Reviewer's report

Title: Physical exercise at the workplace prevents deterioration of work ability among healthcare workers: Cluster randomized controlled trial

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Reviewer: Eleonor Fransson

Reviewer's report:

Regarding manuscript entitled “Physical exercise at the workplace prevents deterioration of work ability among healthcare workers: Cluster randomized controlled trial”

This is an important study evaluating the effect of two exercise interventions on work ability using a cluster randomized controlled trial design. The study is well designed and well performed and the manuscript is clear in writing and style.

I have only some minor comments on the manuscript that the authors may consider:

- Minor Essential Revisions
  1. Methods: Please clarify both in study design and recruitment and randomization sections that only female health care workers were included in the study. This is briefly mentioned in the abstract (method), first paragraph in the discussion and in the conclusion, but not at all in the method section in the main text. Also consider to add this information in the manuscript title and study aim as well.
  2. Methods, recruitment and randomization, line 116-117. Please clarify further what were the eligibility and exclusion criteria. Do the exclusion criteria described in text equal the exclusions due to contradictions in figure 1, after the baseline examination?
  3. Results, work ability, line 199: Please clarify (if true) that the sickness absence item was reversed, i.e. that sickness absence actually decreased, not increased, in the WORK group compared with the HOME group. If the item was reversed, please also add a note on this in table 1 and 2 (and also for other items, if relevant).
  4. The WAI estimates for the WORK and HOME groups in figure 2 do not match the baseline values and changes in WAI reported in table 1 and table 2, respectively. This might be due to adjustments in analysis. Please add footnotes to table 2 and/or figure 2 if it is crude or adjusted values.
  5. The discussion is in general very good and raises several important issues and puts the results into context. However, I miss a discussion about the exercise intervention itself consisting of exercises 5x10 minutes a week during 10 weeks. Would another approach including for example longer intervention time
and longer bouts of exercise at each session have yielded different results? Why was this approach chosen?

6. Even if a statistically significant group*time interaction was found, the difference between the groups was small. Please discuss the clinical relevance of the findings, given the effect size, a little bit further.

- Discretionary Revisions

7. Introduction, lines 84-87: The sentence starting with Thus, a need… does not seem to relate to the previous sentences in the paragraph, please consider to rephrase.

8. Methods, study design, line 96: Please clarify that allocation concealment relates to the examiners at post-intervention evaluation.

9. Table 2. The footnote describes that the p-value denotes difference between groups at baseline, but should be group*time interaction?

**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