Reviewer's report

Title: Active lifestyles related to excellent self-rated health and quality of life: Cross sectional findings from 196,876 participants in The 45 and Up Study

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Reviewer: Susan Picavet

Reviewer's report:

This paper reports on a simple cross-sectional analyses of the association between (a very simple measure of) sitting hours and physical activity (PA) with (self-reported) excellent health indicators. The major advantage of the study is the use of the large dataset. However, in my opinion, the research question is too limited, not fully exploiting the material available, also the why of the study is described too limited, and the paper is much too long, with many repetition.

Of course, we should not only study determinants of ill-health, but also determinants of excellent health. But is the response category ‘excellent’ so different from ‘very good’, and what is the difference between quality of life and overall health? With the available material it can be explored whether the cutoff in ‘positive’ health may be relevant in exploring the relation between PA, sitting and health and this would really improve the paper.

Other comments:
- Were there no different dimensions of sitting assessed? (work, transport, tv viewing, other)
- On average people reported 6 hours of sitting time, and (max)1 hour of PA. With 8 hours sleep (usually an overestimation), what they do the rest of the daily 10 hours?
- I did not understand the description of the number of participants: 267,513 were enrolled, and does the 18% response rate refer to that number, so 1,500,000 were investigated? What can be said on selection? Why were there so many missings (> 70,000) and on what variables?
- Was the validity of AAS peer reviewed (ref 29?)
- Why was category ‘ever smoking’ not divided by former (or ex) and current?
- Several times it is mentioned that sitting may be less relevant compared to PA, why was this not statistically tested?
- Why was interaction between sitting and PA tested and presented in the not fully adjusted model? I think this can be left out.
- What was the association between sitting and PA and what were the effects on health separate?

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