Author’s response to reviews

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

Authors:
Jin Young Nam (jynam@yuhs.ac)
Juyeong Kim (kju394@yuhs.ac)
Kyoung Hee Choi (KHCHO404@yuhs.ac)
Jaewoo Choi (JWCHOI2695@yuhs.ac)
Jaeyong Shin (DRSHIN@yuhs.ac)
Eun-Cheol Park (ecpark@yuhs.ac)

Version: 3 Date: 13 Jul 2017

Author’s response to reviews:

Revision Note for MS ID: BPSY_D_16_00342R2

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

Dear Reviewers and Editor,

We sincerely appreciate your valuable comments and suggestions regarding our manuscript. Herein, we have revised the manuscript accordingly. Detailed revisions are highlighted in yellow in the text, and listed below in a point-by-point manner. We hope that our revisions have improved the paper such that you now deem it worthy of publication in BMC Psychiatry. Please find detailed responses to your comments below.

RESPONSES TO REVIEWER #1’s COMMENTS:

Comments 1: 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 $\geq 11$ 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.

Response: Thank you for your efforts in reviewing our manuscript. We really appreciate your valuable comments because we realize it would be improved our research. As your comments, we have revised our sentences in the manuscript (abstract section, line 38-43, line 44-46, page 2). Revised sentences are as follows:
Results showed that people who sat for 8-10 hours (OR: 1.56, 95% CI: 1.15-2.11) or more than 10 hours (OR: 1.71, 95% CI: 1.23-2.39) 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.

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.

Comments 2: A few minor language corrections

P 2 Line 43 Should be greater not great;
P 3 Line 61 Should be under-reporting;
P 8 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.

Response: Thank you for providing your meaningful comment. We have revised the part you mentioned in the manuscript (Abstract section, line 44, page 2; Background section, line 62, page 3; Result section, line 173-174, page 8). Revised sentences are as follows:

Sitting for long periods was associated with greater risk of MDD in South Korean adults.

The relatively fewer expressions for depressed mood in Asian populations may have resulted in under-reporting of depressive disorders

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

Again, we appreciate all of your insightful comments. We have tried our best to respond appropriately. Thank you for your time and efforts to help improve the quality of our paper.