Author's response to reviews

Title: Occupational exposure to blood-borne infection: survey of universal precautions knowledge and reported injuries in Kabul hospital staff

Authors:

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

Worldwide, about three millions of health care workers out of the 35 millions receive percutaneous exposures to blood-borne pathogens each year. More than 90% of the infections happen in low and middle income countries. In fact, healthcare workers are more at risk of exposure to blood-borne infections such as hepatitis B virus, hepatitis C virus and HIV in health care settings. The exposure is due to needlesticks and sharps injuries contaminated with infectious pathogens. To date, there hasn’t been any study to quantify the prevalence rate of viral hepatitis and HIV in Afghanistan. However, according to the reports of Afghan Healthcare workers, in each five to six patients one is found contracted one type of viral hepatitis. Moreover, there are many contributing factors that can fuel HIV epidemic in Afghanistan.

In other hand, to date no study concerning the risk of needlestick and sharps injuries in Afghan healthcare setting has been carried out. This study has been a first attempt to explore the situation of needlestick and sharps injuries and universal precautions in Afghan hospitals. Taken viral hepatitis and HIV as a potential public health problem, it is expected that the result of this study could help encourage policy makers bring necessary changes. It could also provide a ground for further research.

With reference to the comments of reviewers, I would like to thank them for their important and vital comments. The revised manuscript is based on their comments. Following please find the authors’ response.

Reviewer: Derek Smith

- Page 1: What is meant by “[something about adherence]”?

Authors’ response (AR): it was revised

- The response rate should be provided in the results.

AR: Provided accordingly.

- Page 3: The first sentence should be rewritten, and “Guoy” should be “Guo” and “Chi-Wen Juan” should be “Juan”.

AR: It was revised.

- Were there any changes to the questionnaire following back-translation?

AR: The change was minor, better not to be reflected.

- Was participation voluntary and anonymous?

AR: It was voluntary and anonymous. The manuscript is revised.

- Page 4: Please provide the response rates for each individual hospital.
AR: The response rate for each hospital was provided in the revised manuscript
- Please provide the response rates for each worker category if possible.

AR: Not possible as this information was not captured during the data collection.
- “Staff cadre” should be changed to “job description” or similar

AR: The text was revised.

AR: The references were used to expand the discussion section. The manuscript was revised.

AR: Based on the objectives of the study, risk factors were not assessed. Hence, the text was revised.
- Some more discussion regarding the important issue of underreporting needs to be added to the Discussion as well. See for example: Shiao JS, McLaws ML, Huang KY, Ko WC, Guo YL., prevalence of nonreporting behavior of sharps injuries in Taiwanese health care workers. Am J Infect Control1999;27:254-7.

AR: As the requested information was not part of the objectives of the study, data are limited to provide the information.
- Limitation section need to be added to the manuscript, or at least included as part of the discussion.

AR: Limitation of the study was reflected in the revised manuscript.
- Tables: The term “NSSI” needs to be defined in a footnote

AR: This was revised.
- The Abstract states that risk factors will be investigated. Which table is this data on?

AR: Risk factors were not assessed, so that, the language was revised

Minor Essential Revisions
- References (pages 7-8): The references are not currently in correct journal style. Please revise carefully.

AR: The references were revised.

- Table 2 was incorrectly formatted on the PDF version of the article and needs to be resaved, perhaps in Landscape format.

AR: Table 2 was taken out from the manuscript due to availability of limited information.

- The table on page 10 seems to continue past the margins, and thus, we cannot see exactly what it contains

AR: It was revised.

Reviewer: Janet E Hiller

Major compulsory revisions

- The English expression throughout the manuscript requires extensive revision. This review will not note each separate instance of poor expression however every section of the paper – from the abstract through to the conclusions needs review.

AR: The manuscript language was revised extensively.

- Abstract: The 2nd line of the methods appears to reflect an early draft as material is missing.

AR: It was revised.

- Although the abstract refers to logistic regression, adjusted odds ratios and 95% CIs, such analyses are not mentioned in the methods of the body of the paper nor are the data presented in results. This material would be of interest to the reader who would want to know whether there were differences by age, gender etc. In fact, risk factors were not assessed.

AR: Statistical analysis such as logistic regression, adjusted odds ratios and 95% CIs was not envisaged in the design of the study. Therefore, the text was revised accordingly.

- The methods described the process for selecting hospitals but not the process for selecting participants within hospitals

AR: This was addressed in the revised version of the manuscript.

- The authors should note whether the protocol underwent ethical review and whether informed consent was sought from participants.
AR: The protocol underwent ethical review, and informed consent was sought. The paper was revised accordingly.

- An English version of the questionnaire should be available as an additional file and material should be included on changes made following pilot testing.

AR: An English version of the questionnaire was added as an annex to the manuscript. As the changes following pilot testing were minor, we would rather not to reflect it. The text was revised accordingly.

- Tables 2 + 3 are unreadable in the pdf version – they may have been formatted in landscape.

AR: Table 2 was taken out from the manuscript. Table 3 was re-formatted.

- The last line of ‘Reported injuries’ alludes to relationships that are not presented in table 1. This may be the product of the logistic regression analysis that is mentioned in the abstract but not elsewhere in the manuscript.

AR: It was revised.

- The discussion does not contextualise the results. No information is provided comparing findings with those from other studies either in Afghanistan or elsewhere. The authors should highlight what the study adds to existing knowledge.

AR: Some contextual information was added to the background as well as discussion sections.

- Similarly the discussion should include a statement of the strengths and weaknesses of the study as well as the applicability of the results to Afghanistan as a whole

AR: This was reflected in the revised manuscript

- There are inconsistencies in the presentation of references. Journal title abbreviations are used for some citations but not for others.

AR: They were revised

Reviewer: Pedro Moro

Major compulsory revisions

- In the methods section of the abstract it is indicated that risk factors were investigated using logistic regression with adjusted odds ratios but that is the only place where that is indicated. No mention is made of logistic regression in the methods section.

AR: It was revised.

- In the results section some of the data does not coincide with the data shown in the results section of the manuscript. For example, the percentages for sharps injuries with syringe needles and suture needles are not mentioned in the Results section.
AR: It was revised.

- It is indicated that a quarter (26.5%) of respondents were not vaccinated against hepatitis B but according to the numbers in table 1 the percentage would be 27.9% (137/491).

AR: It was revised.

- Important information such as the percentage who recapped is not indicated as well as disposal of sharps.

AR: Information about disposal of sharps was not captured during the data collection. Therefore, it’s impossible to provide this information at this stage. However, information about the percentage of recapping was added.

- You may want to refer to physicians other than surgeons as non-surgeon physicians.

AR: Instead of physicians, internist/pediatrician was used in the revised manuscript.

- The information in the abstract should reflect the data in the results section but the most important information should be provided.

AR: It was revised.

- Under Questionnaire design, there is no need to describe in an entire paragraph the questionnaire that was used. The authors could have used a sentence or two such as: A questionnaire to assess the occurrence and knowledge of sharps injuries and universal practices was prepared based on previous questionnaires used by other investigators (provide references).

AR: It was revised.

- How were the healthcare workers selected/ at random? Or by convenience sampling?

AR: All healthcare workers in the selected hospitals were included in the study.

- There is no statistical analysis of the data. There are several independent variables which need to be looked for their possible contribution as predictors (risk factors) of sharps injuries. The best approach would be to use logistic regression analysis to calculate odds ratios but relative risks could also be calculated. If logistic regression analysis is not done you still have to define the statistic test to use to look for statistical significance in the calculated percentages (Chi square, t-student, etc).

AR: The text was revised accordingly.

- The authors also need to specify the practices they inquired for, such as frequency of recapping, where and how sharps were disposed, use of gloves, etc.

AR: Requested information were not collected. Therefore, it’s impossible to provide the requested information at this stage.
- Was the manuscript reviewed by an ethics committee or IRB?

AR: the manuscript reviewed by an ethics committee and and an IRB. Hence, it was reflected in the revised manuscript.

- There is much information that is not provided. For example, rates of vaccination against HBV in the different occupational groups and by hospital should be provided. Also the number of doses of vaccine received. There is no data shown for how used sharps were disposed (such as use of sharps boxes or puncture proof containers or regular trash container or other container). There is also no information on the number of injections given which is also important to quantify. It is indicated that practices of healthcare workers were similar but this information needs to be provided. Additional tables may be needed.

AR: With reference to the objectives of the study, the named information was not captured during the study.

- Table 3 is very confusing. The number and percentage of those who responded agreeing with a statement of knowledge or practice should be provided. The table as it is does not provide any useful information.

AR: It was revised and re-formatted.

- In the text you need to provide the number and percentage of those who responded certain way instead of just saying ‘most of the respondents.....’ ‘Or most thought.....’

AR: It was revised.

- Table 2 cannot be seen clearly.

AR: Table 2 was taken out in the revised manuscript due to availability of limited information

- I suggest the authors report sharps injuries per person-year. This is a better measure than just providing percentages of those who experienced a sharps injury. For example, you may have two hospitals were the percentage of healthcare workers experiencing sharps injuries is the same or higher than in another but if you look at sharps injuries per person-years you may identify that the one with the lower percentage of sharps injuries actually has more injuries per person-year.

AR: In most of international literature, sharp injuries were reported in percent. Therefore, we wanted to comply with the international literature approach

- The discussion needs to include the limitations of this kind of study such as recall bias from attempting to remember previous practices, influence of healthcare worker training on response to questionnaire and responses, respondents may respond based on the way they should and not how they actually behave.

AR: This was added to the revised manuscript.
Please don’t hesitate to contact me if you have further query about the study.

Looking forward to hearing from you.

Sincerely,

Ahmad Shah Salehi