LOCOMOTOR APPARATUS IN EXERCISE AND SPORTS

TRANSLATION AND CULTURAL ADAPTATION TO BRAZILIAN PORTUGUESE OF THE WESTERN ONTARIO SHOULDER INSTABILITY INDEX (WOSI)

ORIGINAL ARTICLE

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ABSTRACT

Introduction: Shoulder instability is a common problem that usually affects patients on their second or third decades of life and athletes who practice throwing or contact sports. Its consequences are pain, decrease of activity level and general decrease in the quality of life. Many treatments have been used to the different types of instability; however, there are few instruments of evaluation that prove their efficacy. In order to apply evaluation measures in health used and developed for another idiom, it is necessary to do the transcultural equivalency, being unnecessary the creation and validation of another instrument that evaluates the condition under interest. The objective of this study was to do the translation and cultural adaptation of the WOSI scale (The Western Ontario Shoulder Instability Index) to Brazilian Portuguese. Materials and methods: The applied protocol consisted of: 1) Preparation, 2) Translation, 3) Back-Translation, 4) Cognitive Interrogatory and 5) Information Report. After the conclusion of the translation and back-translation, the versions were sent to the original WOSI authors who approved the continuation of the study. The Portuguese version was applied in 35 patients with shoulder instability to verify the instrument's level of comprehension. The final Brazilian WOSI version was concluded after reaching less than 15% of "no comprehension" in each item. To analyze the variables, descriptive statistics was applied. Results: To obtain the cultural equivalency, modifications and terms alterations suggested by the patients for the items "no comprehension" were done. Conclusion: After the translation and cultural adaptation of the scale, the WOSI Portuguese version was accomplished.

Keywords: instability, questionnaires, translation, quality of life.

INTRODUCTION

Shoulder instability is a common problem which affects patients, more frequently on their second and third decades of life[1] and athletes who participate in throwing or contact sports[2]. Among its consequences we can mention pain, decrease of activity level and general decrease in quality of life[3,4].

Many treatments have been proposed for the many kinds of instability; however, there are few evaluation instruments which prove their efficacy.

Over the last years, the use of questionnaires as an evaluation instrument has been intensified in the scientific research. Such fact is due to the increasing interest in subjective methods of clinical evaluation. Therefore, the patient's opinion about his/her health condition is valued. These instruments, usually designed in English, evaluate the impact of these disorders in the quality of life of the patients.These questionnaires should be chosen according to the goal to be reached, and, based on this, the measures properties should be clear and correlate to the specific goal[5].

The development of translation and cultural adaptation methods enabled that an instrument developed to be used in a given language and culture can also be used, after translation and adaptation, in another language and cultural context[5].

The validation phase consists in verifying whether the new instrument kept the characteristics of the original version. The psychometric properties more commonly analyzed in this phase are validity, reproducibility and sensitivity to changes. This entire process is relevant so that the instrument is culturally accepted in the considered country and equivalent to the original version[6-9].

The WOSI (The Western Ontario Shoulder Instability Index) is a quality of life questionnaire developed in English.The study of its psychometric properties showed strong correlation with the instruments Disabilities of the Arm, Shoulder and Hand (DASH) and UCLA Shoulder Rating Scale, while in the reproducibility evaluation the intraclass correlation index was considered excellent[1]. It was designed and validated to be applied in patients with shoulder instability. Since it is a specific instrument, it includes aspects of quality of life relevant to this disease. It contains 21 questions, including four domains: 1) physical symptoms; 2) sports, leisure and work; 3) lifestyle; and 4) emotional status[1].

The response format to the questions in the WOSI is through analog visual scale (AVS). All questions have the same ponderal value. Therefore, each item has the possibility to be punctuated from 0 to 100 in the AVS and the final result may range from 0 to 2,100. The 0 total implies in no reduction in quality of life and 2,100 is the worst punctuation.

The aim of this study was to translate and culturally adapt the questionnaire WOSI to Brazilian Portuguese.

MATERIALS AND METHODS

35 patients with clinical diagnosis of shoulder instability, of different educational, socioeconomical and cultural levels participated in the study.Mean age was 25 years (18-36 years), with 80% being male and 20%, female athletes. Concerning the educational level, 8.5% had graduated from elementary school; 71.5% from high school and 20% from college. The exclusion criteria were illiteracy, cognitive alterations, visual problems, neurological and rheumatic disease or other conditions specific to the shoulder joint.

The study was carried out in the Center of Sports Traumatology (CETE-Unifesp).

The authors of the original WOSI authorized the study by e-mail and the work was approved by the Ethics in Research Committee of the Federal University of São Paulo. All subjects received clarifications about the procedures to be applied and signed the informed consent form.

The translation to Portuguese and cultural adaptation processes of the WOSI were performed according to the specific protocol of linguistic equivalence suggested and sent by the authors of the WOSI original version. This protocol follows the criteria defined by the MAPI Research Institute[10] and according to Aquadro et al[11]. It comprises five phases: preparation, translation, translation back to the original language (retrotranslation), cognitive questioning and information report.

In the preparation phase, the original WOSI authors were contacted for definitions of their concepts and authorization for its use.

The WOSI initial translation was performed by two independent certified translators who have Portuguese as their first language. Thus, two distinct versions of the questionnaire were obtained: "V1" and "V2". After this phase, both translators and the main researcher met and they defined a consensual version "V3" in Portuguese.

The "V3" was translated back to English (retrotranslation) by a third certified translator who has English as first language, fluency in Portuguese and had no knowledge about the original questionnaire. A meeting with the last translator and the main researcher was set and the original version, the "V3" and the retrotranslation were compared so that a consensual version in Portuguese ("V4") could be established.

The translations were sent to the authors of the original version, who analyzed and approved them according to criteria by the MAPI Research Institute[10] to keep the questionnaire's originality, acknowledge it as the official version of the target language and avoid proliferation of unauthorized versions.

The cognitive questioning phase was performed with the "V4", to test clarity, comprehension and acceptability with five individuals. The main researcher read the items of the instrument out loud to these individuals. These individuals had to: 1) answer if they had understood (yes or no), 2) comment on what they had understood from each item read and 3) suggest alterations if there was any "not understood" item. According to the results of this test, the translation was modified so that the version "V5" could be established.

On the second phase of the cognitive questioning, the version "V5" was then applied to other 15 patients to refine the clarity and comprehension test of the instrument, and the items with 15% or more of "non-comprehension" were redone. After this phase, the questionnaire was applied to other 15 patients with the same purpose, on a third phase of the cognitive questioning. Finally, the Brazilian version of the WOSI was defined.

The statistics analysis used in the study was descriptive.

RESULTS

In the initial translation, versions "V1" and "V2" presented similarities. Small differences were found in questions 2, 4, 5, 6, 10, 14 and 17 and these are in table 1. The consensual version "V3" was designed after a discussion between the initial translators and the main researcher.

Version "V4" was set after the retrotranslation; it was then sent to the authors of the original version. The alteration of question 17 was suggested(roughhousingandhorsing around)which does not find idiomatic equivalence in Brazil, to any kind of rough playing which overloads the shoulder and is not violent. The question was then translated as "play, roll on the floor".

Table 1. Alterations in the translation phase.

Item in the questionnaire	"V1" and "V2"*	Consensual version "V3"	Final version
2- "aching or throbbing"	"VA1": dor de pequena intensidade ou pulsação "VA2": dor ou latejamento	dor ou latejamento	dor ou latejamento
4- "lack of stamina"	"VA1": falta de resistência "VA2": falta de energia	falta de energia	falta de energia
5- "clicking, cracking or snapping"	"VA1": estalido, estrépito ou som curto e súbito "VA2": estalos, estalidos ou estrépitos	estalos, estalidos ou som curto e súbito	estalos, estalidos ou som curto e súbito
6- "stiffness"	"VA1": inflexibilidade "VA2": enrijecimento	enrijecimento	enrijecimento/ endurecimento
10- "loss of range of motion"	"VA1": perda em extensão de movimento "VA2": nível de perda de movimentos	extensão de perda de movimento	nível de perda de movimento
14- "lifting heavy objects below shoulder-level"	"VA1": levantar objetos pesados abaixo do nível do ombro "VA2": suspender objetos pesados abaixo do nível do ombro	suspender objetos pesados abaixo do nível do ombro	suspender objetos pesados abaixo do nível do ombro
17- "roughhousing" e "horsing around"	"VA1": brincadeiras brutas ou agressivas "VA2": jogos ou brincadeiras mais violentas	jogos ou brincadeiras mais violentas	brincar, rolar no chão (por sugestão da autora do WOSI)
19- "conscious"	"VA1": ciente ou frustrado "VA2": consciente	consciente	frustrado

*"V1": Portuguese version referring to the first translator and "V2" Portuguese version referring to the second translator

In the cognitive questioning, alterations for question 6 were suggested, where the expression "enrijecimento" was modified to "enrijecimento/endurecimento" and for question 19, where the expression "consciente" was modified to "frustrado". Thus, version "V5" which was applied to 15 patients was designed. On that phase, only question 19 was classified as "not understood" by one patient (6.7%), hence, this question did not need to be redone.

In order to confirm the comprehension of all questions, version "V5" was applied in 15 extra patients and 100% of comprehension was obtained in all questions.

Finally, the translated and adapted to Brazilian Portuguese version of the WOSI scale was obtained.

DISCUSSION

The WOSI translation and cultural adaptation to Portuguese procedure followed the protocol suggested by the authors of the original version[10,11]. All WOSI versions in other languages under development use this very protocol. In the WORC (Western Ontario Rotator Cuff Index) translation and cultural adaptation process to Portuguese, the same translation and cultural adaptation process was used[12]. Guillemin[8] proposes a standard procedure for translation and cultural adaptation of instruments. Although this procedure is followed and cited in many studies and the criteria are internationally acknowledged, it is difficult to be applied depending on the studied population. The complexity of the phases, its long duration and high cost are the main questioned points[12,13].

There were not great difficulties in translating and culturally adapting this questionnaire, since the use of pre-set criteria, the information exchange and the collaboration from the authors of the original version made the process easy. It is important that all phases of the translation, cultural adaptation and validation process of questionnaires are reported so that appropriate and suitably tested instruments can be chosen. The contrary would lead to biased or misunderstood results, with flaws from the inappropriate choice of a questionnaire to use of questionnaires without scientific value or their inadequate use[12].

After the WOSI questionnaire was applied to patients, we obtained suggestions which were analyzed and the questions were altered so that they could be culturally adapted. The authors of the original version suggested the alteration of question 17 (roughhousingandhorsing around) which does not present idiomatic equivalent in Brazil. In order to maintain the meaning of 'any rough play which overloads the shoulder and is not violent', the question was translated as "playing, rolling on the floor". The same alteration was suggested for the translation of the same question in the WORC[12].

Some patients suggested alterations for question 6, in which the expression "enrijecimento" was changed to "enrijecimento/endurecimento". In order to facilitate understanding, the term more used in daily life was added, keeping the original context. In question 19, the expression "consciente" was changed to "frustrado", keeping the meaning of concern with the shoulder function.

The answers of each WOSI question have the analog visual scale format (EVA). There was not difficulty in answering them according to the meaning of the symptoms progression represented by it, once the instructions of the questionnaire clearly explain how to use this kind of scale. The same situation was found in the translation and cultural adaptation of the WORC questionnaire[12].

After translation and cultural adaptation of the questionnaire, the WOSI Brazilian version was obtained. Although the original WOSI already has its psychometric properties studied[1], the investigation of the validity, reliability and responsiveness of the Portuguese version is under construction, since this information is crucial for supporting its use.

All authors have declared there is not any potential conflict of interests concerning this article.

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