Cross-cultural adaptation of the Brazilian version of the Vocal Fatigue Index – VFI

Equivalência cultural da versão brasileira do Vocal Fatigue Index – VFI

ABSTRACT

The purpose of this study was to perform the cultural adaptation of the Brazilian version of the Vocal Fatigue Index (VFI). Two Brazilian bilingual speech-language pathologists (SLP) translated the original version of the VFI in English into Portuguese. The translations were reviewed by a committee of five voice specialist SLPs resulting in the final version of the instrument. A third bilingual SLP back-translated this final version and the same committee reviewed the differences from its original version. The final Portuguese version of the VFI, as in the original English version, was answered on a categorical scale of 0-4 indicating the frequency they experience the symptoms: 0=never, 1=almost never, 2=sometimes, 3=almost always, and 4=always. For cultural equivalence of the Portuguese version, the option “not applicable” was added to the categorical scale and 20 individuals with vocal complaints and dysphonia completed the index. Questions considered “not applicable” would be disregarded from the Brazilian version of the protocol; no question had to be removed from the instrument. The Brazilian Portuguese version was entitled “Índice de Fadiga Vocal – IFV” and features 19 questions, equivalent to the original instrument. Of the 19 items, 11 were related with tiredness of voice and voice avoidance, five concerned physical discomfort associated with voicing, and three were related to improvement of symptoms with rest or lack thereof. The Brazilian version of the VFI presents cultural and linguistic equivalence to the original instrument. The IFV validation into Brazilian Portuguese is in progress.

RESUMO

O objetivo deste estudo foi desenvolver a equivalência cultural da versão brasileira do protocolo Vocal Fatigue Index – VFI. Dois fonoaudiólogos brasileiros bilíngues traduziram a versão original do VFI do inglês para o português. As traduções foram revisadas pelos pesquisadores e por um comitê de cinco fonoaudiólogos especialistas em voz, chegando-se a uma versão final do instrumento. Um terceiro fonoaudiólogo bilíngue retrotraduziu essa versão final e o mesmo comitê reviu as diferenças em relação à versão original. A versão final em português é respondida de acordo com a frequência de ocorrência em que se experienciam os sintomas: 0 = nunca, 1 = quase nunca, 2 = às vezes, 3 = quase sempre e 4 = sempre. Para a equivalência cultural da versão em português, a opção “não aplicável” foi acrescida na chave de respostas e 20 indivíduos com queixa vocal e disfonia completaram o instrumento. Se alguma questão fosse considerada “não aplicável”, seria eliminada da versão brasileira do protocolo; nenhuma questão foi eliminada do instrumento. A versão em português brasileiro foi intitulada Índice de Fadiga Vocal – IFV e apresenta 19 questões, da mesma forma que o instrumento original. Dos 19 itens, 11 referem-se à fadiga e restrição vocal, 5, ao desconforto físico associado à voz e 3 à recuperação dos sintomas com o repouso. A versão para o português brasileiro do IFV apresenta equivalência cultural e linguística em relação ao instrumento original. A validação do IFV para o português brasileiro está em andamento.

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Financial support: “Coordenação de Aperfeiçoamento de Pessoal de Nível Superior” - CAPES.

Conflict of interests: nothing to declare.
INTRODUCTION

Vocal fatigue is an individual perception manifested by increased vocal effort associated with increased vocal demands, which improves with voice rest[6]. Vocal fatigue is also described as a symptom of vocal change or when associated with negative behaviors, as the cause of dysphonia[7]. Frequently, presence of vocal fatigue is assessed by the presence of a variety of symptoms[7-9]. Various definitions of vocal fatigue exist in the literature resulting in increased difficulty to accurately assess vocal fatigue from the patient perspective[6,7].

Recently, an American group of researchers developed and validated the Vocal Fatigue Index – VFI[7], a tool that assists in the reliable identification of individuals with vocal fatigue. The American English protocol has 19 questions divided into three domains: tiredness of the voice and voice avoidance, physical discomfort associated with voicing, and improvement of symptoms with rest or lack thereof[7].

According to the international Scientific Advisory Committee of Medical Outcomes Trust standards[8], any instrument must be validated to be used in another language and culture. The first step for this validation is the cultural and linguistic adaptation, thus, language, cultural and social differences that might exist for the application of the instrument in the new culture and language are addressed.

Therefore, the aim of this study was to perform the cultural equivalence of the VFI for Brazilian Portuguese by its cultural and linguistic adaptation.

METHODS

This prospective research was approved by the Research Ethics Committee of the “Universidade Federal Sao Paulo” - UNIFESP (CAAE: 09205412.1.0000.5505 under the protocol number 159.968, date: 29.11.2012). All study participants agreed to participate and signed an Informed Consent Form.

The VFI[7] was translated into Brazilian Portuguese by two Brazilian bilingual speech-language pathologists (Translator 1 - T1 and Translator 2 - T2), who conducted the conceptual translation. The translations were analyzed and compared by a committee of five speech-language pathologists specialized in voice with proficiency in English. Differences were discussed and, if necessary, modifications were made, resulting in the final translated version (Portuguese version - PV).

A third Brazilian bilingual speech-language pathologist, who did not participate in the previous steps, back-translated the final version into English. This version was compared to the original English version of the protocol resulting in the Portuguese version with semantic and language adaptation. Any conceptual differences were again discussed by the researchers and by the same committee who participated in the previous step, resulting in the final version with cultural and linguistic equivalence of the VFI.

The final version in Portuguese, as well as the original version in English, are completed on a categorical scale according to frequency of occurrence of symptoms: 0 = never, 1 = almost never, 2 = sometimes, 3 = almost always, and 4 = always. For the cultural equivalence of the Portuguese version, the option “not applicable” was added to the categorical scale and 20 individuals with vocal complaints and dysphonia were asked to complete the Portuguese version of the VFI. The questions considered as “not applicable” were disregarded from the Brazilian version.

Inclusion criteria for the 20 individuals were presence of vocal complaints and any type, degree and etiology of dysphonia. Exclusion criteria were use of medications for psychiatric diseases and/or presenting any neurological disorder that prevented the understanding of the questionnaire.

RESULTS

The Brazilian Portuguese version of VFI was entitled “Índice de Fadiga Vocal – IFV”. The participants did not choose “not applicable” for any of the questions and hence no question had to be eliminated or modified in the linguistic and cultural adaptation. The translation protocol and cultural adaptation process are found in Chart 1.

As in the original VFI, the translated version has 19 questions divided into three domains: the first consists of eleven items related to tiredness of the voice and voice avoidance; the second has five items about physical discomfort associated with voicing, and the third has three items regarding improvement of symptoms with rest or lack thereof (Appendix A).

DISCUSSION

Vocal fatigue is a current topic with relevance to research on dysphonic individuals or at risk populations[5-7]. Few studies have developed specific instruments for self-assessment of vocal fatigue, and none has been developed or validated for Brazilian Portuguese, which makes the cultural and linguistic adaptation necessary as the first step for the validation of such instrument[8].

The cultural and linguistic adaptation aims to adjust the items of an instrument for its use for the population in concern; therefore, any sociocultural differences between cultures and languages are solved. It is important to highlight that this is not a literal translation of the original instrument[8], thus, it can be used in individuals from the target culture. Such methodology of cultural adaptation has been utilized for the translation and validation of other Brazilian Portuguese instruments of the speech language pathology field[6-15].

With the completion of translation and adaptation for Brazilian Portuguese, the “IFV” validation process was initiated. The aim of the validation is to demonstrate the psychometric properties of validity, reliability, and sensitivity of the Brazilian version, which enables its reliable use for research and clinical practice[8]. Future research with the “IFV” can compare vocal fatigue aspects of dysphonic individuals with other self-assessment instruments, or include vocal fatigue characteristics as a multidimensional evaluation item for at risk groups.
| Questions | Original version in English | Translation into Brazilian Portuguese |
|-----------|-----------------------------|---------------------------------------|
| 1         | I don't feel like talking after a period of voice use. | Tendou que fazer força para produzir a voz depois que falei um pouco mais. |
| 2         | My voice feels tired when I talk more. | Minha voz fica cansada quando eu falo muito. |
| 3         | I experience increased sense of effort with talking. | Sinto que o esforço aumenta enquanto falo. |
| 4         | My voice gets hoarse after I had been speaking quite a bit. | Tenho que fazer força para produzir a voz após falar muitos minutos. |
| 5         | I have trouble projecting my voice when I speak. | Tenho dificuldade para projetar minha voz quando falo. |
| 6         | It is effortful to produce my voice after a period of voice use. | Preciso fazer certo esforço para falar depois de ter conversado por um tempo. |
| 7         | I feel I cannot talk to my family after a work day. | Preciso falar com minha família depois de um dia de trabalho. |
| 8         | It is difficult to project my voice with voice use. | Tendo que fazer força para produzir a voz após ter falado pouco mais. |
| 9         | I have social situations after a work day. | Tenho dificuldades para falar com minha família depois de um dia de trabalho. |
| 10        | I find it difficult to project my voice when I speak. | Tenho dificuldade para projetar minha voz quando falo. |

Legend: T1 = English-Portuguese translator number 1; T2 = English-Portuguese translator number 2; PV = Portuguese version of the compilation of translations T1 + T2.

Caption: T1 = English-Portuguese translator number 1; T2 = English-Portuguese translator number 2; PV = Portuguese version of the compilation of translations T1 + T2.
| Questions |
|-----------|
| My voice feels weak after a period of voice use. |
| Minha voz fica fraca depois de eu falar um pouco mais |
| Fico com dor na garganta ao final do dia quando uso a voz. |
| Quando eu falo muito sinto dor para falar. |
| No final do dia, quando falo, sinto dor na garganta. |

| Questions |
|-----------|
| I experience pain in the neck at the end of the day with voice use. |
| Quando uso da voz, fico com dor no pescoço ao final do dia |
| Eu tenho dores no pescoço no final do dia quando uso a voz. |
| Quando eu falo muito sinto dor para falar. |
| No final do dia, quando falo, sinto dor na garganta. |

| Questions |
|-----------|
| I experience throat pain at the end of the day with voice use. |
| Quando uso a voz, fico com dor na garganta ao final do dia |
| Eu tenho dores na garganta no final do dia quando uso a voz. |
| Quando eu falo muito sinto dor para falar. |
| No final do dia, quando falo, sinto dor na garganta. |

| Questions |
|-----------|
| My voice feels sore when I talk more |
| Tenho a sensação de que falar fica dolorido quando eu falo mais |
| Minha voz parece ruim quando falo muito |
| Quando falo muito sinto dor para falar. |
| Quando eu falo muito sinto dor para falar. |

| Questions |
|-----------|
| The effort to produce my voice decreases with rest |
| Quando eu descanso, faço menos força para falar |
| Minha rouquidão diminui quando descanso. |
| Quando eu descanso, minhas vozes ficam menos roucas. |
| Quando eu descanso, minhas vozes ficam menos roucas. |

| Questions |
|-----------|
| The hoarseness of my voice gets better with rest |
| Quando eu descanso, minhas vozes ficam menos roucas. |
| Quando eu descanso, minhas vozes ficam menos roucas. |
| Quando eu descanso, minhas vozes ficam menos roucas. |
| Quando eu descanso, minhas vozes ficam menos roucas. |

Caption: T1 = English-Portuguese translator number 1; T2 = English-Portuguese translator number 2; PV = Portuguese version of the compilation of translations T1 + T2
CONCLUSION

The Brazilian Portuguese version of the instrument, “Índice de Fadiga Vocal – IFV”, presents cultural and linguistic equivalence to its original version, Vocal Fatigue Index - VFI. The validation of the VFI for Brazilian Portuguese is ongoing.

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Author contributions

FZ was in charge of the study conception, collection, classification and analysis of data, and writing of the manuscript; FM was responsible for the collection and analysis of data and writing of the manuscript; CN was responsible for developing the original instrument, data analysis, and reviewing the content and manuscript version in English; MB was responsible for the study conception and final revision of the manuscript.
Appendix A. Translated and culturally adapted version of the protocol Vocal Fatigue Index – VFI, called “Índice de Fadiga Vocal – IFV”

Índice de Fadiga Vocal – IFV

Nome completo: _______________________________________________________________________________________

Data de nascimento: _____/_____/________

Data de hoje: _____/_____/________

As frases abaixo apresentam alguns sintomas frequentemente associados a problemas de voz. Assinale a resposta que indica o quanto você apresenta o mesmo sintoma.

0 = nunca
1 = quase nunca
2 = às vezes
3 = quase sempre
4 = sempre

| Fadiga e restrição vocal                                                                 | 0 | 1 | 2 | 3 | 4 |
|------------------------------------------------------------------------------------------|---|---|---|---|---|
| 1. Fico sem vontade de falar depois que falei um pouco mais.                              |   |   |   |   |   |
| 2. Minha voz fica cansada quando eu falo muito.                                          |   |   |   |   |   |
| 3. Sinto que o esforço aumenta enquanto falo.                                            |   |   |   |   |   |
| 4. Minha voz fica rouca depois que falo.                                                  |   |   |   |   |   |
| 5. Tenho que fazer força para produzir a voz.                                            |   |   |   |   |   |
| 6. Procuro evitar falar depois que usei muito a voz.                                      |   |   |   |   |   |
| 7. Evito situações sociais quando sei que vou ter que falar muito.                      |   |   |   |   |   |
| 8. Tenho dificuldades para falar com minha família depois de um dia de trabalho.        |   |   |   |   |   |
| 9. Tenho que fazer força para produzir a voz depois que falei um pouco mais.             |   |   |   |   |   |
| 10. Tenho dificuldade para projetar a minha voz enquanto falo.                           |   |   |   |   |   |
| 11. Minha voz fica fraca depois que eu falei um pouco mais.                              |   |   |   |   |   |

| Desconforto físico associado à voz | 0 | 1 | 2 | 3 | 4 |
|-----------------------------------|---|---|---|---|---|
| 12. Fico com dor no pescoço ao final do dia quando uso a voz.                           |   |   |   |   |   |
| 13. Fico com dor na garganta ao final do dia quando uso a voz.                         |   |   |   |   |   |
| 14. Quando eu falo muito sinto dor para falar.                                         |   |   |   |   |   |
| 15. Quando eu falo minha garganta dói.                                                 |   |   |   |   |   |
| 16. Quando eu falo sinto desconforto no pescoço.                                        |   |   |   |   |   |

| Recuperação com repouso vocal                                                  | 0 | 1 | 2 | 3 | 4 |
|--------------------------------------------------------------------------------|---|---|---|---|---|
| 17. Quando eu descanso minha voz melhora.                                       |   |   |   |   |   |
| 18. Quando eu descanso faço menos força para falar.                             |   |   |   |   |   |
| 19. Quando eu descanso minha voz fica menos rouca.                              |   |   |   |   |   |