Reviewer’s report

Title: The impact of sitting time and physical activity on major depressive disorder in South Korean adults: A cross-sectional study

Version: 2 Date: 09 Jun 2017

Reviewer: Cris Glazebrook

Reviewer's report:

The authors have made most of suggested changes but I think they have misunderstood my concerns about the abstract. As I think it is particularly important that the abstract accurately reflects the study findings I hope that it can be amended prior to publication. Apart from that I am happy to support publication.

One problem with the abstract is that only the findings for men are reported and then applied to the whole population in the abstract conclusion. Although the strongest effect of sitting time on MDD was for men who were inactive, the highest risks of MDD for women was found in the more active group who sat for more than 10 hours. Furthermore there was a relationship between sitting time and MDD for whole population and this should be clear.

So in the abstract I would change the results from

Results showed that men who sat for ≥11 h/d were at greater risk of MDD relative to those who sat for <5 h/d (OR: 2.04, 95% CI: 1.12-3.73). Subgroup analysis showed that men who reported no physical activity were significantly more likely to report MDD for each sitting time category compared to those who sat for <5 h/d (8-10 h/d: OR: 3.04, 95% CI: 1.15-8.01; >10 h/d: OR: 3.43, 95% CI: 1.26-9.35).

To

Results showed that people who sat for 8-10 hours (insert OR) or more than 10 hours (insert OR) had increased risk of MDD compared to those who sat for less than 5 hours a day. Subgroup analysis showed that the strongest effect of reported sitting time on risk of MDD was found in men with lower levels of physical activity who sat for 8 to 10 hours (OR: 3.04, 95% CI: 1.15-8.010) or more than 10 hours (OR: 3.43, 95% CI: 1.26-9.35). Level of physical activity was not an independent predictor for MDD.

The current conclusion needs to be changed from
Sitting for long periods with lack of physical activity was associated with great risk of MDD in South Korean adults. Therefore, reducing sitting time and increasing physical activity are needed for alleviation of MDD.

To

Sitting for long periods was associated with greater risk of MDD in South Korean adults. Reducing sitting time in people with MDD could help to prevent associated physical health problems and may improve mental health.

A few minor language corrections

P 2 Line 43 Should be greater not great

P3 Line  61 Should be under-reporting

P8 line 172 needs rephrasing. It's not grammatically correct. It needs to say

Low level of physical activity was not an independent risk factor for MDD in men or women.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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I am able to assess the statistics

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