Reviewer's report

Title: A comparison of gender-linked population cancer risks between alcohol and tobacco: how many cigarettes are there in a bottle of wine?

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Reviewer: Sakari Bertel Alfred Suominen

Reviewer's report:

This is a good study on an important topic, namely how much even moderate alcohol consumption might increase the combined risk of several cancers. The conclusion of this paper includes also an important message to the general public quite as the authors write, since increase of cancer risk by consumption of even small quantities of alcohol is not generally very well known, contrary to what can be said about general awareness of tobacco related health risks.

I have read the manuscript carefully and have only minor comments and this applies also to the Methods chapter despite my recommendation of additional statistical review, since I am to my basic training a MD and not a statistician.

Below I give my minor comments according to the chapters of the manuscript.

Abstract

I would suggest editing the sentence: 'In contrast to smoking, the cancer risk associated with alcohol is poorly understood by the public.' to 'In contrast to cancer risk associated with smoking, the corresponding risk associated with alcohol consumption is poorly understood by the public.' I find the following sentence unnecessary to be included in the Abstract 'Among 1,000 individuals drinking at this level we estimate an additional ten cancers for men, 14 for women.' since this is obvious based on the previous sentence. But this is remains an editorial decision, probably the sentence is directed to the general public. However, I would suggest that the final message to the general public, even if this is not the specific focus of this study, would be edited with an added note that smoking can substantially increase the alcohol related cancer risk. With this I refer to the more than additional effect that can be found between alcohol consumption and smoking in relation to the risk of several forms of cancer. I find this important since many individuals that consume alcohol at least occasionally also smoke, at least there is a known positive correlation between these two health behaviours.

Introduction

The Introduction is quite focused on U.K. which is understandable but could you add up some concrete numbers on health losses worldwide caused by smoking and alcohol consumption in line with what is written about the U.K.?
Methods

The authors, quite correctly adjusted the results for the combination of alcohol and tobacco as risk for cancer. I would just like to comment that we seriously talk about alcohol consumers that have never smoked but the alcohol history of smokers is more unreliable, however, at its worst this leads only to a slight underestimation of the combined cancer risk but some smokers might previously have been heavy drinkers.

Results

Delete percentage in the sentence 'In non-smoking men the percentage increase in the absolute lifetime risk of cancer 21 from drinking one bottle of wine per week was 1.0%'

Are percent marks missing in the sentence 'Consumption of ten units of alcohol per week carried an equivalent cancer risk to four cigarettes per week for men (3.5), and ten cigarettes per week for women (9.8), as breast cancer risks did not require adjustment.’ for the risk estimates?

Discussion

The authors mention the huge cost burden caused by deaths in breast cancer. I would like to add that quite many of the deaths strike rather young women and hence, also represent a huge mental burden for their families, particularly minor children. Otherwise, the Discussion is excellent and I have nothing of importance to add to it.

Supplementary Tables

In the caption of the supplementary Table 1 'original' should probably be 'originally'

In the caption of the supplementary Table 3 why is thirty once written in letters and once in numbers?
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 recommend additional statistical review

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Please indicate the quality of language in the manuscript:

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