Author's response to reviews

Title: Successful Reach and Adoption of a workplace health promotion intervention study targeting a group of high-risk workers: A randomized controlled trial among cleaners

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Version: 2 Date: 15 April 2010

Author's response to reviews: see over
Due to a minor mistake in figure 2, a new revised figure has been uploaded.

**Referee 1 comment:**
Considering the aim of the trial, in the analyses, I do miss data on work ability and sick leave. Wasn't it possible to retrieve information on those variables. For sick leave, one may use company's registrations.

*Our reply:* We see your point, that it would have been valuable to have these data for all employees. However, one of the conditions for participating in the study from the companies’ perspective, was to disturb non-consenters as little as possible and furthermore to disturb consenters only to a certain degree. Therefore such data was not made available on non-consenters in the current study, but in future studies such information would ideally be included.

**Referee 1 comment:**
The eligibility criterion for companies, ie being able to give employees the opportunity to participate in working hours, probably leads to exclusion of a specific group/type of companies. Data are mainly provided at the company level, ie private versus public companies. However, it would be more interesting to get insight into differences in workforce characteristics, such as the distribution of gender, age, prevalence/mean duration of sick leave, MSD, etcetera.

*Our reply:* We agree that this is an interesting point. This was why we collected each company’s overall data; private/public, urban/rural/metropolitan. In future studies we would consider if we can extract such data. However this may be challenging, due to the nature of declining participation. This and the referee’s point about more detailed analyses have now been addressed in the Strengths and weaknesses section.

**Referee 1 comment:**
The authors have determined the differences between diverse groups using unadjusted analyses. However, I would recommend to perform adjusted (regression) analyses as well in order to adjust for some variables.

*Our reply:* We do not have an a priori hypothesis on specifically what elements are different between the two groups. We can see the need for such an approach if there were a difference in age. However, the simple analyses in this study revealed no differences in age between groups as was found in Groeneveld et al. 2009. We therefore would prefer to stick to the more simple unadjusted analyses.

**Referee 1 comment:**
In the introduction and discussion, the authors refer to the external validity of studies giving the impression that the present study provides insight in the external validity. However, as some information about the non-participating, but eligible companies has been given, the data are not sufficient to draw a conclusion about the external validity. In my opinion, more information about the workforce characteristics, reasons for non-participating etc should be available. So, the results are interesting, but a conclusion about external validity goes a bridge too far.

*Our reply:* We agree that we don’t have enough data to report on external validity and to our knowledge to date no such studies have been reported. In the Strengths and weaknesses section, the following sentence should clarify this: Efficiency, implication and maintenance, the remaining three RE-AIM dimensions of quality, were not within the scope of this article, but would need to be examined to gain a full picture of this RCT’s external validity.

**Referee 1 comment:**
In the introduction and discussion, it may be good to refer to a recent publication of Groeneveld et al. (IJBNPA, 2009;6:80). They investigated the factors associated with participation and drop-out in a trial to the effectiveness of a workplace health (lifestyle) promotion program. Results were partly similar in that participants had a less favourable health profile than non-participants. I recommend to compare the results of the present study with those of Groeneveld et al., and taken together these findings, what can be learnt from these findings for future trials.

**Or reply:**
We thank the referee for pointing out this important and highly relevant study. The reference has now been included in the introduction and in our discussion of the results.

**Referee 1 comment:**
On page 5, target population: "therefore…." I don't understand the reasoning.

**Our reply:**
The sentence has been rephrased.

**Referee 1 comment:**
Page 5. I don't understand the relevance of the description of the inhabitants of Denmark in relation to the power calculation. What was the expected relevant effect size and standard deviation? And what was the main outcome?

**Our reply:**
The information on Danish inhabitants has been erased. Information on the main outcome of the RCT and the effect size and standard deviation has been deleted from this section and a reference is given in the section above to a more thorough description of this in an associated paper.

**Referee 1 comment:**
What were the references of most of the questions used?

**Our reply:**
The references are given in the section on outcomes and a reference to a more thorough description of the outcome measures has been added.

**Referee 1 comment:**
Needs some language corrections before being Published.

**Our reply:**
The paper has already been edited by a native English-speaking professional proof-reader. We have again checked the language and made some adjustments.

**Referee 2 comment:**
In my view, this background section seems mixed logic with the intervention effect of RCT and evaluating reach and adoption which authors aimed. More focused description for the later aim would be favorable. To accomplish this, it would be helpful to organize previous studies about “reach and adoption” as authors described in discussion section. What is already known and what is not about the determinants of participation to health promotion in workplace and what point authors should investigate may be an interesting issue in Background section. (Major Compulsory Revisions)

Why did authors choose only two dimensions in RE-AIM without full dimensions? Reader might like to know the detailed reason of this restriction. (Discretionary Revisions)

**Our reply:**
The background section has been revised to match Referee 2’s suggestions. That is, the background section now contains reference to more previous studies on reach and adoption. In addition, the section on the aims of the RCT and the current study, respectively, has been rephrased to clarify the Referee’s point. Concerning the two points of the RE-AIM-framework only these data are available at this time. However, we find that the two points are interesting per se, since they point to the importance of a detailed description of the final intervention group in comparison not only with the reference group but also to the overall target group. This reasoning has been clarified in the manuscript.
Referee 2 comment:
In the section of outcome measures of the RCT, there is information about primary and secondary outcomes in the RCT. However, in my view, this study did not use all measures (for example, sick leave). So, usual form about RCT which aimed to report the intervention effect may confuse the reader. Explaining the measures used in this study would need be more appropriate. (Major Compulsory Revisions)
In calculating sample size, it should be noted that which statistical test authors focus and expected effect size with referring appropriate prior studies and # criterion. (Discretionary Revisions)
In randomization procedure section, detailed description would be needed. How did authors randomize with using computer or web site? (Discretionary Revisions)
In the section of cognitive behavioural theory-based training, who did instruct the intervention? I think it is important information in psychosocial intervention. (Discretionary Revisions)

Our reply:
The outcome measures for RCT section has been reduced and moved behind the section on outcome measures for the current study.
The power calculation may no longer be relevant here, since it refers to the intervention study which has now been deleted. Instead, a reference is given to an associated paper, where a more detailed description of the study design and power calculations is reported.
The randomization section has been elaborated.
Instructors for the cognitive behavioural theory-based training have been described.

Referee 2 comment:
About the section of "Randomization and comparison of the intervention groups" in the result, this type of analysis usually appears in the article of RCT which aimed to report the intervention effect. Why did authors include in this article? Or what is the difference compared with the article which reports intervention effect? (Major Compulsory Revisions)

Our reply:
The specific comparison between intervention groups is an elaboration of the analyses on the reach of the study. The smaller, and thereby less statistically powerful intervention groups’ representativeness should also be revealed. This has now been specified.

Referee 2 comment:
In the discussion about a general goal of this intervention, authors mentioned about improving work environment factors. It seems for me that interventions in this study only include components which focus worker’s stress response. Which part did these interventions focus certain work environment should be described in Method section. (Major Compulsory Revisions)

Our reply:
Both the cognitive behavioural theory-based training and the physical coordination training are designed to influence participants’ work environment. Again a detailed description of the interventions as well as the theoretical background for the design is beyond the scope of this manuscript but a reference providing such an overview has now been added.

Referee 2 comment:
In my view, this study did not deal in the intervention effect of RCT. So, this title may lead to a misunderstanding. Title should be changed to reflect only authors direct aim in this study. At the very least, the separation part, “: a randomized controlled trial” seems too strong in this study. (Major Compulsory Revisions)

Our reply:
True. The title has been revised to meet the Referee’s point.

Referee 2 comment:
What kinds of intervention were conducted is useful information, so it would be better to include in the abstract. (Discretionary Revisions)

*Our reply:*

_The intervention types have been included in the abstract._