Reviewer's report

Title: Decision quality instrument for treatment of hip and knee osteoarthritis: a psychometric evaluation

Version: 1 Date: 26 April 2011

Reviewer: Dimitri Beeckman

Reviewer's report:

This paper describes validation process of the Hip and Knee Decision Quality Instrument (HK-DQI). The topic is interesting for the readers of BMC Musculoskeletal Disorders. This technical paper provides a good overview of the validation process. The content will significantly add to research abilities in this aspect of clinical practice. However, some important issues should be considered for further revision:

MINOR ESSENTIAL REVISIONS:

1. The authors correctly explain their objectives; however, the research question is not well contextualized. They state that the knowledge, goals and concerns of osteoarthritis patients would be facilitated by the development of an instrument measuring them. I encourage the authors to comment the actual gap in this field of research.

2. The description of 2 studies in one paper is confusing, however appropriate. I encourage the authors to restructure the paper and (1) add the aims of the 2 studies more clearly after the introduction.

3. How was the sample size determined? Were you confident that the actual number of participants was adequate in both study 1 and study 2? A reference for sample size would be useful.

4. The manuscript is sometimes difficult to follow because of the inappropriate use of acronyms/abbreviations. Besides, a definition for "floor or ceiling effect" is needed in the methods section.

5. Was there any evidence of differential non-response?

6. The procedure for completing the instrument lacks clarity: did the patients receive any support? How long did it take? How were they approached for the second data collection period (informed in advanced)? Why did the authors select a two-week interval between the 2 data collection periods? This time period is not considered as being a limitation of this study.

7. As part of the HK-DQI, a knowledge subscale was developed. This subscale includes 9 items and reflects the current knowledge regarding osteoarthritis and treatment options. Two comments to consider:
7.1. Lower order cognitive skills are measured (by using multiple-choice questions). Since construct validity was approved in terms of theoretical assumed differences between groups with different qualification background, the validity for identifying individual learning needs and outcomes remains open. What does that mean for further research with respect to the psychometric properties of the instrument (e.g. sensitivity to change)?

7.2. Question 6 (Appendix A) is rather suggestive for the answers from question 7. Could you comment on this?

8. A more profound reflection is needed about the method used to determine the acceptability/feasibility of the instrument. How did the authors assess the time to complete the instrument? Alternative methods (such as the use of a Delphi Panel to determine the acceptability/feasibility) should be considered and described in the discussion section.

9. Was there any variation between the test-retest reliability found for single themes of the instrument? (If yes, do the authors have explanations for that? What does this range mean for further research regarding the instrument and for application of the instrument in practice?)

10. Was there any reason for not using a factor analysis?

11. Levels of significance should be provided all through the results section.

12. I encourage the authors to submit a copy of the full scale with the revised paper.

MAJOR COMPULSORY REVISIONS

1. The result section should be substantially revised and written more structured. Results about the validity/reliability/clinical sensitivity for (1) the overall instrument; (2) the subscales (knowledge + goals/concerns); and (3) the HK-DQI-screener should be described separately.

2. More guidance is needed in the discussion section about the use of the instrument in clinical practice: (1) when to be used (timing), (2) how to be used (support needed), (3) how to get informed about the screening outcome, (4) how tailoring the intervention based on the outcome?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
I declare that I have no competing interests