

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Magnitude of occupational exposure to sharp injuries among Nurses working in South Gondar zone public hospitals, Northcentral Ethiopia: Institution-based cross-sectional study
AUTHORS	Aytenew, Tigabu; Kassie, Yohannes Tesfahun; Kebede, Solomon

VERSION 1 – REVIEW

REVIEWER	Ghashghaee, Ahmad Iran University of Medical Sciences
REVIEW RETURNED	25-Apr-2023

GENERAL COMMENTS	Thank you for submitting your paper.
-------------------------	--------------------------------------

REVIEWER	Mengistu, Dechasa Haramaya University, School of Environmental Health
REVIEW RETURNED	16-Jun-2023

GENERAL COMMENTS	<p>Dear editor, thank you very much for your invitation to review this manuscript. I have seen each section of the manuscript thoroughly. The manuscript needs major revision to be considered for publication. Detailed comments are provided directly on the manuscript. Thank you</p> <p>'The reviewer provided a marked copy with additional comments. Please contact the publisher for full details'.</p>
-------------------------	--

REVIEWER	Izadi, Nazanin Tehran University of Medical Sciences
REVIEW RETURNED	04-Jul-2023

GENERAL COMMENTS	<p>- what is the novelty of this study? - according to the title :burden of occupational exposures to NSI" it seems that the authors want to evaluate the physical and mental consequences of NSI in the study but they assess the frequency of NSI not burden, so it is better to change the title. -please rewrite the keywords according to the MESH and objectives of the study " Aged, Pain management < ANAESTHETICS, COVID-19, EPIDEMIOLOGY, Leukaemia < HAEMATOLOGY" ????? -the main point in this study is that the authors evaluate some independent variables without well definition; for ex: work load " how it was measured? according to the bed, patient, time,...."also about the knowledge " it was measured by a valid and reliable questionnaire or it was self made " what about the validity?</p>
-------------------------	---

	<p>another one about sleep disturbance " inadequate sleep, daytime sleepiness, sleep efficacy,..."</p> <ul style="list-style-type: none"> - you mentioned that all available nurses participate in your study, it means that you don't have any unwillingness to complete the forms? please mention the ethical code and the relevant committee. - it doesn't seem logical the higher experience " length of service" lead to higher rate of sharp injuries. because usually higher years of service lead to more experience, training? - please use more update references. - how you select the variables in the logistic regression model?
--	---

VERSION 1 – AUTHOR RESPONSE

Reviewer # 2:

Reviewer # 2 comment and suggestion #01:

"I have seen each section of the manuscript thoroughly. Detailed comments are provided directly on the manuscript."

Authors' response: Dear reviewer, thank you for your detailed and constructive comments. We have revised the manuscript in detail based on the given directions accordingly. We have also extracted the following summarized questions which need reflections.

Reviewer # 2 comment and suggestion #02:

The term "Burden" is not in line with your key finding. It should be replaced with a word indicating the key findings.

Authors' response: Thank you for your valuable comment! We have replaced the word "Burden" with "Magnitude" to make it congruent with the study findings.

Reviewer # 2 comment and suggestion #03:

Why the authors only focused on public hospitals? Is there adequate data related to the private hospitals?

Authors' response: Thank you for your constructive comment! There is no any private hospital in the zone, we said public hospitals to make it specific from public health centers.

Reviewer # 2 comment and suggestion #04:

How the study participants were selected? And please indicate it.

Authors' response: Since the source population is less than the calculated sample size, we have used the source population as a sample size for this study. Therefore, the sampling technique was census method.

Reviewer # 2 comment and suggestion #05:

Please add information about the study area including the map of your study area.

Authors' response: Accepting of your valuable comment, we have added information about the study area including its map.

Reviewer # 2 comment and suggestion #06:

Did the authors use correction formula? Since your source population is less than 10,000?

Authors' response: Even though the source population is less than 10,000, we didn't use correction formula, rather we used the source population as a sample size for the study (census method).

Reviewer # 2 comment and suggestion #07:

How did you measure sleeping disturbance? Please include it in the Operational definition.

Authors' response: Accepting of your valuable comment, we have included the operational definition of sleeping disturbance in the Operational definition section.

Reviewer # 2 comment and suggestion #08:

What sharp injuries include? Is it needle stick injury, or other sharp injuries?

Is it a last year prevalence? last week, last month, or career prevalence?

Authors' response: Accepting of your valuable comment, sharp injury is operationalized as "Any kind of needle stick and/or other sharp injury which occurred among nurses in relation to his/her job in the health care facility" and the prevalence is a career or lifelong prevalence.

Reviewer # 2 comment and suggestion #09:

Please, revise the tool section. Make it brief and also include from where you have developed/adopted these tools?

Authors' response: We have developed the tools by reviewing the cited literatures.

Reviewer # 2 comment and suggestion #10:

Categorize "Data quality control, processing and analysis" section in to two: Data Quality Control and Data processing and analysis.

Authors' response: Thank you for your valuable comment, we have categorized this section in to two sections accordingly.

Reviewer # 2 comment and suggestion #11:

When your pre-test was done? At the time period you did a pre-test of your tools.

Authors' response: We have done the pre-test prior to the actual data collection period (from October 23-27/2022).

Reviewer # 2 comment and suggestion #12:

Please, add the ethical approval reference number you received.

Authors' response: Accepting of your valuable comment, we have included the ethical approval reference number within the Ethical consideration section of the manuscript.

Reviewer # 2 comment and suggestion #13:

Please, add the control or prevention strategies as an independent section after a conclusion, with a maximum of 3 paragraphs.

Authors' response: Accepting of your valuable comment, we have included prevention and control strategies section in the manuscript.

Reviewer # 2 comment and suggestion #14:

Please, only provide the recommendations section as a summary with one paragraph.

Authors' response: Accepting of your valuable comment, we have summarized the recommendations section with one paragraph.

Reviewer # 3:

Reviewer # 3 comment and suggestion #01: What is the novelty of this study?

Authors' response: Thank you for your valuable comment.

I. Though there are similar studies, the current study was varied from these studies in terms of the magnitude and associated factors possibly due to variation in study settings and periods.

II. Even if the current study was cross-sectional, it was multi-centered, giving strong evidence compared to a single-centered study.

III. The problem is not well emphasized in the study area. Therefore, the study was intended to show the magnitude of the problem and the possible associated factors to the concerned body in order to get attention.

Reviewer # 3 comment and suggestion #02: According to the title "Burden of occupational exposure to sharp injuries" It seems that the authors want to evaluate the physical and mental consequences of sharp injuries in the study, but they assess the frequency of sharp injuries not the burden, so, it is better to change the title.

Authors' response: Thank you for your critical view of our manuscript! Based on the direction given, we have replaced the word "Burden" with "Magnitude" to make it congruent with the study findings.

Reviewer # 3 comment and suggestion #03: Please rewrite the keywords according to the MESH and objectives of the study. "Aged, pain management, Anesthetics, Covid-19, EPIDIMOLOGY, Leukemia, HEAMATOLOGY"

Authors' response: Accepting the given comment fully, we have rewritten it again accordingly.

Reviewer # 3 comment and suggestion #04: The main point in this study is that the authors evaluate some independent variables without well definition; for example: workload. How it was measured?

According to the bed, patient, time, also about the "knowledge" it was measured by a valid and

reliable questionnaire or it was self-made? What about the validity? What about “sleep disturbance” inadequate sleep, daytime sleepiness, sleep efficacy...”

Authors’ response: Thank you for your valuable comments. We have operationally defined these variables as follows:

Sleeping disturbance: The presence of sleeping problems while the health care provider is at workplace.

Workload: When one trained intensive care unit (ICU) nurse provides nursing care services for more than two patients in the ICU, and when one nurse provides nursing care services for more than 6 patients in inpatient departments per shift.

Knowledge: Nurses who have scored $\geq 75\%$ (9) of 12 knowledge-related questions were considered to have adequate knowledge.

These variables were also measured with valid and reliable tools. For example, the tools that used to measure knowledge related to occupational exposure to sharp injuries and job-related stress have scored Cronbach’s alpha scores of 0.74 and 0.79 respectively.

Reviewer # 3 comment and suggestion #05: You mentioned that all available nurses participated in your study, it means that you didn’t have any unwillingness to complete the form?

Authors’ response: Recognizing your concern, even though the study supposed to include all nurses working in all South Gondar zone public hospitals (402), only 376 were included in the final analysis with a response rate of 93.53%. That means some nurses were unwilling to participate in the study, some of the filled questionnaires were missed, and some were also removed from data entry due to their incompleteness.

Reviewer # 3 comment and suggestion #06: Please mention the ethical code and the relevant committee

Authors’ response: Accepting for your valuable comment. We have mentioned the ethical code and the relevant committee under the ethical consideration section of the manuscript.

Reviewer # 3 comment and suggestion #07: It doesn’t seem logical the higher experience “length of service” lead to higher rates of sharp injuries, because usually higher years of service lead to more experience, training.

Authors’ response: Sure! As clinical experience increases, the level of knowledge and practicing the standard precautions will also increase, which in turn decreases exposures compared to junior practitioners. Even though this is the fact, always there is the chance of getting exposures as long as the service increases (there might be higher rates of career time or lifelong exposures compared to junior practitioners).

Reviewer # 3 comment and suggestion #08: Please use updated references

Authors’ response: Thank you for your valuable comment. We have updated the references accordingly.

Reviewer # 3 comment and suggestion #09: How did you select the variables in the logistic regression model?

Authors’ response: Thank you for your valuable comment. All variables with $P < 0.2$ in the bivariate analysis were included in the final multivariable analysis model in order to control all the possible confounders, and these variables were also selected using enter method.