Author’s response to reviews

Title: Fatal poisonings in Oslo: A one-year observational study

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Author’s response to reviews: see over
Dear Editor,

Please find enclosed our revised manuscript entitled **Fatal poisonings in Oslo: A one-year observational study** by Mari A Bjornaa, Brita Teige, Knut Erik Hovda, Oivind Ekeberg, Fridthjof Heyerdahl and Dag Jacobsen.

We obtained informed consent from the surviving patients in the study, and have included this in the Methods section.

We would like to thank the reviewers for insightful and relevant concerns. We have tried to address all the concerns raised by the reviewers, and believe this has substantially improved the manuscript. A point-by-point response to the concerns are included below.

All changes made when revising the manuscript have been highlighted with “track changes”. The manuscript has been adjusted to the journal style.

We hope our manuscript now will be considered suitable for publication in BMC Emergency Medicine.

Yours sincerely,

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Reviewer 1

Title: Fatal poisonings in Oslo: A one-year observational study
Version: 1
Date: 19 February 2010
Reviewer: Kent Olson

Minor essential revisions:
1. Page 5 (Methods): Does the Institute for Forensic Medicine examine all deaths in Oslo due to poisoning? Are there other agencies, eg the police or medical examiner that may have additional data?
   
   MAB: The Institute of Forensic Medicine examines all deaths in Oslo due to poisoning. Police records are available if relevant. The forensic pathologists there perform the autopsies at the Institute, and there is no system of medical examiners in addition to this in Norway. We have included a comment on this in the Methods, page 5.

2. Page 5 (Methods): Please clarify --- was this a prospective observational study with a standardized data collection form, or did you retrospectively review charts?
   
   MAB: This was a prospective observational study with a standardized data collection form. We have included this in the Methods section, page 4.

3. Page 7, paragraph 2: Who was “the physician” who made the determination as to the toxic agent responsible for the death? Did the physician have any special expertise in toxicology, or were they simply the treating physician at the hospital?
   
   MAB: The treating physician made the determination of the toxic agents leading to hospitalization for the patients who survived, i.e. the non-fatal cases used for comparison in this study. However, the Institute of Forensic Toxicology and the forensic pathologist did the determination of the toxic agents responsible for the death, i.e. the fatal cases. We have clarified this in the Methods section, page 6.

4. Page 15, paragraph 1: I don’t understand what you are trying to say --- is the suicide rate being over-estimated or under-estimated?
   
   MAB: The sentence has been re-written in order to clarify this.

Reviewer 2

Title: Fatal poisonings in Oslo: A one-year observational study
Version: 1
Date: 4 March 2010
Reviewer: shahin shadnia

Reviewer's report:
From my opinion, the main weak point in the article is the limited period of study (only one year).

MAB: We agree that a longer observational period would have been preferable, in order
to strengthen the power of the study of fatal poisonings. However, this was part of a large multi-centre study, and the coordination of the collection of reliable data from all institutions in the whole city treating acute poisonings was not possible to uphold for more than one year.

2. Are the methods appropriate and well described?
The samples and analytical techniques for screening and confirmations of drug and abused substances should be include in the article. 
*MAB: We have included a description of the analytical techniques used for detection of drugs in fatal poisonings in the Methods section, as requested (page 6). However, we feel that a more elaborated description of samples and tests is beyond the scope of this study. We have compared the final diagnosis regarding toxic agents for fatal and non-fatal poisonings, and for the non-fatal cases, laboratory tests were seldom used to classify the agents. Therefore, we have compared the toxicological diagnoses as they are used in clinical practice.*

3. Are the data sound?
Results have been demonstrated in good manner. The low and high levels and mean blood alcohol concentration should be mention in the text.
*MAB: We have included this in the Methods section, page 7.*

**Reviewer 3**

Title: Fatal poisonings in Oslo: A one-year observational study

Version: 1

Date: 7 March 2010

Reviewer: Anna Jönsson

**Major Compulsory Revisions**

1. Methods- Why have social security number been used to translate the Norwegian “fødselsnummer” instead of personal identification number, the official designation in Norway?
*MAB: We thank the reviewer for pointing this out, and have corrected the term to "personal identification number".*

**Minor Essential Revisions**

2. Abstract- In the abstract it is stated that methanol, TCAs and antihistamines were the most toxic agents. Could you rephrase this sentence? You have established a higher case-fatality rate. Moreover, you have made a typographical error, could you change the CI from 96% to 95% in the abstract?
*MAB: The sentence has been rephrased, and the typographical error corrected.*

3. Aim- The sentences after the aim should be changed to the primary and secondary aim
or included as a part of the methods section.

*MAB: The sentences after the aim has been included in the Methods section, paragraph 1.*

4. Methods- How were the intoxications identified in hospital? Were the cases identified at admission or were the patient records reviewed based on ICD-codes? Is there a possibility that cases might have been missed?

*MAB: The patients were identified at admission, not by a review based on ICD-codes. We have included this in the Methods, page 5. The completeness of the inclusion of patients in these types of studies can always be questioned. However, we included patients at three levels of healthcare in this multi-centre study, and transfers between these levels were common. This helped to make the study more complete because each patient could have been included in up to three treatment facilities during each episode. We believe the numbers to be as close to reality as possible, although there still is a possibility that some cases might have been missed. We have commented on this in the Discussion, page 17.*

5. Methods- I am not familiar with the Norwegian institute of forensic medicine. Is it possible to be admitted to this institute? Is the exclusion criteria admission with another primary diagnosis such as trauma or cases where the primary cause of death was a trauma?

*MAB: All deaths that are suspected unnatural are admitted to the Norwegian Institute of Forensic Medicine for a forensic autopsy, as required by Norwegian Law. A physician, who writes the death certificate, must declare all deaths. If an unnatural cause of death cannot be outruled, the death certificate is sent over to the police, who then ask for a forensic autopsy. According to the law, unnatural causes of death include homicide, suicide, death in prison, accident, work-related accident or disease, medical malpractice, substance abuse-related death, unknown causes of death when the death was sudden and unexpected, and cases with unknown identity of the deceased. Therefore, cases where the primary cause of death was trauma will be admitted to the institute as well. However, in this study, the inclusion criterion was a primary diagnosis of acute poisoning. Cases with another primary diagnosis, such as trauma, were not included, even if there was an additional diagnosis of acute poisoning, but where the trauma itself was the underlying cause of death. We have commented on this in the Methods section, page 5.*

6. Methods- “For the patients who survived, the main toxic agent was defined as the substance supposed to be most toxic considered the amount taken”. What scientific evidence was used to assign this?

*MAB: This was a clinical definition used by the treating physician, as described in the Methods section, page 7. This is how toxic agents are determined in clinical practice; using all available information, such as the patient’s history, findings at the scene, information from companions, clinical signs and symptoms including common toxidromes and lab results if applicable (for example, serum ethanol concentrations, paracetamol concentrations, the concentration of lithium or other medications that would alter treatment if suspected, arterial blood gas and osmolal and anion gaps where appropriate). Most other toxicological laboratory tests would not give a reliable immediate answer, and the treatment of acute poisonings is therefore based on the
clinical evaluation of the patient, combined with information from the sources mentioned above [1]. Even though not all toxic agents are identified in this manner, most drugs identified in studies using more extensive laboratory testing were additional drugs, and finding them would not have altered treatment[2-4]. We therefore chose this clinical definition. We have included this in the Discussion page 17.

7. Results- in this study the results are related to non-fatal cases. Based on the information in this article it is not clear how these cases were identified or assessed. Please indicate on page 11 the number of non-fatal cases. If this information is available in a previously published study, please refer to that article.
MAB: The number of non-fatal cases has been included, and the previous studies referred to, see Results page 12.

8. Tables- Please indicate, when appropriate, that the cases concern fatal poisonings. The tables should be possible to interpret seperately.
MAB: Done.

9. Table 3 and Table 5- The total proportion should be 100 % instead of 101% and 101.6%, respectively.10. Table 5- Could you please change the heading “comparison” of the last two columns.
MAB: Changes have been made as suggested.

11. Table 5- Could you please explain that the drugs were ordered according to their fatality rate. And change the heading “>5% fatal” to “>5% fatality rate”.
MB: Changes have been made as suggested.

Reference List


