Reviewer’s report

Title: Nepal Pioneer Worksite Intervention Study to Lower Cardio-metabolic Risk Factors: Design and Protocol

Version: 1 Date: 14 Dec 2018

Reviewer: Michael Wirth

Reviewer’s report:

I thank the authors for considering my comments. I read the paper again and did not have any edits or comments to suggest to the text changes. However, there are just a couple of issues that I think are really important for the researchers to consider or at least note in the manuscript. I would like to note that my comments aren't just for critiquing the work, but also so that these important details can be added to the manuscript for other researchers. I am sure you would like to collaborate and have other researchers reach out to you to collaborate on analyses. Having information related to my comments may help facilitate that.

1. Related to the measurements of biological markers of shift workers, I think you should explicitly state that you will record the time of blood draw and have an indicator for the most recent shift worked prior to the blood draw. This will help readers and potential collaborators understand that these measures can be adjusted for to control the effect of circadian rhythms of the blood measures.

2. I think you should consider adding a statement that assumptions of the statistical tests will be examined and if violated non-parametric testing can be explored. I understand that the t-test will provide the same effect size even if the distribution is non-normal, the same would be true for the regression. However, this will affect your variance, and, in turn, your ability to detect a statistically significant finding. I understand that your power is based on using t-test. The problem is that one can power a study on a specific test all day long, but at the end of the day, if the assumptions of that test are violated, it still isn't appropriate to use that test. I am more concerned with the linear regression. Normality of the residuals is just one of the assumptions. Violations of homoscedasticity, in my opinion, are even more concerning for power. Although I do not live on p-values and prefer effect estimates, the analyses still need to fit the data. Linear regression is actually quite robust. In fact, many researchers do not realize how robust it is and you will probably be fine given the sample size. However, preliminary work that I was involved in showed that with a skewness of model residuals of 6.0 and a large sample size, linear regression is still feasible. However, after a skewness of about 3, linear regression actually becomes less powerful than quantile regression. So, if you powered your study assuming the assumptions of these tests are upheld, and in fact they aren't, then you may not have the power to detect statistically significant results. Or, it could be that other tests are actually more powerful and better fit the data structure. That long diatribe was just to say that you should mention that you are open to considering other analytic techniques if assumptions are not upheld.
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.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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