Cross-cultural adaptation to Brazil and reliability of Smoking Cessation Counseling
Adaptação transcultural para o Brasil e confiabilidade da Smoking Cessation Counseling
Adaptación transcultural para Brasil y confiabilidad de la escala Smoking Cessation Counseling

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Keywords
Counseling; Tobacco use cessation; Tobacco use disorder; Translating

Abstract
Objective: To carry out the translation and cross-cultural adaptation of the Smoking Cessation Counseling scale into Portuguese and into the Brazilian context, as well as assessing the reliability of the adapted version.

Methods: Methodological research on cross-cultural adaptation that used the following phases: translation, synthesis of translations, back-translation, expert committee and pretest. In pretest, scale reliability was verified through internal consistency analysis (Cronbach’s Alpha).

Results: In translation and back-translation, the disagreements were related to the use of synonyms and none of the items was modified in relation to their understanding, but rather in the adequacy to the Brazilian reality. The experts committee’s evaluation showed that back-translation maintained semantic and idiomatic equivalences. SCC’s internal consistency proved to be excellent (0.916).

Conclusion: The adapted scale has cultural equivalence with the original tool and evidence of high reliability. Other psychometric properties are under investigation.

Resumo
Objetivo: Realizar a tradução e adaptação transcultural da escala “Smoking Cessation Counseling” para a língua portuguesa e o contexto brasileiro e avaliar a confiabilidade da versão adaptada.

Métodos: Pesquisa metodológica de adaptação transcultural que empregou as seguintes fases: tradução, síntese das traduções, retrotradução, comitê de experts e pré-teste. No pré-teste, foi verificado a confiabilidade da escala por meio da análise de consistência interna (Alfa de Cronbach).

Resultados: Na tradução e retrotradução, as discordâncias relacionaram-se ao uso de sinônimos e nenhum dos itens foi modificado em relação ao seu entendimento, mas sim na adequação para a realidade brasileira. A avaliação do comitê de experts demonstrou que a retrotradução manteve as equivalências semânticas e idiomáticas. A consistência interna da SCC mostrou-se excelente (0.916).

Conclusão: A escala adaptada tem equivalência cultural com o instrumento original e evidências de alta confiabilidade. Demais propriedades psicométricas estão sendo investigadas.

Resumen
Objetivo: Realizar la traducción y adaptación transcultural de la escala “Smoking Cessation Counseling” a la lengua portuguesa y al contexto brasileño y evaluar la confiabilidad de la versión adaptada.

Métodos: Investigación metodológica de adaptación transcultural que siguió las siguientes etapas: traducción, síntesis de las traducciones, retrotraducción, comité de especialistas y prueba piloto. En la prueba piloto, se verificó la confiabilidad de la escala por medio del análisis de la consistencia interna (alfa de Cronbach).

Resultados: En la traducción y retrotraducción, las discrepancias estaban relacionadas con el uso de sinónimos y no se modificó ningún ítem con relación a su comprensión, pero si respecto a la adaptación a la realidad brasileña. La evaluación del comité de especialistas demostró que la retrotraducción mantuvo las equivalencias semánticas e idiomáticas. La consistencia interna de la SCC demostró ser excelente (0.916).

Conclusión: La escala adaptada tiene equivalencia cultural con el instrumento original y evidencias de alta confiabilidad. Otras propiedades psicométricas están siendo investigadas.

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Introduction

Smoking is the leading preventable cause of premature deaths and diseases in the world. Just over 5 million people die each year from tobacco-related diseases. This number may increase to over 8 million per year by 2030. It is estimated that most of these deaths will occur in developing countries. In Brazil, it is estimated that around 200,000 deaths/year are related to coronary disease, chronic obstructive pulmonary disease, and cancer.

It is estimated that one-third of the world’s population, one billion and two hundred million people, are smokers. In Brazil, the Special Survey on Tobacco Use found that 24.6 million Brazilians over the age of 15 smoke tobacco products. In contrast, the International Tobacco Control Policy Evaluation Project reported that the prevalence of smoking in Brazil had a reduction of 33% and more than 51% of smokers have plans to stop smoking in the next six months. It is noteworthy that smoking cessation compliance is highest among the countries included in this project, among them Brazil, which demonstrates the importance of tobacco cessation education and support associated with tobacco label health warnings, tobacco taxation, and restrictions on commercial advertisements and promotion of tobacco products.

To combat the smoking advance, the Brazilian Ministry of Health (MoH), through the Brazilian National Cancer Institute (NCI), played an important role as organizer of the National Tobacco Control Program (NTCP). With the creation of Ordinance 442/2004, NTCP smoker treatment was consolidated under the Brazilian Unified Health System (Sistema Único de Saúde).

The professional teams working in the NTCP are made up of different professionals, whose activities depend on their category, comprising doctors, nurses, psychologists, social workers, nutritionists, physiotherapists and nursing technicians. It is noteworthy that all of these professionals are prepared with a training course to work in NTCP.

According to the Law of Professional Exercise (Lei do Exercício Profissional) 7,498/86, Article 11, in Brazil, the nurses’ primary functions are participation in the planning, performance, and evaluation of the health program and the assistance plans, participation in preventive and educational activities, and integration with the health team. As the nurse is part of the multidisciplinary team of health services, it is essential to identify where and in what way it can act, contributing to the definition and direction of his performance. In this context, the role of nurses in NTCP is smoking’s prevention, protection, cessation, and regulation.

Smoking cessation is a very complex process, therefore, it is necessary the performance of specialized professionals, effective treatment techniques, as well as resources to evaluate individual needs, the degree of nicotinic dependence, and the willingness to stop smoking. According to the WHO, nurses are the professionals who have the most skill and success in conducting smoking cessation counseling.

Zwar et al., Smith & Burguess, Gies et al. and Wewers et al.’s randomized controlled trials demonstrate the effectiveness of nursing interventions in reducing smoking. In smoking-related nursing research cited in the Rice & Stead’s systematic review, it is verified that the most frequent nursing interventions are those aimed at smoking cessation.

Several tools are available to measure predisposition and identify the barriers that hamper smoking cessation, or even evaluate satisfaction with counseling services. However, there are few tools aimed at evaluating smoking cessation practices and compliance with them by healthcare professionals.

Due to the scarcity of tools aimed at evaluating smoking cessation practices, Newhouse et al. have developed a tool to evaluate smoking cessation counseling practices applied to nurses’ clinical practice, Smoking Cessation Counseling - SCC.

The authors based the tool on the “Helping smokers quit: A guide for nurses” guideline, published in 2005 by the U.S. Department of Health and Human Services, which bears many similarities to the Brazilian NTCP.

SCC is an auxiliary tool to assess smoking cessation counseling practices to reduce smoking rates so that health services and nurses know the strengths and weaknesses of their intervention program.
To do so, it is necessary for the tool to undergo a cross-cultural translation and adaptation process.

Thus, this study aimed to carry out the translation and cross-cultural adaptation of the Smoking Cessation Counseling scale into Portuguese and into the Brazilian context, as well as assessing the reliability of the adapted version.

Methods

This is a methodological study conducted for cross-cultural adaptation of SCC to evaluate nurses’ intervention practices in smoking cessation counseling. The research project was approved by the Ethics Committee of the Escola Paulista de Enfermagem of the Universidade Federal de São Paulo, São Paulo (CAAE (Certificado de Apresentação para Apreciação Ética - Certificate of Presentation for Ethical Consideration) 04737012,7,0000,5505). The authorization for the SCC’s translation and adaptation was granted by the author of the tool. The study participants signed the Free and Informed Consent Form (FICF).

SCC is a tool to evaluate nurses’ intervention practices in smoking cessation counseling. The Likert scale was used. It was composed of 26 items, with 24 items with a four-level answer format, indicating intervention frequency of the nurse in smoking cessation counseling. Answer 1 represents the “Never” category; answer 2, the “Less Than Half The Time” category; answer 3, the “More Than Half the Time” category; and answer 4 refers to the “All the Time” category.(19)

SCC’s score may be from 24 to 96. Score 24 is the lowest score when all answers were 1 (Never). Score 96 represents the best counsels when all the answers were 4 (All the Time). Score from 24 to 96 indicates the sum of the nurses’ intervention frequency in smoking cessation counseling for the first 24 items of the scale. Answer 1 represents the ‘Never’ category; answer 2 represents the ‘Less Than Half the Time’ category; answer 3 represents the ‘More Than Half the Time’ category; and answer 4 refers to the ‘All the Time’ category.(19)

The cross-cultural adaptation was performed according to the approach of Beaton et al.,(21) following the phases: (I) Translation: two independent, experienced, qualified, and with Brazilian Portuguese and English Brazilian fluency translators translated the original scale into Brazilian Portuguese, producing the T1 and T2 versions; (II) Synthesis of Translations: The main researcher worked with the original tool and the two translations (T1 and T2), and constructed a synthesis (ST12) of the two translations. The main researcher has conducted direct discussions with the translators of this phase, solving problems such as omission or additions of words and expressions that might change the meaning of the items of the tool. It was done in order to minimize possible typical translation errors; (III) Back-translation: two independent and different translators with major in nursing who were born and literate in a country of the scale’s original language (English), with the linguistic and cultural domain of Brazilian Portuguese and with knowledge in the subject of study, carried out the translation from Portuguese into English, producing the BT1 and BT2 versions. At this time, the back-translators did not have access to the study goal; (IV) Experts committee: a committee of experts was composed of a nurse specialist in cross-cultural translation and adaptation studies, a nurse specialist in smoking cessation counseling and a specialist in linguistics. Translators of the previous phases (T1 and T2) evaluated the relationship between the translations in order to ensure that the tool did not lose its original characteristics. They also made modifications, if necessary, in order to adjust to the Brazilian culture. To that end, they considered the original tool, the T12, BT1, and BT2 versions. The experts verified the relationship between the constructs in English, the terms translated into Portuguese, and those resulting from the back-translation of the SCC scale, as well as evaluating semantic, id-
iomatic, conceptual and cultural equivalence and making necessary modifications in the back-translation. Each expert evaluated all items from the tool’s original version from the synthesis of the translation and from the back-translation by answering ‘Yes’ or ‘No’ to the question: ‘Is there a relation between the translations?’.

After this process, the scale was forwarded to the author of the original tool with the BT1 and BT2 versions, to indicate whether the translated version reflected the original content and so that she could approve the cultural changes; (V): Pretest: The Beaton et al approach was used for the decision and calculation of the sample size, which suggests that the pretest should be performed with 30 to 40 people from the target group. It was sent via e-mail to a number larger than the one suggested (60 nurses) in order to guarantee the sample size suggested by the scale study reference. 50 nurses returned the tool filled out. The inclusion criteria were: nurses experts in cardiology, pulmonology, medical clinic or oncology or with experience of at least two years in the area; professionals working with smoking cessation counseling at a hospital or outpatient unit; have training from the Brazilian Reference Center for Alcohol, Tobacco and Other Drugs (CRATOD - Centro de Referência de Álcool, Tabaco e Outras Drogas).

Cronbach’s Alpha coefficient was used to evaluate the SCC’s reliability by means of internal consistency, which should be positive. It ranged from 0 and 1 and was categorized as follows: above 0.8 was excellent, higher than 0.7 was considered good, and less than 0.4 was bad.

Results

The results were described according to the steps proposed for cross-cultural translation and adaptation. In the two SCC translations into Portuguese, of the total of 24 items, five caused disagreement among the translators. The differences found were considered minimal, observing the use of different synonyms and writing words that did not alter the meaning of the text, for example: Translator 1 translated the term as “consumidores de tabaco” (tobacco users), while translator 2 translated as “fumantes” (smokers). As the tool addresses the various forms of tobacco use, the lead researcher together with the two translators defined the expression as “usuários de tabaco” (tobacco users).

In synthesis of translations, it was necessary to make some adjustments to the Brazilian reality before sending to back-translation. The main adaptations were made in the items “17. I provide the number for the toll-free National Quitline” and “18. I refer the patient to web resources for Agency for Healthcare Research and Quality”, which were translated as “Eu forneço o número do Disque Saúde 136” and “Eu encaminho o paciente a recursos online do Ministério da Saúde/Programa Nacional de Controle do Tabagismo” respectively.

In back-translation, there were no difficulties in back-translating the items. Only items 17 and 18 did not have equal results to the original due to the adjustments to the Brazilian reality. The translation of the synthesis of these items was maintained so that, in the next stage, the group of experts could evaluate conceptual and cultural equivalences.

In the evaluation of the committee of experts, the expert of the subject of the study did not agree with the final version of “Eu forneço o número do Disque Saúde 136” item 17, because the item does not direct directly into quit smoking. As only one of the three experts did not agree with the adaptation, item 17 translated was maintained. After evaluation of the translation by the committee, the final version was sent to the author of the tool, which accepted and authorized the modifications made.

In pretest, internal consistency was verified in a sample of 50 nurses. It was observed that the Cronbach’s Alpha coefficient for the 24 items of the counseling was 0.916, which indicates strong internal consistency and, therefore, high reliability of the scale (Table 1). The Cronbach’s Alpha coefficient of the total tool would increase only 0.01 with the removal of “Eu registro o uso de tabaco do meu paciente” item 2. Therefore, the item was maintained due to its importance (Table 1).
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Table 1. Results of internal consistency analysis for the 24 counseling items

<table>
<thead>
<tr>
<th>Item</th>
<th>Correlation coefficient (between item and score)</th>
<th>Cronbach’s Alpha if the item 2 is excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eu avalio o uso de tabaco do meu paciente.</td>
<td>0.263</td>
<td>0.916</td>
</tr>
<tr>
<td>2. Eu registro o uso de tabaco do meu paciente.</td>
<td>0.299</td>
<td>0.917</td>
</tr>
<tr>
<td>3. Eu aconselho os usuários de tabaco a parar de fumar.</td>
<td>0.263</td>
<td>0.916</td>
</tr>
<tr>
<td>4. Eu pergunte aos usuários de tabaco se eles estão dispostos a parar neste momento.</td>
<td>0.263</td>
<td>0.916</td>
</tr>
<tr>
<td>5. Se os usuários de tabaco estão dispostos a parar, eu falso recursos e assistência.</td>
<td>0.632</td>
<td>0.911</td>
</tr>
<tr>
<td>6. Se os usuários de tabaco não estão dispostos a parar, eu falso recursos e ajudo o paciente identificar as barreiras para parar de fumar.</td>
<td>0.704</td>
<td>0.909</td>
</tr>
<tr>
<td>7. Eu aconselho os fumantes a definir uma data de parada.</td>
<td>0.704</td>
<td>0.909</td>
</tr>
<tr>
<td>8. Eu aconselho os fumantes a conseguir o apoio da família, amigos e colegas de trabalho.</td>
<td>0.704</td>
<td>0.909</td>
</tr>
<tr>
<td>9. Eu rejeio as tentativas passadas de parar de fumar- o que ajudou, o que levou a recaída.</td>
<td>0.704</td>
<td>0.909</td>
</tr>
<tr>
<td>10. Eu ajudo o paciente a antecipar desafios, particularmente durante as primeiras semanas críticas.</td>
<td>0.672</td>
<td>0.910</td>
</tr>
<tr>
<td>11. Eu ajudo o paciente a antecipar a retirada da nicotina.</td>
<td>0.370</td>
<td>0.915</td>
</tr>
<tr>
<td>12. Eu identifico razões para parar os os benefícios de parar.</td>
<td>0.743</td>
<td>0.908</td>
</tr>
<tr>
<td>13. Eu aconselho os pacientes que a abstinência total é essencial- nem mesmo uma tragada.</td>
<td>0.574</td>
<td>0.912</td>
</tr>
<tr>
<td>14. Eu aconselho os pacientes que o consumo de álcool está fortemente associado a recaídas.</td>
<td>0.574</td>
<td>0.912</td>
</tr>
<tr>
<td>15. Eu aconselho os pacientes que ter outros fumantes na casa dificulta o parar bem-sucedido.</td>
<td>0.529</td>
<td>0.913</td>
</tr>
<tr>
<td>16. Eu recomendo o uso de adesivos, gomas de mascar ou pastilhas de nicotina; ou adquiro uma prescrição para spray nasal, inalador ou bupropiona, a menos que seja contra-indicado.</td>
<td>0.517</td>
<td>0.913</td>
</tr>
<tr>
<td>17. Eu fornço o número do Disque Saúde 136.</td>
<td>0.516</td>
<td>0.913</td>
</tr>
<tr>
<td>18. Eu encaminho o paciente à recursos on-line do Ministério da Saúde/Programa Nacional de Controle do Tabagismo.</td>
<td>0.516</td>
<td>0.913</td>
</tr>
<tr>
<td>19. Eu encaminho o paciente a recursos on-line para “Passa a passo para parar de fumar”.</td>
<td>0.516</td>
<td>0.913</td>
</tr>
<tr>
<td>20. Eu uso materiais de cessação que são apropriados para idade, cultura, linguagem, educação e estado de gravidez.</td>
<td>0.498</td>
<td>0.913</td>
</tr>
<tr>
<td>21. Eu falso informações para visitas de acompanhamento (follow-up) conjunto com o médico do paciente, enfermeiro/equipe multidisciplinar.</td>
<td>0.561</td>
<td>0.912</td>
</tr>
<tr>
<td>22. Eu aconselho os pacientes se ocorrer recaídas, eles devem repetir a tentativa de parar de fumar- é parte do processo de parar.</td>
<td>0.508</td>
<td>0.913</td>
</tr>
<tr>
<td>23. Eu aconselho os pacientes se ocorrer recaídas, eles devem rever as circunstâncias e aprender a partir das experiências.</td>
<td>0.561</td>
<td>0.912</td>
</tr>
<tr>
<td>24. Eu aconselho os pacientes se ocorrer recaídas, eles devem reavaliar o uso e os problemas da farmacoterapia.</td>
<td>0.472</td>
<td>0.914</td>
</tr>
</tbody>
</table>

Cronbach’s Alpha = 0.916 (with all items)
Cronbach’s Alpha = 0.917 (with the removal of item 2)

After cross-cultural adaptation of the Smoking Cessation Counseling scale, the denomination into Portuguese of this tool translated and adapted would be “Escala de Avaliação do Aconselhamento para Cessação do Tabagismo” respectively. National Quitline is a free line that has smoking cessation services for US residents in each state. The line has services that help users quit smoking, including individual counseling, practical information, referrals, and help materials. During production of the synthesis of translation, some discussions were necessary with the translators to minimize possible errors or additions of words and expressions that could change the meaning of the items in the scale.

Some items had to be adapted to Brazil, such as “17. I provide the number for the toll-free National Quitline” and “18. I refer the patient to web resources for Agency for Healthcare Research and Quality”. The two items referred tobacco users for services such as the National Quitline and Agency for Healthcare Research and Quality, which are services equivalent to the Brazilian programs “Disque Saúde” and “Ministério da Saúde/Programa Nacional de Controle de Tabagismo” respectively. National Quitline is a free line that has smoking cessation services for US residents in each state. The line has services that help users quit smoking, including individual counseling, practical information, referrals, and help materials.

Discussion

This study presented positive results during translation, cross-cultural adaptation and application of the SCC-BV scale to Brazilian nurses. It is a specific, consistent and reliable tool that will aid in the evaluation of nurse intervention practices in smoking cessation counseling.

In the translation process, few differences were found in the translated terms. The divergences between the two translators, observed in five items, did not compromise the meaning of the text, in view of the use of different synonyms and writing styles.

During production of the synthesis of translation, some discussions were necessary with the translators to minimize possible errors or additions of words and expressions that could change the meaning of the items in the scale.
information on the risks and benefits of quitting smoking, individual counseling, online resources, methods for quitting smoking, materials for help, and referrals to other services. The two services are equivalent, which justifies the adaptation to the Brazilian reality of the “Eu forneço o número do Disque Saúde 136” item 17.

The Agency for Healthcare Research and Quality (AHRQ) is the leading federal agency in the United States charged with improving the safety and quality of the health system in the US. AHRQ develops research, tools, and data needed to improve the healthcare system and help Americans and healthcare professionals make decisions and improve the healthcare system. It has several health programs with the emphasis on smoking. The Brazilian Ministry of Health is a federal agency that aims to offer conditions for the promotion, protection and recovery of the population’s health. It reduces diseases, controls diseases and improves health surveillance, thus giving a better quality of life to the Brazilian population. The Ministry of Health develops research and tools, trains health professionals, and promotes programs such as NTCP. The two bodies mentioned above are equivalent and have many similarities in the conduction of smoking cessation, which justifies the adequacy of “Eu encaminho o paciente a recursos on-line do Ministério da Saúde/Programa Nacional de Controle do Tabagismo” item 18.

There are factors that contribute to the success of smoking cessation: smoking cessation determination, support received, use restrictions, smoking cessation benefits, information on the harmful effects of smoking, awareness campaigns, and use of resources. These factors are all contemplated in the Ministry of Health’s NTCP. The two bodies mentioned above are equivalent and have many similarities in the conduction of smoking cessation, which justifies the adequacy of “Eu encaminho o paciente a recursos on-line do Ministério da Saúde/Programa Nacional de Controle do Tabagismo” item 18.

Therefore, it is understood that the adaptation of items 17 and 18 was carried out in a manner appropriate to the Brazilian reality and respecting the similarities with the resources contemplated in the original tool. Some translation and cross-cultural adaptation studies in the current literature also show in the synthesis of translations that there was a need to adapt the translation of their tools to the reality under study. Adaptations were necessary due to the differences between cultures and reality of Brazilian nurses’ practices. These changes and the nature of nursing care require special attention to cross-cultural research methodology.

In back-translation, there were no difficulties translating the items back to English, except for two items that did not have the same results as the original due to the adjustments to the Brazilian reality already mentioned above. Despite the differences, the context of the tool was not changed.

It should be emphasized that translation and cross-cultural adaptation studies show that back-translation can suffer few changes or difficulties when choosing experienced back-translators in the health area and in the studied phenomenon. This study had as inclusion criteria: be born and literate back-translators in the original language country of the scale; have a cultural linguistic command of Brazilian Portuguese; have training in nursing, which justifies the few divergences during SCC-BV scale back-translation process.

Accordingly, the back-translations and other translations of the previous phases were sent to the evaluation of the experts committee that concluded that the back-translation maintained semantic and idiomatic equivalence of SCC-BV.

After this evaluation process of the experts’ committee, SCC-BV was applied to the sample of 50 nurses to analyze the internal consistency of the translated and adapted tool. Although the removal of some items increased Cronbach’s Alpha coefficient, this increase was very small and, in this case, irrelevant. Newhouse et al.’s internal consistency reached a Cronbach’s Alpha coefficient for the 24 items of 0.955, while the present study was 0.916, indicating strong internal consistency and, therefore, high tool reliability.

The cross-cultural adaptation of the Smoking Cessation Counseling (SCC) scale proved to be hard and meticulous work, with methodological limitations due to the very size of the process. The final version adapted to Brazilian Portuguese from the Smoking Cessation Counseling (SCC-BV) tool makes it possible to study the impact of nursing counseling on smoking cessation and to identify which nursing activities are most effective in reduc-
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...ing smoking. Additional analyzes on the psychometric properties of SCC-BV are being conducted after cross-cultural translation and adaptation. These results will also be disclosed.

**Conclusion**

The SCC-BV has cultural equivalence with the original tool and evidence of high reliability. Other psychometric properties are under investigation.

**Collaborations**

Zambardi JMR, Lopes CT, Morais SCR, Newhouse RP, Lopes JL and Barros ALBL contributed to the study design paper writing, relevant critical review of intellectual content, and approval of the final version to be published.

**References**


