Reviewer's report

Title: Criterion validation of two submaximal aerobic fitness tests, the self-monitoring Fox-walk test and the Astrand cycle test in people with rheumatoid arthritis

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Reviewer: Cornelia Van den Ende

Reviewer's report:

The manuscript addresses an interesting and important topic, e.g. measurement of aerobic capacity with rheumatoid arthritis. There is a clear need for easy-to-use instruments to assess aerobic capacity and to evaluate exercise programs in research and in clinical practice. The manuscript is well written and well structured.

Major compulsory revisions:

1. The number of included patients is quite low and should be motivated.
2. Pre-defined hypotheses should be formulated about the criteria on the strength of correlations, the width of limits of agreement and the magnitude of differences in estimated aerobic capacity produced by the different methods. For instance, in the discussion section it is conclude that
3. An important aim of the study is to examine the criterion validity of the Fox walk test. I assume that the formula behind the Fox walk test was derived from laboratory measurements of aerobic capacity. More information about the development of the Fox walk test (methods, N of participants) is needed to interpreter the results.
4. In the discussion it is concluded that Tanaka's formula “better predict maximal heart rate” than other methods presented in this paper. However, considering the found differences in percentages between methods (< 10%) and the limited number of participants it is very likely that confidence intervals of the different methods overlap. Thus, in my view this conclusion is not valid (see also comments 1 and 2).
5. Results could be presented in the text more concisely. I am not sure if all presented results are aligned to the research questions (see also comment 2). I prefer an additional table presenting the limits of agreement.

Level of interest: An article whose findings are important to those with closely related research interests

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'