Author's response to reviews

Title: Relation between sleep quality and quantity, quality of life, and risk of developing diabetes in healthy workers in Japan: the High-risk and Population Strategy for Occupational Health Promotion (HIPOP-OHP) Study

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Author's response to reviews: see over
Dear Editor,

Thank you for your e-mail letter dated May 2, 2007. Based on your instructions, we revise revised manuscript. The point-by-point responses to the comments raised by the editor and reviewers were followed by this cover letter. All line numbers mentioned in each response to each comment refer to the small-size numbers that appear on the left margin of the text of the revised manuscript.

We uploaded revised manuscript, figure file, cover letter, and certificate from English editing service. Please find.

Sincerely yours,

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Responses to Referee’s comments

Referee 1: Minor Essential Revisions

Referee 1: On page 14, the numbers in lines 233-234 are exactly the same as in lines 236-237. I think this is a mistake.

RESPONSE: Yes, the figures in latter part were incorrect. We made correction on this part as follows (line 239-242).

Similarly, for those who reported difficulty maintaining sleep, the proportions whose sleep duration was less than 6 hours were 14.1%, 15.9%, and 29.7% for none, sometimes, with a significant association (p<0.001) (results not shown in Table).
Referee 3: General
Referee 3 To a large degree the authors have addressed the reviewer’s comments. However there are still some mistakes in table 2. Line 502 and 506 (table 2) this should be model 1 and not model 2.

RESPONSE: We made corrections on this point (line 513, 517).

Referee 3: They have also not adequately addressed the issue of Gender differences. I think the reviewer wanted the analysis reported for Males and Females separately (the authors have enough data to do this). Reporting the interaction only tells us that there is no Gender difference but I think what the reviewer wanted was parameter estimate for both genders reported separately. This is a good point and I have to agree with it. The authors should perform separate analysis for each gender for each of the outcomes listed in table 2 (ie “Self-reported sleep duration”, “Self-reported difficulty initiating sleeping” and “Self-reported difficulty maintaining sleeping”).

RESPONSE: We agree to the point that it is the best way to report the parameter estimates for both genders separately, but in practice, it is not feasible. Please see the distribution of patients with diabetes according to the difficulty initiating sleep category by gender.

Because of the imbalance of the number of participants between men and women, patients with diabetes in women were very few, especially in “often” category. We actually run the multivariable statistical model, but statistical software did not return the parameter estimates, thus it is not feasible to do the analysis suggested. To run the multivariable model in women, we believe we need more outcomes. So we thought testing interaction between men and women was the best way that we could do.

Difficultly initiating sleep and diabetes in men.

<table>
<thead>
<tr>
<th></th>
<th>Difficulty initiating sleep</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Sometimes</td>
<td>Often</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>2,986</td>
<td>1,499</td>
<td>406</td>
<td>4,891</td>
</tr>
<tr>
<td>No diabetes</td>
<td>114</td>
<td>72</td>
<td>24</td>
<td>210</td>
</tr>
<tr>
<td>Total</td>
<td>3,100</td>
<td>1,571</td>
<td>430</td>
<td>5,101</td>
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</tbody>
</table>

Difficultly initiating sleep and diabetes in women.

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Sometimes</th>
<th>Often</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>885</td>
<td>414</td>
<td>89</td>
<td>1,388</td>
</tr>
<tr>
<td>No diabetes</td>
<td>8</td>
<td>11</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>893</td>
<td>425</td>
<td>90</td>
<td>1,408</td>
</tr>
</tbody>
</table>