Reviewer's report

Title: Changes in physical health among participants in a multidisciplinary health programme for long-term unemployed persons

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Reviewer: Karin I Proper

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This paper describes a study that is innovative, especially because of the study population involved. The study is well-described with even a bit superfluous details of the methodology (e.g. the analyses and measurements). I also compliment the authors and/or the intervention provider for the relatively high response to the intervention.

In the discussion, I do miss the link to employment. The physical health has increased, but how about the employment status? What are the expectations about employment? This is particularly of interest considering the study population being unemployed, and based on the assumption “that improvement in health may increase their possibility for reemployment”.

Another remark I have concerns the content of the intervention and the outcome measures under study. The intervention was designed to improve multiple aspects, i.e. extending the social network, improvement of daily structure, and physical fitness and general well-being. However, the intervention was evaluated on physical health only. How about the other variables? What was the theoretical framework used? If physical health was the only outcome variable of interest, why was the intervention aimed at the other variables? Further, were some variables mediators in the relationship between the intervention and physical health?

Detailed comments

Page 4, 2nd paragraph.
• Add the year (2006) after Pederson and Saltin.
• The study of Pederson and Saltin refers to chronic disease patients. I wonder whether this reference is useful, since that study population differs from the long-term unemployed persons in the present study.

Page 6. For those with a Turkish last name, a Turkish questionnaire was available. Why only for those with a Turkish last name? How about Moroccan people?

Page 7. See my comment made before as to the intervention components and the outcome measures. Has the intervention also been evaluated on the social network and daily structure?
Page 8. What was the rationale for the choice in determinants of (change in) health under study? Again, what was the theoretical framework of the effects studied? I recommend the authors to add a section as to this in the introduction.

The statistical analyses have been conducted well, but the lack of an equivalent reference group remains a pitiful shortcoming.

Page 12. There were no correlations found between the SF-36 subscales and physical health. How can this be explained?

Further, how about the motivation of the study population during the bicycle ergometer test and the intervention? Didn't people 'drop-out' because of their motivation or because of the (vigorous) intensity of the intervention? I would think so.

Page 14. The reference of Wood refers to elderly people. This is not a comparable study population.

Page 15. There is a brief section about the duration of the intervention (lines 7-13). However, I would find it more interesting to add a section about the maintenance of the behavior after the intervention. Is the study population able to maintain their physical activity behavior, or do they need such a supervised program?

In this respect, it is also valuable to discuss the possible costs and benefits of the program. What are the costs of such an intensive intervention, and what are the benefits in terms of (future) reemployment? In doing so, the relevance of the improvement in physical health can be discussed, as I expect the costs of the intervention to be enormous!! So, the authors can finish with a section about the implementation issues.

**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.