Reviewer’s report

Title: Feasibility and Assessment of Outcome Measures for Yoga as Self-Care For Minorities with Arthritis: A Pilot Study

Version: 0 Date: 17 Nov 2017

Reviewer: Sandra Eldridge

Reviewer’s report:

This is a pilot study with some interesting findings. Most of my comments are around the structure and of the paper and presentation of results. I think this would improve the readability of the text and the ability of readers to interpret, and possibly use, the information in it.

1. In the methods section of the abstract a second objective is mentioned but the first objective is not explicitly articulated. Could this be done?

2. In the results section of the abstract, proportions should be reported with confidence intervals to give readers an idea of the precision with which these estimates are estimated.

3. I expect that the study was underpowered for many if not all of the hypotheses tested and would therefore prefer not to see any hypothesis tests in this paper. There are a lot of comparisons made so it would not be surprising to see some significant results even if null hypotheses were true. In addition with no control group, changes pre and post intervention could be due to other factors, eg secular trends or regression to the mean, so I would definitely not put the results of such tests in the abstract even if they have been done.

4. Lines 93/94 mention the feasibility of adapting an intervention, but later mentions of feasibility suggest that it was not only feasibility of the intervention adaptation that the investigators were interested (eg line 112) in but also feasibility of running the trial eg recruitment rates. I think there needs to be some rethinking of the overall aim(s), and then objectives within those aims and that structure needs to run through the whole of the paper. At the moment the feasibility criteria section doesn't really match any of the three stated objectives.

5. Lines 164-166 I think it's fine to present correlations but this text ties them to "effect sizes" without any recognition of the natural history of the condition, regression to the mean etc. I don't think these should be presented as effect sizes.

6. Line 167 What happened when missing data >10%?

7. Line 177 18 months seems a long time to wait to acquire a list of eligible patients. Is this what would happen in practice? Can there be some more comment on how pragmatic this is as a strategy/whether this would happen in the main trial?
8. Line 204 Present mean and confidence interval. The current presentation is not usual or helpful for this type of study.

9. Line 212-226 Any statistical tests will be underpowered. I would advise against presenting the results of any statistical tests here. Estimates of effect and confidence intervals would be much better. I could not understand lines 217 and 218, particularly in terms of brackets and the words "sometimes" and "often".

10. Line 232 Change this in line with comment 5.

11. Lines 239-244 Again present estimates and confidence intervals rather than beta and t, and rewrite this section. As per comment 3, it would not be unusual to find some significant results even if the null hypothesis was true, and there is a need to take into account natural history and regression to the mean.

12. The discussion looks rather long and parts of it are a mixture of results and methods, for example lines 278 to 291, and lines 340-344. Suggest substantially shortening the discussion and putting some parts into the results section.

13. Lines 304-315 In this section it is unclear which study is being talked about at times. Needs to be clear whether it is the present study or the past study.

14. Line 320 This is not a sentence.

15. Line 350-361 In view of my previous comments I think this section contains over-interpretation of the results.

16. Line 388 In this section on generalisability, authors should make it clear whether they are drawing out generalisability to a possible future trial or to other studies in the same area. There may be implications for both.

17. In keeping with previous comments I don't think the different sorts of lines on figure 1 are justified.

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