Reviewer's report

Title: Variations in the pre-operative status of patients coming to primary hip replacement for osteoarthritis in European orthopaedic centres

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Reviewer: Bassam A Masri

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This is a remarkable paper with a huge amount of useful information that deserves publication. I have the following specific discretionary revisions.

EuroQoL is mentioned in the Abstract and in the methods, but nowhere else in the text. This should be removed since data on this are nor published.

Page 9 – description of Kellgren Lawrence subtypes 3a and 3b – type 3b is described as showing severe joint space narrowing. According to my understanding of the KL scoring system, severe joint space narrowing indicated a type 4. I don’t think that the addition of subtypes 3a and 3b add much to the paper, and it is best to avoid these subtypes to avoid confusion. For 4a vs 4b, it is reasonable to keep these subtypes because bone loss on the acetabulum in particular complicates a hip replacement, and its presence indicates much more aggressive disease.

Page 9, paragraph beginning with strata 9.2 – The table with BMI shows underweight, normal weight, obese, and morbidly obese. In this paragraph, only none obese, obese and morbidly obese is defined. The table and this paragraph should be rendered consistent, and the other criteria should be defined in terms of BMI values.

Page 11: since the majority of patients had other involved joints, how did the authors separate the impact of other joints on outcome scores? Presumably, other joints will allow an increase in the WOMAC score for example regardless of the severity of hip OA. This deserves a comment. As there was a large variation in WOMAC scores, was there a correlation between the patients with multiple active joint involvement and those with isolated hip OA or hip OA and previously operated joints? This may explain some of the variation.

Page 15: “Some of our data on the determinants of the variation in the severity of pain and disability at the time of surgery are worrying. Similar sex differences have been found in several other studies of surgical interventions (women always having more severe disease at the time of surgery than men), and remain largely unexplained [24]. The fact that those who were more
unfit (higher ASA status) or more obese had to have more symptoms before they were operated on is also neither a new nor a surprising finding. However, the strong association with both employment status and educational status are new findings that suggest that factors such as the patient’s social position and their ability to argue their case might be having an undue and unfair influence on surgical decision-making.”

This is a bit judgmental. There are many reasons as to why better off patients get more surgery. It could be due to better awareness of the availability of help, better access to health care, or better willingness to accept surgery. I would recommend that the paragraph reworded as follows: “Some of our data on the determinants of the variation in the severity of pain and disability at the time of surgery are worrying. Similar sex differences have been found in several other studies of surgical interventions (women always having more severe disease at the time of surgery than men), and remain largely unexplained [24]. The fact that those who were more unfit (higher ASA status) or more obese had to have more symptoms before they were operated on is also neither a new nor a surprising finding. However, the strong association with both employment status and educational status are new findings.”

Bas Masri, MD, FRCSC
Professor and Chairman
Department of Orthopaedics,
University of British Columbia
Vancouver, BC, Canada

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

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