Reviewer's report

Title: Alcohol and cannabis use as risk factors for injury - a case-crossover analysis in a Swiss emergency department

Version: 1 Date: 25 September 2008

Reviewer: Charles Parry

Reviewer's report:

General comments

The authors address a very relevant topic. While a great deal has been written about the relationship between alcohol and injury, there has been much less research on the effect of cannabis on injury and particularly the interaction between alcohol and cannabis use and injury. The level of analysis is appropriate.

Major compulsory revisions

None

Minor essential revisions

1. The abstract is acceptable except for the Conclusions. This study did not compare epidemiological and laboratory findings so it is not appropriate to say that it confirms conflicting evidence between epidemiological and laboratory studies.

2. The research question is implicit but needs to be stated more clearly as a general aim and specific objectives in a last paragraph in the Background section.

3. There are several places where the English language could be improved. This was the main area where the manuscript needed to be improved. This is easy to do and specific changes recommended have been pointed out below.

4. With regard to the discussion of limitations in the Discussion, while only 8% of the eligible patients refused to participate it is possible, though unlikely, that they represent a particular group whose input might have had an impact on the overall findings had they been included. This should be acknowledged under limitations in the Discussion. In this section comment should also be made on the ability to recall what they had been drink and smoking a week before the incident.

5. Abstract, page 2. change “ABSTRacT to ABSTRACT (all capital letters)

6. Abstract, page 2, under Background, line 2, add “a” before “detrimental”. Line 3, change “fond” to “found”. Change line 4 to “…, but a protective effect of cannabis has also been found in epidemiological studies.”

7. Background, Page 3, line 1, change “to injury” to “for injury”.

8. Background, page 3, line 11, add “%” after “1.4”.
9. Background, page 4, paragraph 1 (starting “In summary”), line 3, change “those” to “persons”.

10. Background, page 4, paragraph 1, line 5, change “of” to “on”.

11. Background, page 4, paragraph 1, line 7, change “question” to “issue”. Add a sentence to indicate why you think that the combination of cannabis and alcohol is an important public health issue. Is it because the effect of the interaction between these to substances is not properly understood? Perhaps we do not know if cannabis adds to the detrimental effect of alcohol or perhaps it mediates it in some other way?

12. Background, page 4, paragraph 1, line 8, change to “...research, findings have been inconsistent”.

13. Background, page 4, paragraph 2, starting “The present study..”. These bullets should go into the Methods. Instead there should be a clear statement of the study aim and specific objectives. These are implicit but need to be stated clearly at the end of the Background.

14. Methods, page 4, line 3. Add a sentence giving more information about this hospital. Who does it serve? This might affect the generalisibility of the findings?

15. Methods, page 4, line 5, remove the information about the funding grant. This is already in the Acknowledgements.

16. Methods, page 5, paragraph 1, 1st sentence. This is not entirely clear. I think the authors mean that out of approximately 2000 possible four-hour time slots (00:00-04:00, 04:00-08:00, etc.) between 1 September 2005 and 31 July 2006, 270 were randomly selected.

17. Results, page 7, paragraph 2 (starting “As it can be seen”), line 1, change “table” to “Table”. It will be important to indicate that the finding was only statistically significant for some sub-groups e.g. high alcohol users (for women) and medium and high users (for men).

18. Results, page 8, 2nd paragraph, line 1, change “in regards to” to “With regard to” and “people” to “patients”. Line 3, not sure what is meant by “this is reversed when compared to the contrary”. Suggest the authors spell this out more clearly.

19. Results, page 8, paragraph 2, Line 11, change the part of the sentence referring to “were not necessarily deniers” as his is an awkward use of the English language. Perhaps say “were not necessarily persons who denied use when they had in fact used”.

20. Discussion, page 8, line 1, change to “The results of our study corroborate research showing the detrimental...”.

21. Discussion, page 9, lines 1 to 4, change to “This finding does not necessarily contradict findings from laboratory studies. One possibility is that persons driving under ........ , becoming more cautious in real-life driving situations than they would in the laboratory”.

22. Discussion, page 9, paragraph 2, line 1, change 1st sentence to “The compensation hypothesis cannot be the only explanation.” Line 10, change “hat”
to “that”.

23. Page 10, paragraph 2, line 2, change last part of the sentence to read “, than is currently available in the literature”.

24. Table 1, given that all the data refer to the 6 hour period it might be clearer to refer to this in the title and change the row headings to “Just prior to injury and “A week prior to injury”. The font sizes of the numbers are not all the same.

25. Table 3, Remark, change “There was” to “There were”.

26. Table 4, re the title add in “combined” before “alcohol”.

Discretionary revisions

1. Abstract, page 2, under Methods, line 3, change “different mechanisms” to “varying etiology”.

2. In the Background it might be useful to include a sentence outlining the differing physiological effects of cannabis and alcohol.

3. Background, page 3, line 5, perhaps change “more controversial” to “less clear”.

4. Background, page 3, line 8, change “done” to “conducted”.

5. Methods, page 5, paragraph 1, add a last line saying something like “The final sample therefore comprised 488 (?) patients.”

6. Measures, page 6, line 1, also include the volume % for beer and wine.

7. Measures, page 6, paragraph 2, at the end of this paragraph it is acknowledged that a positive measure of cannabis is not an indicator of possible impairment at the time of the accident. Given that biological markers for alcohol can measure alcohol up to 12 or even 18 hours, couldn’t the same be said for alcohol?

8. Measures (and elsewhere), in several places the word “accident” is used. People involved in the injury prevention field generally do not refer to alcohol related incidents as “accidents” anymore, but instead refer to “motor vehicle collisions” or something like that. Make sure that using “accident” is still appropriate.

9. Discussion, page 8, line 3, cite the reference (“cited above”).

10. Discussion, page 10, paragraph 1, it might be useful to recommend further research in rural communities where possibly higher cannabis levels might exist or in countries for example in Africa where levels of cannabis use is also higher. Line 4/5, say more about Borkenstein’s methodology.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests’