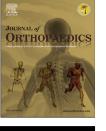Available online at www.sciencedirect.com

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Original Article

Development and validation of the French version of a tool assessing patient's expectations in lower limb osteoarthritis

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Audrey Neuprez [a,b], Jean-Pierre Delcour [c], Firouzeh Fatemi [d],
Philippe Gillet [e], Marie Mawet [a], Garance François [a], Olivier Bruyère [a],
Jean-Michel Crielaard [b], Christiane Gosset [a], Jean-Yves Reginster [a,b,*]

[a] Department of Public Health, Epidemiology and Health Economics, University of Liege, Belgium
[b] Physical Medicine and Sport Traumatology Service, Motility Sciences Department, CHU, Liege, Belgium
[c] Department of Orthopaedic Surgery, CHBAH, Seraing, Belgium
[d] Department of Orthopaedic Surgery, CHC, Liege, Belgium
[e] Department of Orthopaedic Surgery, CHU, Liege, Belgium

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ABSTRACT

Objective: The Hospital for Special Surgery (HSS) Hip Replacement Expectations Survey and Knee Replacement Expectations Survey are validated tools developed to measure patients' preoperative expectations for hip and knee arthroplasty. These instruments have possible uses in both daily practice and research. Our objective was to assess the test-retest reliability and the construct validity of the French version of the surveys.

Methods: Patients scheduled for total hip ($n = 82$) or knee replacement ($n = 61$) aged 38–90 years were included. All completed the HSS Hip or Knee Replacement Expectations Survey and the Expectation WOMAC to determine concurrent validity.

The test-retest reliability was assessed using the intraclass coefficient correlation (ICC), the Bland and Altman Method and the coefficient of variation; the internal consistency was assessed by the Cronbach α coefficient. The construct validity was investigated using the Pearson correlation coefficient and floor and ceiling effects by percentage frequency of lowest or highest possible score achieved by respondents.

Results: 143 patients scheduled for hip or knee arthroplasty were included.

The reliability was excellent between the test and the rested total score, with an ICC of 0.902 (0.853–0.936) and CV of 4.06% for the French Hip Replacement Expectations Survey and 0.865 (0.786–0.917) and CV of 7.7% for the French Knee Replacement Expectations Survey, without bias.

The Cronbach α coefficient was 0.72 for hip Survey and 0.82 for knee Survey showing a good internal consistency.

Pearson correlation coefficients of 0.45 and 0.48 between Expectations WOMAC and HSS, respectively for hip Survey and knee Survey, were observed but with systematic bias.

The lowest possible score was not reported by any patient and only three patients (3.66%) scheduled for hip arthroplasty reported the highest possible score.

* Corresponding author. University of Liège, Department of Public Health, Epidemiology and Health Economics, CHU Sart-Tilman, Bât B23, 4000 Liège, Belgium. Tel.: +32 (0) 4 366 25 81; fax: +32 (0) 4 366 28 12.
E-mail address: jyreginster@ulg.ac.be (J.-Y. Reginster).

Conclusions: The French version of the HSS Hip or Knee Replacement Expectations Survey is a reliable and valid questionnaire and compares favourably with the original English version. Therefore, this new version may help French-speaking clinicians to evaluate expectations before lower limb arthroplasty.

1. Introduction

Patient's expectations of medical care are linked to their requests for elective and possibly costly treatments and to their assessments and satisfaction.[1,2]

Fulfilment of expectations is an important outcome of joint arthroplasty. Patient expectation is an independent predictor of functional outcomes and is a large contributor to satisfaction after arthroplasty.[3,4] Satisfaction is important for a variety of reasons: it has been linked to increased patient compliance, follow-up care and monitoring which is important in obtaining maximum prosthesis longevity. Satisfaction of patients also improves the patient-physician trust and interaction.[5,6]

The goals of this study were to develop a French translation of the English-speaking Hospital for Special Surgery Hip Replacement Expectations Survey[7–9] and the Hospital for Special Surgery Knee Replacement Expectations Survey[7,10] into French according to international Guidelines as described by Beaton et al, and to study test-retest reliability and concurrent validity of the two French-language surveys.

2. Methods

2.1. Outcome assessments

2.1.1. The HSS Hip or Knee Replacement Expectations Survey
The HSS Hip/Knee Replacement Expectations Surveys are two validated and reliable questionnaires developed by Mancuso et al to determine expectations before hip or knee arthroplasty.

Originally, an 18-item (hip) and a 19-item (knee) surveys were developed by means of interviews several days before the surgery with respectively 180 and 161 patients. The expectations cited by patients relate to pain, walking, essential activities (e.g. function, sexual activity, work, sit and sleep …), psychological benefits, non-essential activities (e.g. sports and leisure).[8–10]

Patients were asked how much relief or improvement they expected for each items as a result of their hip/knee replacement.

The following response format was used:

- "back to normal or complete improvement"
- " a lot of improvement"
- " a moderate amount of improvement"
- " a little improvement"
- "I do not have this expectation, or this expectation does not apply to me"[7]

The total score ranged from 0 to 72 for hip and from 0 to 76 for knee, which was recoded into a 100-point scale, with a higher score representing higher expectations.

2.1.2. The expectation WOMAC
The Western Ontario and Mc Master Universities (WOMAC) is a composite index widely used to assess pain, stiffness and functional disability induced by knee/hip osteoarthritis (OA). The WOMAC is a valid and reliable scale for osteoarthritis of the lower limbs.[11]

The Expectation WOMAC included exactly the same domains as the WOMAC but asked patients, with slight changes of the initial wording of the questions, to estimate how they expected to feel 6 months after the surgical procedure.[12]

Answers could be given on the same 5-point Likert scale as in the original WOMAC, ranging from "none" to "extreme".

2.2. Translation

The developer of the original English questionnaires was informed of the objectives of the study and gave consent to a French Translation of the Hip and Knee Expectations Surveys (Carol Mancuso, MD, Hospital for Special Surgery, personal communication 2010).

We used the cross-cultural adaptation process being recommended by the AAOS (American Academy of Orthopaedic Surgeons) Evidence Based Medical Committee and Beaton for translating and adapting in French the Hip Replacement Expectations Survey and Knee Replacement Expectations Survey.[13]

The methodology suggested 5 stages:

- 1: translation (English to French),
- 2: synthesis,
- 3: back translation (French to English),
- 4: experts committee review,
- 5: pre-testing and testing,

Two bilingual translators (one informed about the concept of the questionnaire and one uninformed) who have the target language (French) as their mother tongue independently translated the questionnaire into French (stage 1).

At stage 2, a third person produced a synthesis of the two translations, playing a mediator-like role.