Reviewer's report

Title: Association between shift work and the risk of death from biliary tract cancer in Japanese men

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Reviewer: Gemma Castaño-Vinyals

Reviewer's report:

It is an interesting paper reporting the association between shift work and risk of biliary tract cancer, based on cohort data. Although it is a cohort with an average follow-up of 17 years, the information regarding occupation and specially shift and night work is extremely limited. The cohort includes men age 40 to 79 at the time of recruitment, and only the occupation at time of recruitment was recorded, with some additional information on the type of shift in their longest occupation. Since the information recorded does not include duration of the job, the results obtained might be biased. And the information is based only on the longest job; subjects might have had other jobs involving different types of shifts that have not been recorded.

MAJOR COMPULSORY REVISIONS:

No information is provided on the time of exposure, duration, intensity (nights worked per week; type of shifts), and this type of information is crucial in shift work epidemiology (review Stevens et al. 2010, OEM). About rotating shift work, the authors do not specify if the rotation includes nights or not.

Line 153: “First, evidence suggests that the effects on circadian rhythm are more consequential for rotating shift workers compared with fixed nighttime workers.” I suggest editing this sentence and also reviewing the literature about its content. For some cancers, night work has more detrimental effects than rotating.

Line 155: “Second, fixed nighttime workers might have a chronotype that mitigates the deleterious effects on health.” I don’t think this statement is appropriate. Chronotype, as described later in the text, has not been measured in this study. It is impossible to predict subjects’ chronotype without having the information.

There is more recent literature published, I would suggest doing a review of the recent published papers on the topic.

MINOR ESSENTIAL REVISIONS:

I would suggest the authors to change fixed nighttime change to permanent nighttime, since it is the type of wording used.

Sentence at line 124-127: “We found that men who reported engaging in rotating shift work had a 1.9-fold increase in the risk of death from extrahepatic bile duct...
cancer, whereas fixed nighttime work was not associated with a similar risk”. I suggest reviewing since it is confusing.

Table 1. I would suggest reviewing carefully the formatting and presentation of number. What does the “±” mean? In the variable Job Type, the % do not add up to 100%. What does these percentages mean?

Table 2. I would suggest to delete Gallbladder cancer, since there is only 1 subject with rotating schedule, and I don’t think that the information of HR is very informative, based only in one subject.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests