Author’s response to reviews

Title: Acute poisoning related to the recreational use of prescription drugs: an observational study from Oslo, Norway

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Author’s response to reviews:
Dear Dr Khoshnood and reviewers

Thank you for this opportunity to revise our manuscript and thank you for your valuable comments and suggestions.

Reviewer 1

1- Please revise your reference numbers 2, 3, 31 and 32
- We have reviewed our use of these references and decided to keep them. Though the Norwegian report to the EMCDDA (reference 3) forms part of the basis for the EMCDDA report proper (reference 2), the Norwegian report contains more detailed information on the situation in Norway, not included in the European report. We also refer to the European report for the general European drug situation. Furthermore, wholesale numbers for opioid pain killers (reference 31) and numbers of patients in opioid substitution treatment programs (reference 32) are not found in reference 2. Hence, we also need these references.

2- In method, were the physicians involved in this research, trained according to the research protocol?
- The study was observational. Though the doctors at the OAEOC did not include patients and register data themselves whilst doing their clinical work, they were familiar with the study design. Furthermore, they are trained through local courses in how to treat poisoned patients, including assessment of intention and toxic agents, and how to make adequate notes in the electronic medical records. We have added a statement on this in the third paragraph in the Data collection and classification subsection in Methods.

3- What suggestions do you have for reducing recreational use of prescription drugs?
- We have made some suggestions in the revised conclusion.

4- I think, the conclusion and discussion need to be written more fully
- We have elaborated the conclusion and discussion on several points.

5- Please briefly describe health care system in Norway at the introduction.
- We have added a brief description of the Norwegian health care system to the Setting subsection in Methods.

6- What is your approval ID of your research ethics certificate? please mention it.
- The reference number from the Oslo University Hospital Information Security and Privacy Office has now been stated in the Ethics subsection in Methods. Under Norwegian research regulations, such offices have the authority to decide that approval from an ethics committee be waived in the case of quality improvement studies.

7- Which of the variables in your study were compared with the statistical tests? which of them were significant?
- The only statistical test done was for the comparison of age between genders, presented in the last sentence in the first paragraph in Results. As more than one toxic agent was taken in many cases, one case may be counted in several categories of prescription drugs. Hence, the categories were overlapping and not independent of each other for statistical purposes. Consequently, the assumptions for regular statistical tests were violated, and we chose to present the data in a merely descriptive manner. We have clarified this in the revised Statistical analyses subsection in Methods, and to further improve this clarification, we have also moved most of the original second paragraph in the Statistical analyses subsection to the Data collection and classification subsection.

Reviewer 2

Acute poisoning related to recreational drug use is helpful for quality control and might be a starting point for interventions to reduce drug (especially Benzodiazepines) the prescription.

Some recommendations, comments:

Would be possible to look at the analysis through several years and observe the trends of consumption of different drugs.

Is the analysis with the data only from 18 months representative?

- In this study, we only have data from the 18 months. However, in the revised manuscript we have compared with numbers from previous studies done at the OAEOC in 2008 and 2012, and elaborated on this in the Benzodiazepines and Opioids subsections in Discussion. For the comparison, we have adjusted for the longer inclusion period in our current study (the two previous studies collected data for one year each), and have subtracted the number of cases with suicidal intention included in the previous studies. In the 2012 study the number of cases with suicidal intention was clearly stated. For the 2008 study, we estimated the number of cases with suicidal intention based on the 2012 figures.
Do you have analyzed multiple visits from the same patient?
- This would have been a most interesting analysis. Unfortunately, we did not register whether the same patient presented multiple times. For technical reasons this would have been immensely time-consuming, and we did not have the necessary resources.

It would still be interesting to have a look at the different critical times of presentations, like for example:
Night arrival
Weekend arrival
- We have included presentations at night and during weekends in the revised fourth paragraph in Results, and in Table 3.

Do you have observed differences (number, drug type, etc.) between age categories (20-20, 30-40, 40-50)?
- We looked into this. Benzodiazepines dominated by far in all age categories. We found it more illustrative to give age data as medians (interquartiles) per group of prescription drugs. However, we have included some more details on age in the fifth paragraph in Results, and added a statement about age groups in a new last paragraph in the Data collection and classification subsection in Methods.

Does the author have an idea on how to apply the results in emergency department, or for preparation of new measures for prescription of benzodiazepines?
- We have elaborated on these issues in the revised conclusion.

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On behalf of the authors
Yours sincerely
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