**Reviewer’s report**

**Title:** The relative impact of smoking, alcohol use and drug use on general sickness absence. A cross-sectional study from Norwegian workplaces

**Version:** 0  **Date:** 26 Feb 2019

**Reviewer:** Evangelia Demou

**Reviewer’s report:**

This is an interesting study that makes use of a unique dataset containing information on both sickness absence and alcohol, smoking and drug use and this makes it an important contribution to the literature around sickness absence.

This is a cross-sectional dataset and the analysis plan makes good use of the data that are available. However, there are some points that require clarification.

**Abstract:** The statement "According to this study, daily smoking and use of medical drugs are the lifestyle habits most closely associate with sickness absence" is somewhat misleading. I would suggest the authors rephrase to correctly represent their findings.

**Background:** the authors should give some more background/description of snus, what it is, possible health effects etc, as readers may not be familiar with this

Some of the 'definitions' used in the study are confusing and possibly not appropriate representations of the variables/outcome you are trying to explain. For instance, would smoking and drug (medicinal or illicit) be considered polydrug use? I would also question the definition of 'long and lasting sickness absence' for those with 3 absences and last one more that 3 days. I appreciate absences over 3 days in Norway may require a medical certificate but not knowing the actual length feels misrepresenting, considering long term sickness absence in many countries would be considered when occupational health needs to intervene.

Your discussion does not make mention of the limitations of having a cross sectional dataset

In your discussion you note that "…daily smoking is the tobacco habit most detrimental to health for people in their pre-retirement age…". These results were not shown. In your table 3 older employees had less chance of sickness absence than younger employees. What was pre-retirement age?

Another limitation to potential under-reporting of sickness absence is recall bias as the sickness absence data are not based on objective organisational records but on self-reported data.

The statement on the top of page 13 "a plausible explanation …." I seem hard to believe. What the authors are describing below as an explanation for this statement is flexible working and not sickness absence. If the authors believe that participants are not correctly answering the
survey/questions pertaining to what is and what is not sickness absence, then there are inherent problems with the study and the outcome data on sickness absence.

In the discussion the authors state that the lack of associations between alcohol use and illegal drug use and sickness absence was surprising and probably due to weakness in the data. Could it be that the variables used are not appropriate? Is seem the variable for alcohol used is only 'weekly binge drinking' which may not skew the results (e.g. this can occur when not working)

**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

**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

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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