TRANSLATION AND TRANSCULTURAL ADAPTATION OF THE MODIFIED HARRIS HIP SCORE

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ABSTRACT

Objective: Hip arthroscopy has been used for diagnostic as well as therapeutic purposes, and it is part of the daily arsenal of hip surgeons. Due to the need for arthroscopic evaluation of the results, Byrd proposed a modification of the Harris Hip Score by assessing pain and function. This study aimed to translate and cross-culturally adapt the evaluation protocol of the modified Harris Hip Score used in hip arthroscopies. Method: The method used consisted of: 1) an initial translation, 2) a back translation, 3) a pre-test and 4) a final test. Results: The Portuguese version was used with 30 patients with hip disorders to determine the level of comprehension of the protocol. Expressions which were not understood by patients during the pre-test were modified or replaced, and the final version was obtained by consensus. The final version of the questionnaire was used once again, with 100% understanding by patients. Conclusion: Thus we arrived at the final Portuguese version of the modified Harris Hip Score questionnaire. Verification of the validity of this version is already in progress.

Keywords: Translating. Arthroscopy. Hip. Quality of life.

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INTRODUCTION

Hip arthroscopy first appeared in 1931, initially performed by Burman on cadavers.[1] This procedure continued unsuccessful until the 1980s, when it attracted attention in the United State once again, with the development of medical instruments by James Glick and Thomas Sampson that allowed better access to the hip joint.[2-4]

It has been used both for diagnostic purposes such as: biopsy, diagnosis of painful hips in children, evaluation of juvenile chronic arthritis, evaluation of the osteoarthritic hip, among others; and for therapeutic purposes such as: articular debridement for pain relief in osteoarthrosis, removal of free bodies, cleaning and debridement in septic arthritis, ligament injuries, correction of lesions of the acetabular labrum, femoroacetabular impact among others and is part of the routine therapeutic arsenal of hip surgeons.[5-7]

A considerable number of quality of life questionnaires related to health have been developed in the last 25 years and are today essential tools in the analyses of scientific research. Due to the growing number of multicentric, multinational and multicultural surveys, the need for adaptation of quality of life questionnaires for use in other languages has increased rapidly.

The cultural adaptation of quality of life questionnaires for use in another country, culture and/or language calls for a method for the translation and equivalence of the original questionnaire.[8] Nowadays it is known that if a questionnaire is to be used in several cultures, the items should not only be translated, but also adapted culturally to preserve the validity of the tool.[8,9]

In 1969 Harris[10] created a scale to evaluate the functionality and quality of life of patients undergoing hip arthroplasty, known as the "Harris Hip Score" (HHS).

A scale with a maximum of 100 points, it evaluates pain, function, deformity and motion. Pain and function have the highest weight - 44 and 47 points respectively - while range of motion and deformity, with a lower weight, receive maximum values of 5 and 4 points.[10] Function is evaluated by questions about daily life activities and gait, including limp, use of walking aid and maximum distance covered[6]. A total score below 70 points is considered a poor result, 70 to 80 reasonable, 80 to 90 good and 90 to 100 excellent.[10]

Due to the need for evaluation of the arthroscopic results, Byrd proposed the modification of the Harris Hip Score, evaluating pain (44 points) and function (47 points). The multiplication by constant "1,1" results in a possible total score of 100 points. The criteria of deformity (4 points) and range of motion (5 points) were eliminated because neither one of these two parameters are main indications of hip arthroscopy.

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Although among the most frequently used, the Harris Hip Score modified by Byrd was not translated and adapted culturally for use in the Portuguese language.
The aim of this study is to perform the translation and transcultural adaptation of the Harris Hip Score assessment protocol modified by Byrd, used in hip arthroscopies.

MATERIALS AND METHODS

The method for translation and cultural validation of the Harris Hip Score modified by Byrd used the criteria described by Guillemin et al.[11] These criteria will be described below.

Initial Translation

The original English version of the Harris Hip Score modified by Byrd was translated into Portuguese by two independent and qualified translators (sworn translators). A committee of four orthopedists was formed with the purpose of analyzing and discussing the two translations, and evaluated each item of the questionnaire, aiming to observe possible distortions and its applicability to the patients' situation. Version number 1 was produced in Portuguese with a basis on this evaluation.

Back-translation

In the back-translation stage, version number 1 was translated into the original language by another two independent translators, native speakers of English, with knowledge of the two languages (Portuguese and English) and without knowledge of the study objective.
The two translations obtained were then evaluated by the committee mentioned in the previous stage, with the objective of determining discrepancies between the original version and the translations of version number 1. Based on this evaluation we arrived at version number 2 in Portuguese.

Pre-Test

This stage consists of the application of version number 2 in Portuguese, which maintained the conceptual characteristics of the original questionnaire, aiming to verify the equivalence of the final version of the instrument and evaluated errors and deviations committed in its translation.
Thirty patients with hip disorders were submitted to the application of version number 2, for evaluation of questionnaire comprehension. With no situations that were not part of their everyday life, issues or terms that were not well understood, version number 2, in Portuguese, became the final version of the translated questionnaire.

Final Test

We reapplied the final version of the questionnaire to the same thirty patients selected.

Patients

This study group consisted of 30 patients with hip disorders, who are having treatment follow-up in the hip surgery outpatient department of Santa Casa de São Paulo.

Criteria for Participation in the Study

Hip disorder, irrespective of gender and race and between 20 and 45 years of age.

Application of the Questionnaires

The study protocol consists of the application of the final version of the Harris Hip Score modified by Byrd. The protocol was presented to the patient, and conducted by the coordinator of the study by means of a simple interview.
Evaluation of the Measurement Properties of the Versions of the Harris Hip Score Modified by Byrd for the Portuguese Language:

DATA ANALYSIS

We carried out a descriptive statistical analysis for the socio-demographic and clinical characterization of the population studied in the different stages of the study.

PROCEDURES

The questionnaire was applied in interview form and the mean questionnaire administration time was 9 minutes, ranging between 6 and 12 minutes.
The authors of the survey read the items of the questionnaire to the patients. These had to answer whether they understood and comment on what they had grasped from each item.
With the performance of this pre-test they obtained a new modified and updated version. This version was then applied to another 30 patients to refine the test with explicitness and comprehension of the questionnaire, and finally, the Brazilian version of the Harris Hip Score modified by Byrd was defined.

RESULTS

The consensual version was formulated with some alterations in this translation phase, from the meeting between the two sworn translators and the investigators.
In the back-translation phase, translator and investigators evaluated and compared the original version, the consensual version in Portuguese and the back-translation to define the final version. Grammatical alterations were made to some items in this stage to acquire equivalence among words and between languages as well as cultural adaptation.
The final version in Portuguese was defined after the result of this test, with cultural adaptation for the Brazilian population of the HHS modified by Byrd.
Table 1 presents the items of the original version, of the translations, of the back-translations and of the consensus version of the HHS (pre-test).

DISCUSSION

From disorders of the osteoarticular system, diseases that affect the hip joint are among the most frequent forms. Alteration of the structure and function of the joint, involvement of the articular cartilage, underlying bone and soft tissues are common.[1,12] Pain is the main symptom and at the beginning of the disease, manifests mainly when the joint is called upon and can present relief with rest. Pain chronicity can produce psychosocial limitation in addition to physical disability.[13]
The instruments for evaluation of quality of life have been used more and more often in the studies of the various diseases and can be applied in hip disorders as a mechanism that provides better knowledge of the status of the disease and better evaluation of results of interventions performed.[14]
However these instruments, which are more classical, were developed in the English language, and in our opinion and as is also being proposed in literature[11], should be adapted to the cultural reality of the target audience, enhancing the value of semantic equivalence and not the literal equivalence between terms, which does not always prove more advantageous in expressing concepts or situations of the population that we study.

Table 1 – *Items of the original version, of the translations, of the back-translations and of the consensus version of the Harris Hip Score evaluation instrument modified by Byrd (pre-test).*

Original version	Translations		Back-translations		Consensus Version
	T1	T2	R1	R2	
I. Pain (44 possible) a) None or ignores it 44 b) Slight, occasional, no compromise in activities 40 c) Mild pain, no effect on ordinary activities, pain after activity, uses aspirin 30 d) Moderate, tolerable,makes concessions, occasional codeine 20 e) Marked, serious 10 f) Totally disabled 0	1. Dor (44 possíveis) a) Nenhuma ou a ignora 44 b) Leve, eventual, não compromete as atividades 40 c) Discreta, sem efeito sobre atividades regular, dor após atividade, usa aspirina 30 d) Moderada, tolerável, faz concessões, eventualmente usa codeína 20 e) Marcante, graves limitações 10 f) Totalmente incapacitado 0	1. Dor (44 possíveis) a) Nenhuma ou ignora 44 b) Leve, ocasional, sem comprometimento das atividades 40 c) Fraca, não afeta a prática de atividades comuns, dor após a prática de atividades, toma aspirina 30 d) Moderada, tolerável, faz concessões, toma codeína ocasionalmente 20 e) Acentuada, limitações graves 10 f) Invalidez total 0	1.Pain (44points) a) None/ignores it 44 b) Slight, occasional, no compromise in activities 40 c) Mild, no effect on common activities, pain after activities, takes simple pain medication 30 d) Moderate, tolerable, accepts limitations caused by pain, occasionally takes codeine 20 e) Pronounced, serious limitations 10 f) Totally disabled 0	1.Pain (44points) a) None/ignore 44 b) Slight, occasional, does not hamper activities 40 c) Mild, does not affect the performance of normal activities, pain after performing activities, uses a simple pain killer 30 d) Moderate, tolerable, accepts limitation caused by the pain, takes codeine occasionally 20 e)Pronounced, serious limitations 10 f)Totally Incapacitated 0	1. Dor (44 pontos) a) Nenhuma/ignora 44 b) Leve, ocasional, sem comprometimento das atividades 40 c) Fraca, não afeta a prática de atividades comuns, dor após a prática de atividades, faz uso de analgésico simples 30 d) Moderada, tolerável, aceita limitação causada pela dor, toma codeína ocasionalmente 20 e) Acentuada, limitações graves 10 f) Totalmente Incapacitado 0
II. Function (47 possible) A. Gait (33 possible) 1. Limp a) None 11 b) Slight 8 c) Moderate 5 d) Severe 0 e) Unable to walk 0	II. Função (47 possíveis) A. Modo de andar (33 possíveis) 1. Claudicação a) Nenhuma 11 b) Ligeira 8 c.) Moderada 5 d) Grave 0 e) Incapaz de andar 0	II. Função (47 possíveis) A. Marcha (33 possíveis) 1. Claudicação a) Nenhuma 11 b) Leve 8 c) Moderada 5 d) Forte 0 e) não consegue andar 0	II. Function (47 points) A. Marching 1. Limp a) None 11 b) Slight 8 c) Moderate 5 d) Severe 0 e) Unable to walk 0	II. Function (47 points) A.Walking 1. Limping a)None 11 b) Slight 8 c) Moderate 5 d) Strong 0 e) Cannot walk 0	II. Função (47 pontos) A.Marcha 1. Claudicação a) Nenhuma 11 b) Leve 8 c) Moderada 5 d) Forte 0 e) Não consegue andar 0
2. Support a) None 11 b) Cane for long walks 7 c) Cane full time 5 d) One crutch 3 e) Two canes 2 f) Two crutches 0 g) Unable to walk 0	2. Apoio a) Nenhum 11 b) Bengala, caminhadas longas 7 c) Bengala tempo todo 5 d) Muleta 3 e) Duas bengalas 2 f) Duas muletas 0 g) Incapaz de andar 0	2. Apoio a) Nenhum 11 b) Bengala, caminhadas longas 7 c) Bengala tempo todo 5 d) Muleta 3 e) Duas bengalas 2 f) Duas muletas O g) Não consegue andar 0	2. Support a) None 11 b) Cane, long walks 7 c) Cane, all the time 5 d) One crutch 3 e) 2 canes 2 f) 2 crutches 0 g) Unable to walk 0	2. Support a) None 11 b) Cane, long walks 7 c) Cane, all the time 5 d) Crutch 3 e) 2 Canes 2 f) 2 Crutches 0 g) Unable to walk 0	2. Apoio a) Nenhum 11 b) Bengala, caminhadas longas 7 c) Bengala, tempo todo 5 d) Muleta 3 e) 2 Bengalas 2 f) 2 Muletas 0 g) Não consegue andar 0
3. Distance Walked a) Unlimited 11 b) Six blocks 8 c) Two or three blocks 5 d) Indoors only 2 e) Bed and chair 0	3. Distância percorrida a) Ilimitada 11 b) 6 quarteirões 8 c) 2-3 quarteirões 5 d) Somente dentro de casa 2 e) Cama e cadeira 0	3. Distância que consegue andar a) Ilimitada 11 b) 6 quarteirões 8 c) 2-3 quarteirões 5 d) Apenas dentro de casa 2 e) Cama e cadeira 0	3. Distance able to walk a) Unlimited 11 b) 6 city blocks 8 c) 2-3 city blocks 5 d) Only within home 2 e) Bed and chair 0	3. Walking distance a) Unlimited 11 b) 6 blocks 8 c) 2-3 blocks 5 d) Only inside the house 2 e) Bed and chair 0	3. Distância que consegue andar a) Ilimitada 11 b) 6 quarteirões 8 c) 2-3 quarteirões 5 d) Apenas dentro de casa 2 e) Cama e cadeira 0
B. Functional Activities (14 possible) 1. Stairs a) Normally 4 b) Normally with banister 2 c) Any method 1 d) Unable 0	B. Atividades (14 possíveis) 1. Escadas a) Normalmente 4 b) Habitualmente com corrimão 2 e) De qualquer forma 1 d) Não consegue 0	B. Atividades (14 possíveis) 1. Escada a) Normalmente 4 b) Normalmente segurando no corrimão 2 c) Qualquer método 1 d) Não consegue 0	B. Functional activities (14 points) 1. Stairs a) Normally 4 b) Normally using a railing 2 c) Any method 1 d) Unable 0	B. Functional activities (14 points) 1. Stairs a) Normally 4 b) Normally, holding on to railing 2 c) Any method 1 d) Unable 0	B. Atividades Funcionais (14 pontos) 1. Escada a) Normalmente 4 b) Normalmente segurando no corrimão 2 c) Qualquer método 1 d) Não consegue 0
2. Shoes and Socks a) With ease 4 b) With difficulty 2 c) Unable 0	2. Meias/calçados a) Com facilidade 4 b) Com dificuldade 2 e) Incapaz 0	2. Calçar meia/sapato a) Com facilidade 4 b) Com dificuldade 2 c) Não consegue 0	2. Put on socks/shoes a) With ease 4 b) With difficulty 2 c) Unable 0	2. Putting on socks/shoes a) Easily 4 b) With difficulty 2 c) Unable 0	2. Calçar meia/sapato a) Com facilidade 4 b) Com dificuldade 2 c) Não consegue 0
3. Sitting a) Any chair for one hour 5 b) On a high chair for one-half hour 3 c) Unable to sit comfortably in any chair 0	3. Sentar a) Qualquer cadeira por uma hora 5 b) Em uma cadeira alta por hora 3 e) Impossível sentar por hora em qualquer cadeira 0	3. Sentar a) Qualquer cadeira, uma hora 5 b) Cadeira alta, hora 3 c) Não consegue sentar-se, hora, qualquer cadeira 0	3. Sitting a) Any chair, 1 hour 5 b) High chair, one-half hour 3 c) Unable to sit, one-half hour, in any chair 0	3. Sitting a) Any chair, 1 hour 5 b) High chair, half hour3 c) Unable to sit, half hour, in any chair 0	3. Sentar a) Qualquer cadeira, 1 hora 5 b) Cadeira alta, hora 3 c) Não consegue sentar-se, hora, qualquer cadeira 0
4. Public transportation a) Able to enter public transportation 1 b) Unable to use public transportation 0	4. Transporte público a) Capaz de entrar em transporte público 1 b) Incapaz de usar o transporte público 0	4. Condução a) Consegue tomar condução 1 b) Não consegue tomar condução 0	4. Public Transportation a) Able to use public transportation 1 b) Unable to use public transportation 0	4. Public Transportation a) Able to use public transportation 1 b) Unable to use public transportation 0	4. Transporte Público a) Consegue tomar transporte público 1 b) Não consegue tomar transporte público 0

Accordingly, we adopted the proposal of Guillemin et al.[11], and in the application phase of the translated questionnaire, made use of a committee of health professionals, which performed the detailed revision of the questionnaire. Some terms such as gait and claudication were modified to walk and limping, respectively.
We believe that the use of qualified professionals to do the translations, in all the stages, associated with the application of the translated questionnaires to the target audience, allows a specialized committee to arrive at the consensual version that best applies to the cultural situation of the local population.

CONCLUSION

With the preparation of the Brazilian version of the Harris Hip Score modified by Byrd we obtained one more standardized instrument adapted to the Brazilian culture for evaluation of the quality of life of patients with hip disorders.

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