



Original article

Forgotten Joint Score – Portuguese translation and cultural adaptation of the instrument of evaluation for hip and knee arthroplasties[☆]



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ABSTRACT

Objective: To translate and adapt culturally to Brazilian Portuguese the Forgotten Joint Score (FJS) patient-reported outcome questionnaire.

Methods: Forty-five patients in the postoperative period (3–12 months) of total knee and hip arthroplasty were asked to answer the Br FJS questionnaire, translated into Portuguese based on the guidelines of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR).

Results: Twenty-three patients completed the questionnaire correctly, suggesting changes when pertinent. In the first round of answers, it was observed that 20% had difficulty in understanding the expression “joint awareness.” In further harmonization of the questionnaire, it was decided to change the term “awareness” for “remember.” After this change no difficulty was observed in understanding for more than 85% of patients.

Conclusion: The FJS questionnaire was translated and culturally adapted to Brazilian Portuguese. Additional studies are underway to compare the reproducibility and validity of the Brazilian translation to other questionnaires already established for the same outcome.

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Tradução e adaptação cultural para a língua portuguesa do instrumento de avaliação para artroplastias de quadril e joelho *Forgotten Joint Score*

R E S U M O

Palavras-chave:

Joelho
Quadril
Artroplastia

Objetivo: Traduzir para a língua portuguesa e adaptar culturalmente para o Brasil o questionário autoavaliativo *Forgotten Joint Score* (FJS) para mensuração de desfecho clínico em artroplastia total de joelho e quadril.

Métodos: O processo de tradução seguiu as diretrizes da *International Society for Pharmacoeconomics and Outcomes Research* (ISPOR). Quarenta e cinco pacientes em pós-operatório (3-12 meses) de artroplastia total de joelho e quadril foram selecionados para responder ao *Forgotten Joint Score* traduzido para o português (Br-FJS) para a validação cultural do questionário.

Resultados: Responderam o questionário de maneira correta e sugeriram mudanças quando acharam pertinentes 23 pacientes. No primeiro ciclo de respostas, observou-se que 20% dos pacientes apresentaram dificuldade de compreensão da expressão “consciência articular”. Em nova harmonização do questionário, optou-se pela mudança da expressão “consciência” para a expressão “lembrar”. Após a mudança, mais de 85% dos pacientes não apresentaram dificuldades de compreensão.

Conclusão: O questionário FJS foi traduzido e adaptado culturalmente para o português do Brasil. Estudos adicionais estão em andamento para comparar a reprodutibilidade e validade da tradução brasileira a outros questionários já estabelecidos para o mesmo desfecho.

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Introduction

Hip and knee arthroplasties are surgical procedures that successfully treat lower limb pain and function in patients with coxarthrosis and gonarthrosis.¹⁻³ However, the outcome evaluation of these surgeries has changed over the years.^{4,5} Self-assessment methods based on postoperative quality of life were shown to be more relevant in the determination of surgical success than the clinical parameters assessed by surgeons,⁶ since the relevant improvement points for patients after arthroplasties may differ significantly from the clinical outcomes criteria used, without the bias of interobserver and intraobserver analysis.^{7,8}

The questionnaires frequently used to measure quality of life after arthroplasty that have been translated into Brazilian Portuguese are generic osteoarthritis assessment instruments, such as the Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC).⁹ The Knee Injury and Osteoarthritis Outcome Score (KOOS),¹⁰ Hip Outcome Score (HOS),¹¹ and Knee Society Score (KSS)¹² are more specific for the knee and hip joints. However, they were not specifically designed for arthroplasties.

Behrend et al.¹³ developed a new concept of a questionnaire to assess quality of life after total hip arthroplasty (THA) and total knee arthroplasty (TKA), whose objective is to measure the best possible outcome, “the patient’s ability to forget about the hip or knee operated” in daily life.¹⁴ The *Forgotten Joint Score* (FJS) is composed of 12 questions based on activities of daily living (ADL), with five possible answers.

This study aims to translate and culturally adapt the FJS questionnaire into Brazilian Portuguese (Br-FJS).

Methods

This study was approved by the Research Ethics Committee of the Institution in which the authors work, under the number CEP: 109449/2016.

The right to translate and culturally validate the FJS was obtained after contacting the developers of this instrument, who provided a contract to be signed; the authorization was granted after this signature.

The translation and cultural validation of the *Forgotten Joint Score* questionnaire for Brazilian Portuguese used the criteria described by Wild et al.,¹⁵ based on the concepts of the International Society for Pharmacoeconomics and Outcomes Research, which present ten sequential stages of development and follow the principles of equivalences: semantic, idiomatic, experimental or cultural, and conceptual, according to the orientation of the creators of the FJS.

1. Preparation: the two-week period used to obtain the authorization to translate the FJS, as well as to adapt the script used for cultural validation and the collection of all the material and documents required for the study.
2. Forward translation: The 12 questions and the five possible answers from the original English FJS questionnaire were translated separately by two independent orthopedic surgeons (Table 1).
3. Reconciliation: The two translations were compared and discussed by the two orthopedic surgeons in order to reach a consensus and create a single translation. It was observed that the word “consciência” (consciousness) was used as a translation of “awareness” by one surgeon, while the other used the word “lembrar” (remember) for the same

Table 1 – Forgotten Joint Score (FJS) questionnaire: original English version and the translations into Brazilian Portuguese during the process of cultural validation.

	FJS English Are you aware of your artificial joint...	Br-FJS 1st step Você tem consciência de sua articulação artificial...	Br-FJS final Você se lembra de sua articulação artificial...	Never Nunca	Almost never Quase nunca	Seldom Raramente	Sometimes Algumas vezes	Mostly A maior parte do tempo
1	...in bed at night?	...Quando você está Na cama à noite?	...Quando está na cama à noite?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	...When you are sitting on a chair for more than 1 hour?	...Quando você está sentado em uma cadeira por mais de uma hora?	...Quando você está sentado em uma cadeira por mais de uma hora?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	... When you are walking for more than 15 minutes?	...Quando você está andando por mais de 15 minutos?	...Quando você está andando por mais de 15 minutos?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	...When you are taking a bath/shower?	...Quando você está tomando banho?	...Quando você está tomando banho?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	... When you are traveling in a car?	... Quando você está viajando de carro?	... Quando você está viajando de carro?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	... When you are climbing stairs?	... Quando você está subindo escadas?	... Quando você está subindo escadas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	...When you are walking on uneven ground?	... Quando você está andando em um terreno irregular?	... Quando você está andando em um terreno irregular?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	...When you are standing up from a low-sitting position?	... Quando você se levanta de uma posição sentada baixa?	... Quando você se levanta de uma posição sentada baixa?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	...When you are standing for long periods of time?	... Quando você permanece em pé por um longo período?	... Quando você permanece em pé por um longo período?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	...When you are doing housework or gardening?	Quando você está fazendo tarefas domésticas ou jardinagem?	Quando você está fazendo tarefas domésticas ou jardinagem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	... When you are taking a walk/hiking?	... Quando você faz caminhada?	... Quando você faz caminhada?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	... When you are doing your favorite sport?	... Quando você faz seu esporte favorito?	... Quando você faz seu esporte favorito?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Score for the calculation of Br-FJS, all answers are added (never = 0 points; almost never = 1 point; rarely = 2 points; sometimes = 3 points; most of the time = 4 points), and then divided by the number of items answered. This mean value is subsequently multiplied by 25 to give a total score ranging from 0 to 100. Finally, the result must be subtracted from 100, in order to change the direction of the final score, so that higher scores indicate a high degree of "forgetting the artificial joint", i.e., a lower degree of awareness. If more than four answers are missing, the total score should not be used.
 $Br-FJS = 100 - (\text{answers added}/\text{no. of answers}) \times 25.$

meaning. The points of disagreement between the translations were discussed with a third orthopedic surgeon, so that the clearest option was chosen; therefore, the word “lembrar” was chosen as the translation of “awareness” (Table 1).

4. Back-translation: the consensual questionnaire translated into Brazilian Portuguese was back-translated by two native English-speaking professional translators in order to verify the correspondence with the original version.
5. Back-translation review: the two FJS back-translations into English and the Brazilian Portuguese translation were sent to the main authors so they could assess the correspondence of the Brazilian Portuguese version of the questionnaire with the original version.
6. Harmonization: discussion for the final version of the translation. The use of the word “lembrar” as a synonym of “consciência” was questioned; it was suggested to use the word “consciência,” so that the assessment instrument would be as faithful to the original as possible (Table 1).
7. Cognitive debriefing: the first final version of the Br-FJS was e-mailed to 45 patients in the postoperative period of TKA and THA, between and 12 months, in order to collect answers and suggestions regarding the interpretation and ease of understanding the questionnaire. A total of 23 patients correctly answered all of the Br-FJS questions (51%); five (21%) described the interpretation of the term “consciência” as confusing.
8. Review of cognitive debriefing: the results obtained in the previous phase were sent to the original authors; it was emphasized that 21% of the patients had difficulty interpreting the expression “consciência”. At that moment, the term “consciência” was replaced by the word “lembrar” in order to better culturally adapt the questionnaire. Then, a second final version was obtained.
9. Final test: the second final test was applied to 21 patients in an outpatient setting; all of them answered the questionnaire without complaints of difficulty in interpretation (Table 1).

Results

A total of 23 patients correctly answered all of the Br-FJS questions (51%); five (21%) described the interpretation of the term “consciência” as confusing; this fact was considered to be negative in the cultural adaptation of the postoperative assessment instrument.

After changing the expression “consciência” to “lembrar,” the same test was applied in 21 outpatients and no difficulties of interpretation were reported. Thus, the final version of the Br-FJS was defined (Table 1).

Discussion

The increase in the number of TKA and THA procedures worldwide¹⁶ exposes the need to improve the measurement of their clinical outcomes. However, the existence of multiple measuring instruments indicates that there is no ideal method yet.

For adherence to the instruments of evaluation of clinical outcomes, it is paramount that the assisting physician share with his patients the importance of these tools in the assessment of the treatment, as well as to improve future actions in therapeutic development.

Quality assessment in healthcare services has become increasingly relevant for the management and improvement of this section. Hospital accreditation agencies and institutional clinical programs for maintenance and improvement of assistance both stimulate and require practical and effective assessment tools.¹⁷ Keswani et al.¹⁸ described that, among the multiple topics of quality measurement (structural, process, clinical outcome, patient experience, and efficiency), clinical outcome (complications, readmissions and patient reported results) is the most relevant point, as it can have an impact on healthcare and economic policies.

The FJS was developed to assess the patient's ability to “forget about his artificial joint” during his daily activities and to implicitly evaluate rigidity, pain, function, expectation, level of activity, and psychosocial factors, while being self-administered, succinct, universal, and easy to apply.¹³

Behrend et al.¹³ demonstrated that the FJS, with only 12 questions, presented results comparable with those of WOMAC, with a lower “ceiling effect”; furthermore, it is able to differentiate not only the good and bad results, but also to discriminate the good results from the very good and excellent ones during the follow-up period. Giesinger et al.¹⁹ demonstrated that FJS had an advantage in the follow-up of surgical outcome up to two years postoperatively when compared with the WOMAC and KSS; those authors concluded that this new measurement instrument was the most responsive among the tests used.

The semantic equivalence during the translation process presented a single divergence, the word “awareness,” which was translated into Brazilian Portuguese as “consciência.”²⁰ This literal term was shown to be too broad and confusing to suggest the concept that arthroplasty interferes in the activities of some patients, limiting the universal interpretation of the term. The alteration to the word “lembrar” better conveyed the correct meaning, and was suggested by the patients themselves as a solution for understanding the proposed question.

FJS was shown to be a good tool for assessing the clinical outcomes of TKA and THA in populations in which translation and cultural adaptation have been made, such as Japanese and German.^{6,21} Additional studies are being developed to evaluate the reproducibility and validity of Br-FJS, as well as compare the SF-12 with its ability to measure outcome.

Conclusion

The Forgotten Joint Score questionnaire has been translated and culturally adapted into Brazilian Portuguese, and can be used in the clinical outcome measurements of TKA and THA.

Conflicts of interest

The authors declare no conflicts of interest.

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