Reviewer’s report

Title: Relationship between daily isoflavone intake and sleep in Japanese adults: a cross-sectional study

Version: 1 Date: 13 July 2015

Reviewer: Keiko Wada

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Major Compulsory Revisions

1. Information on sleep quality, which is a main endpoint in this study, was based on only a single question ‘Do you usually feel refreshed after sleep?’ It was a crucial concern with this study. At least, the validity of the question needs to be referred compared with some objective assessment or authorized sleeping habit questionnaires on sleep quality.

2. Why did the authors assess the association between isoflavone intake and optimal sleep duration? Optimal sleep duration did not represent sleep quality, while sleep duration might affect sleep quality, or vice versa. Did the authors say that isoflavone intake influence sleep duration? If so, it is strange that the category of longer sleep duration (>=8 h) was combined with that of shorter sleep duration (=<7 h). Is there any hypothesis underlying these associations? The authors did not explain about the association between isoflavone intakes and sleep duration in background nor discussion.

3. Was the association between isoflavone intake and better sleep quality altered after additional adjustments for sleep duration? Sleep duration can be a confounder for the association between isoflavone intake and better sleep quality.

4. The validity for the estimates of isoflavone intake should be shown. For example, it means the correlation coefficients compared with diet record.

5. Why did the authors use crude value for isoflavone intake and energy-adjusted values for other nutrients? I think that isoflavone intake should be also adjusted by total energy. And were these results altered when the intakes were energy-adjusted by using the residual method proposed by Willett?

6. In conclusion, the authors should avoid too much exaggeration referring to the effect of isoflavone intake on sleep status because this was a cross-sectional study.

Minor Essential Revisions

7. P3, methods, ‘a standard questionnaire’ should be revised.

8. P 7, was blood drawing done after an overnight fast? How long was fasting duration?
9. P 10, the definition of metabolic syndrome should be written down.
10. P 10, how was the linear trend assessed in the model? In other words, was each median values for isoflavone category used? Or was continuous valuable of isoflavone intake used?
11. P 14, sample size was neither small nor large in the study.
12. P 14, the validity of self-reported sleep duration was needed.

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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.