Author's response to reviews

Title: The relationship between mild alcohol consumption and mortality in Koreans: A systematic review and meta-analysis

Authors:

Ji-Eun Park (pop1@snu.ac.kr)
Tae-young Choi (superoung@kiom.re.kr)
Yeonhee Ryu (yhryu@kiom.re.kr)
Sung-II Cho (scho@snu.ac.kr)

Version: 5
Date: 16 June 2015

Author's response to reviews: see over
Editor’s Comments:

1) it is now very unclear how and what number of studies are part of meta-analysis. I will illustrate my point on all cause and cancer mortality. For all-cause mortality, you say in the abstract that results are based on 9 studies, in text on page 6 you say you used 5 studies in the meta-analysis, and Figure 2 is based on 7 studies. Similarly, for cancer mortality you state you used 8 studies (abstract), 7 studies (page 7) and 10 studies (Figure 3). I am not sure what is correct and it is not clear whether forest plots and meta-analyses estimates are based on correct studies.

As the results of systematic review, we found nine, eight, and three studies assessing the risk of alcohol consumption in relation to all-cause, cancer-related, and cardiovascular mortality, respectively. However, in meta-analysis to investigate the effect of mild drinking, only studies using alcohol amount were included (five in all-cause, seven in cancer-related mortality). Among these, several studies (Yi 2004, Kim 2010, Jee 2004, Yi 2010) reported risk of alcohol consumption in men and women not total, and we included them into meta-analysis separately. We modified the abstract as follows: (page 2)

Nine studies reported on the risk of alcohol consumption in relation to all-cause mortality, eight to cancer-related mortality, and three to cardiovascular mortality. Among these, only studies assessing risk and alcohol amount not drink status or drink frequency were included in meta-analysis. The results of the meta-analysis did not show a significant effect of mild alcohol consumption on all-cause mortality (5 studies, OR: 0.85, 95% CI: 0.72, 1.01). While meta-analysis of studies using all-cancer mortality showed significant effect of alcohol consumption (4 studies, OR: 0.89, 95% CI: 0.85, 0.94), results of studies including all-cancer and specific type of cancer was not significant (7 studies, OR: 1.02, 95% CI: 0.9, 1.15).

2) Figure 1 does not entirely agree with the text on page 5. For example in the text you said 2
Of a total of 474 identified studies, 429 were excluded after reviewing article titles. Based on a review of abstracts another 29 studies were excluded, and 16 fulfilled the inclusion criteria (Figure 1). Of 29 studies, 12 did not related to alcohol, 7 did not assess mortality, and subjects did not meet inclusion criteria in one study. We excluded three studies investigating mortality associated with alcohol disorder [2, 16, 17], because it is a disease and is not appropriate in the assessment of the effects of typical alcohol use. In addition, we excluded three studies because they used the same participants as other studies [18-20], and three studies that did not include appropriate data [21-23].

3) for cancer I am not sure whether you can combine results from studies with all-cancer mortality and mortality for one specific type of cancer. I do think you can report such cancer specific results in your systematic review but cannot include them to meta-analysis. I would thus suggest meta-analysis part of the results is based on all-cancer mortality.

We conducted meta-analysis of studies with all-cancer mortality separately and added it in figure 3. Although results of this analysis was significant, we think people should consider the effect of alcohol consumption on specific type of cancer as well as all-cancer mortality. That is why we added this analysis as sub-analysis.

Thank you for your comments. (page 8)

Pooled results of mild drinking from four studies using all-cancer mortality showed beneficial effect (OR: 0.89, 95% CI: 0.85, 0.94), however, it was not significant when adding three studies [33, 36, 37] assessing risk of mild drinking on specific type of
cancer (OR: 1.02, 95% CI: 0.90, 1.15) (Figure 3).

4) You should also revisit previous comments by Dr Hu and for example change heading in one of the columns to Risk estimate.

We checked Dr Hu’s comments again and modified the expression. We changed ‘risk’ into ‘risk estimate’ in table 1 and added some explanations about Sull 2009 below the table.

5) In table 1, last column has heading "mild drinking" but it is not entirely clear how does this relate to categories listed in risk estimate column. I have difficulty to understand what estimates were included as the estimates needed for meta-analysis calculation.

The aim of this study was to assess the effect of mild drinking, so we analyzed risk of current (based on status), occasional (based on frequency), or mild drinking (based on amount) in each studies. The group in bold font was analyzed in review or meta-analysis – we reported this below table 1, and criteria of those groups was described in ‘criteria of mild drinking’ column in table 1. If there is a need to add more explanation in article, please let me know.

Thank you for all valuable comments.