of equivalence, the present study quantified the results obtained. The results presented by the committee of judges were assessed item by item using the Content Validity Index (CVI). According to this analysis, the items are considered valid if they reach a percentage of concordance between the judges, with a predetermined level of 0.8 or 80%. The CVI for each item is calculated by dividing the number of judges that evaluate an item with an equivalent score by the total number of judges. The items that did not reach the value of 0.8 were reviewed and changed.

**RESULTS**

Twenty (66.6%) of 30 items that composed the Portuguese version of the instrument diverged from the original items and the researchers revised the translation to facilitate understanding and the final
disposition of the text, thus completing the first version in Portuguese.

With respect to the back-translation, the versions showed equality in many items and the researcher chose one of the versions in English to be forwarded to the authors of the original version. (Figure 1)

<table>
<thead>
<tr>
<th>Original</th>
<th>Back translation</th>
<th>Authors’ considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>is evident.</td>
<td>“...you use the word proposal; we suggest you use “purpose” instead.... Purpose is the end use of a material or activity, which is what is intended for a health care instruction. The reason that purpose is a factor in SAM is that the cover or title of patient instructions needs to communicate the use of the instruction.” “...patients often ignore such instructions because they don't understand their purpose for them...”</td>
</tr>
<tr>
<td>Scope is limited.</td>
<td>The contents focus on the proposal.</td>
<td>“...we suggest you delete abstracts. This word usually implies that the entire paper is summarized in one paragraph... The reviews are intended to only cover the key points, or perhaps one key point per review”</td>
</tr>
<tr>
<td>Summary or review included.</td>
<td>Abstracts and reviews are included.</td>
<td>“...consider: The context comes first, before new information...”</td>
</tr>
<tr>
<td>Context is given first.</td>
<td>The context comes first.</td>
<td>“...consider: Advance organizers (headers and topic captions) often used...”</td>
</tr>
<tr>
<td>Learning aids via road signs.</td>
<td>Learning is facilitated by signs.</td>
<td>“...change Graphs to Illustrations. (Graphs imply plots of data; illustrations or graphics cover any type of visual, which is what is intended here)...”</td>
</tr>
<tr>
<td>Graphics</td>
<td>Graphs</td>
<td>“...add word “cover”, The purpose of the cover illustration is clear...”</td>
</tr>
<tr>
<td>Cover graphic shows purpose.</td>
<td>The purpose of the graphs is clear.</td>
<td>“...types of illustrations...”</td>
</tr>
<tr>
<td>Type of graphics</td>
<td>Types of graphs</td>
<td>“...illustrations include legends (captions)...”</td>
</tr>
<tr>
<td>Captions used for graphics.</td>
<td>Graphs are accompanied by legends.</td>
<td>“...Type size and font style (rather than ‘letter type’) Rationale: for ease of reading, a suitable type size (number of points) is important as well as the font style...”</td>
</tr>
<tr>
<td>Layout and typography</td>
<td>Layout and typography (not &quot;printing&quot;) printing may be misunderstood to mean copy production on a printing press...”</td>
<td>“...similar to logic, language, experience of audience (rather than ‘combines’)...”</td>
</tr>
<tr>
<td>Typography</td>
<td>Letter type</td>
<td>“...suitable layout characteristics used...”</td>
</tr>
<tr>
<td>Match in logic, language experience.</td>
<td>Combines logic, language and experience.</td>
<td>“...compared to logic...”</td>
</tr>
</tbody>
</table>

**Figure 1.** Considerations of the authors of the original instrument relating to the back-translation. São Paulo. 2011.

**Content validity index:** The assessment of equivalence performed by the committee of judges revealed some results of CVI which were smaller than 0.8 in the items presented in Figure 2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Translated version</th>
<th>Adjustment performed</th>
<th>CVI</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>N/A if the factor does not apply to this material.</td>
<td>N/A if the factor cannot be assessed.</td>
<td>0,6</td>
<td>The words “in this material” were added to the sentence according to the judges' suggestion.</td>
</tr>
<tr>
<td>5</td>
<td>Purpose is evident.</td>
<td>The purpose is evident.</td>
<td>0,6</td>
<td>The original author suggested keeping the word “purpose” rather than “proposal”, because proposal refers to proposing something, and purpose meets the goal.</td>
</tr>
<tr>
<td>7</td>
<td>Scope is limited.</td>
<td>The content is focused on the purpose.</td>
<td>0,2</td>
<td>The original author claimed that the context of this item refers to highlighting key points in the text, as described by them (key points).</td>
</tr>
<tr>
<td>8</td>
<td>Summary or reviews are included.</td>
<td>The content emphasizes the main issues.</td>
<td>0,2</td>
<td>The original author suggested keeping the word “purpose” rather than “proposal”, because proposal refers to proposing something, and purpose meets the goal.</td>
</tr>
</tbody>
</table>
The context comes before new information. -- 0,6
The purpose of the illustrations relating to the text is clear. -- 0,4
The figures/illustrations are relevant. -- 0,6
The illustrations have legends. -- 0,6
Layout and presentation -- 0,4
Layout characteristic -- 0,6
The logic, language, and experience are similar. -- 0,6

We chose to keep the change suggested by the original author. The judges used the literal translation of the word “graphics”. Some judges disagreed with the word “similar”, the original author suggested changing it to “similar” in English, because the word “similar” in Portuguese was the one that best translated the author’s intention.

The judges used the literal translation of the word “graphics”. However, the original author suggests changing that word to “illustrations” for better understanding.

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Despite the disagreement of judges with the word “similar”, the original author suggested changing it to “similar” in English, because the word “similar” in Portuguese was the one that best translated the author’s intention.

The opinion of the authors of the original instrument was in favor of the changes, allowing freedom to change the words according to the understanding of the Portuguese language—since Americans may understand some words differently from the way we do—thus ending the translation and back-translation process and giving rise to the instrument adapted to the Portuguese language.

The translation and back-translation process is complex. It requires much time spent by the professional and determination to follow all the steps and achieve the final result. However, it is essential to provide psychometric scales to our culture in order to assess interventions and, in this case, the educational material for perioperative professionals.

Figure 2. Assessment of equivalence and changes made for the final version of the document. São Paulo, 2011.

Thirteen of the 30 items studied (43.3%) were below 0.8, which is a value recommended by the literature. The items 7 and 8 had the lowest CVI value (0.2), followed by the items 15, 16, and 21 with CVI value of 0.4. However, as suggested by the author of the original version and given the specificity of the instrument, we chose not to exclude these items from the instrument and keep the translated version after evaluation of the author.

The participation of the authors of the original instrument provided an effective gain for the construction of the Portuguese version, allowing the clarification of the items that composed the instrument. Often, the understanding of materials written in another language can be distorted due to language barriers.

The authors of the instrument SAM provided an assessment of the translated instrument via electronic contact including comments on the concept of certain words which we believed had the same meaning, thus contributing in the translation and back-translation process. Considerations were carried out in 43.3% (13) of the items, disagreeing with the back-translation version.

The Portuguese version of the instrument was corrected by the researchers according to the recommendations of the authors of the original version, and a second version in Portuguese was elaborated. This second version in Portuguese, submitted to the committee of judges and assessed through the CVI, allowed the revision of discordant terms and submitting a version to the original author for approval of the authors of the original instrument, without losing the intended meaning.
education of patients undergoing orthognathic surgery.

We recommend that further studies give continuity in the cross-cultural adaptation process with the assessment of the psychometric properties of this instrument and validation in the Brazilian population.

**FINAL CONSIDERATIONS**

In Brazil, there are no instruments suitable for assessing printed material developed for patients. This way, an instrument that allows assessing educational materials developed by health professionals would enrich the process of professional-patient communication and interaction, thus providing a more effective communication.

**REFERENCES**


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Appendix - “Suitability Assessment of Materials” (SAM) for Portuguese language

Material a ser avaliado:

<table>
<thead>
<tr>
<th>2 pontos para ótimo</th>
<th>0 ponto para não adequado</th>
<th>1 ponto para adequado</th>
<th>N/A se o fator não pode ser avaliado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fator a ser classificado</td>
<td>Pontuação</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comentários</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 - Conteúdo
(a) O propósito está evidente
(b) O conteúdo trata de comportamentos
(c) O conteúdo está focado no propósito
(d) O conteúdo destaca os pontos principais

2 - Exigência de alfabetização
(a) Nível de leitura
(b) Usa escrita na voz ativa
(c) Usa vocabulário com palavras comuns no texto
(d) O contexto vem antes de novas informações
(e) O aprendizado é facilitado por tópicos

3 - Ilustrações
(a) O propósito da ilustração referente ao texto está claro
(b) Tipos de ilustrações
(c) As figuras/ilustrações são relevantes
(d) As listas, tabelas, etc. têm explicação
(e) As ilustrações têm legenda

4 - Leiaute e apresentação
(a) Característica do leiaute
(b) Tamanho e tipo de letra
Sousa CS, Turrini RNT, Poveda VB. Tradução e adaptação do instrumento “Suitability…

São utilizados subtítulos
5 - Estimulação / Motivação do aprendizado
(a) Utiliza a interação
(b) As orientações são específicas e dão exemplos
(c) Motivação e autoeficácia
6 - Adequação cultural
(a) É semelhante a sua lógica, linguagem e experiência
(b) Imagem cultural e exemplos

S = Pontuação total SAM (soma de todos os fatores)
M = Pontuação máxima total = 44
N = Número de respostas N/As acima = ____ X2 = ____
T = Pontuação máxima total ajustada = (M-N) Percentual de pontuação = S / T

Interpretação da pontuação adequada
(Superior, adequado, não-aceitável)