Reviewer’s report

Title: Alcohol and risk of admission to hospital for unintentional cutting or piercing: a population-based case-crossover study

Version: 1 Date: 30 August 2011

Reviewer: Olga Vikhireva

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Minor Essential Revisions:

The manuscript definitely adds to the knowledge on alcohol and cutting/piercing home injuries in young and middle-aged populations. As both alcohol and injuries are among the major public health problems, the present research also has numerous policy implications. At the same time, some minor essential revisions should be made (please see below).

1) In Abstract and Background, the link between alcohol consumption and “other types of injury” is mentioned, with references provided. Therefore, the papers that focus on the association between alcohol and cutting/piercing injuries might also be cited (e.g., Cherpitel CJ. Cause of causality and drinking patterns: an emergency room study of unintentional injuries. Drug Alcohol Depend 1994;35(1):61-7).

2) While the main focus of the present paper is on alcohol and injuries, it still appears important to briefly mention the role of socioeconomic/sociodemographic factors, not only as potential confounders/effect modifiers of the main association of interest, but also as important parameters independently linked to injuries. At the moment, in Results (6th paragraph), it says only that “No interactions were observed between acute alcohol and any of the following factors: fatigue, ethnic group, age, gender, education, or recreational drug use and risk of cutting or piercing injury”. (By the way, if the order of these extra factors is not arbitrary, the underlying logic (such as strength of the (adjusted) association with injuries, perhaps?) should be mentioned in the text.)

However, the socioeconomic/sociodemographic patterns of unintentional cutting/piercing injuries in essentially the same study population were described in the following paper: Sharpe S, Kool B, Robinson E, Ameratunga S. Unintentional cutting or piercing injuries at home amongst young and middle-aged New Zealanders resulting in hospital admission: Context and characteristics. Injury 2011;Aug 9; Epub ahead of print. The Injury paper does mention previous alcohol use in those injured, hence, it might be sensible to cite this publication in the current manuscript. In addition, such citing will provide more efficient access to the relevant information for readers interested in this particular problem.

3) In Methods (3rd paragraph), it is stated that “For confounders that vary with
time (acute recreational drug use and sleep deprivation) the same information was collected for the two control periods”. In the Results (4th paragraph), it is confirmed that the odds ratios, presented in Table 3, were adjusted for “other paired exposures”. Nonetheless, in Table 1, the acute sleep deprivation data are provided only for the first control period (“day before”). Since these data are missing for over 20% of the participants, one can guess that the magnitude of missingness was even greater for the second control period (“week before”). However, if the “week before” sleep deprivation was used in the analysis, the respective data should be reported in Table 1.

4) In Methods (4th paragraph), for the sake of consistency and clarity, an American study on alcohol and injuries [Reference 10] should be referred to as a case-crossover study, rather than “case-control study”.

5) In Methods (6th paragraph), it is mentioned that participants with “missing information for any exposure periods” were excluded from the analyses. The authors might wish to briefly mention the applicability of complete case approach and the likelihood of resulting bias.

6) In Results (1st paragraph), it is stated that in 22% of the cases, the interview was not performed. It would be advisable to provide some information on the potential difference between responders and non-responders in terms of age, gender, and ethnicity, as well as to address this potential selection bias in Discussion (Limitations).

7) In Results (3rd paragraph), the last sentence should be re-written, as the current text does not correspond with the numbers provided in the Table 2 (257/345 and 253/320). Based on these figures, the sentence could be as follows: “The majority of subjects reported no alcohol use in the 6 hours before injury and either the day before (257/345) or the week before (253/320)”.

8) In Results (5th paragraph), the interval estimates provided for the analyses by AUDIT categories or smoking status (e.g., 95% CI for AUDIT score >=20 from 1.18 to 78.0) demonstrate that the study could be inadequately powered for the subgroup analyses. This issue also should be addressed in Discussion (Limitations).

9) In Discussion (7th paragraph), it might be worth mentioning already published papers on the interaction between smoking and alcohol as injury risk factors (for example, Taylor B, Rehm J. When risk factors combine: The interaction between alcohol and smoking for aerodigestive cancer, coronary heart disease, and traffic and fire injury. Addict Behav 2006;31(9):1522-35).

10) In Discussion, the authors might also with to mention the generalizability of their findings – for example, the potential applicability of the results to other populations, to non-hospitalised cutting/piercing injuries, or to fatal cutting/piercing injuries. These issues were partly addressed in another Injury paper (Kool B, Ameratunga S, Robinson E. Hospitalisations and deaths due to unintentional cutting or piercing injuries at home amongst young and
middle-aged New Zealanders. Injury 2011;42(5):496-500), which might also be cited.

11) In Table 1, the title seems unnecessarily lengthy. The actual description of the study population (“20-64-year olds admitted to public hospitals with unintentional cutting or piercing injuries occurring at home”) is provided in the text. Therefore, the table title could be “Study population characteristics (n=356)”.

12) In Table 3, it is advisable to specify that “Day before” and “Week before” are two control periods, to avoid any potential confusion.

13) If the adjusted OR, reported in Table 3, were adjusted exclusively for paired acute exposures, it might be sensible to mention in the text why the effect estimates adjusted for other important covariates (such as age, gender, ethnicity, etc.) are not presented.

14) The level of English language is acceptable for publication; nonetheless, the paper should be proofread, with punctuation edited substantially and occasional typos corrected.

Thank you!!

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

**Quality of written English:** Acceptable

**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.