Author’s response to reviews

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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1. Line 18, page 7 - needs a '?' which is very important since its the point of the entire study

We thank the editor and have made this change.

2. Please see Reviewer 3 comments below. We suggest these important points to be added to the Limitations of the study.

We agree with reviewer 3 that it is important to be absolutely clear about these points. We have therefore changed the last paragraph of the discussion (page 19, lines 4-22) to read as follows:

We would like to be clear that our use of absolute ‘lifetime risk’ describes the average of the number of cancers experienced by a population, i.e. individuals with and without cancer, and is not an exact measure of an individual’s probability of getting cancer. In other words while this study estimates that drinking ten units of alcohol per week causes a similar number of cancers in the population as smoking five to ten cigarettes per week, these two exposures do not carry the same cancer risk for an individual. We have attempted to minimise this effect by using lifetime cancer risks from CRUK which have been calculated using the Sasieni method. This corrects incidence rates for the inclusion of more than one primary cancer occurring within the same individual, lowering the lifetime cancer risk [24].
Furthermore this study does not take into account other smoking or alcohol-related outcomes such as respiratory, cardiovascular or liver disease in which case the conclusions would likely be quite different. Cancer deaths are a fraction of the total number of deaths caused by smoking and alcohol and this study is not a comparison of the overall mortality of smoking versus alcohol. Despite the caveats, our estimation of a ‘cigarette equivalent’ for alcohol provides a useful measure for communicating cancer risks that exploits successful historical messaging on smoking, reflects current epidemiological knowledge and includes an important aspect of gender differential.

We have moved the following sentence from page 19, lines 1-3 into this paragraph to improve the flow of this section: ‘Furthermore cancer deaths are a fraction of the total number of deaths caused by smoking and alcohol and this study is not a comparison of the overall mortality of smoking versus alcohol’.

We will also ensure this message is communicated clearly in any press releases.