Reviewer’s report

Title: Decision aid for patients considering total knee arthroplasty with preference report for surgeons: a pilot randomized controlled trial

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Reviewer: Richard Martin

Reviewer’s report:

Thank you for the opportunity to review BMC Musculoskeletal Manuscript Decision Aid for Patients Considering TKA by Dr. Stacey and colleagues.

This is a pilot randomized controlled clinical trial of a mixed media decision vs. standard of care information for patients with osteoarthritis with considering total knee arthroplasty.

Overall it a very well executed study and manuscript. To me the most interesting aspect is the justification of the trial as a potential intervention to reduce wait-list time by informing patients and determining if surgery matches their personal values. This societal view is a refreshing and unique contribution to the literature which may inspire readers to re-think the goals of their psycho-educational interventions.

The trial confirmed the feasibility to conduct a trial of this nature but is underpowered to demonstrate intervention effect. The DCS (16 question version) requires a sample of about 140 patients to demonstrate a 40% difference with alpha .05 and B .2. The shorter "sure" decision scale would be expected to be less sensitive to change.

The methods could be improved slightly by:

1. Describing the decision aid intervention in more detail. including 1-2 screen shots of the written materials and video would be helpful. Linking an online supplement with the IPDAS score card would be of interest to the reader, and as this is an online journal could easily be done.

2. When defining decision quality, adding 1-2 sentences justifying why a 66% correct response on the knowledge test was used as the standard of "informed" would be helpful.

3. On page 9 the second attribute of decision quality was the proportion of patients whose predicted probability of surgery based on values corresponded to their choice. It is important that the authors expand this important outcome description so the reader can fully see how it is operationalized. The detail should be sufficient that a reader could repeat the experiment correctly using the same instruments and analysis.

4. The authors used 4/10 items of the prepared to make decision scale, but report the psychometric properties of the whole index. I really don't think this is
meaningful and would either eliminate this or report what is known of the "subscale" that they used. If your goal is to use this same set of outcome assessments in the future I would suggest adding a psychometrics section to the manuscript of this "sub-scale."

5. Some comment about the power of the study to detect change with the instruments used and the estimated sample size that would be utilized in a future trial would be helpful to mention in the limitations section of the discussion.

**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:**

none