Review of: "Prevalence of visual impairment and associated factors among welders in West Shewa Zone Oromia Region, Ethiopia"

Wondwossen Yimam[1]

1 Wollo University

Potential competing interests: No potential competing interests to declare.

Reviewer Comments:

Prevalence of Visual Impairment and Associated Factors among Welders in West Shewa Zone Oromia Region

Kassahun Rikita Bifessa, Fikadu Seyoum, Mihret Getnet, Kefyalew Naniye, Wabi Temesgen

I wish to commend the authors for the work they have put into this study. The manuscript has a clear objective and is interesting, concise, and well-structured. The analyses were conducted adequately, and it was one of the major strengths of the study.

Below are a few comments that will hopefully help to improve the quality of the study.

ABSTRACT

Methods

In the methods section, it is mentioned that a cluster sampling method was employed to involve study participants. However, the rationale behind selecting only five districts (Wereda) and opting for a cluster sampling technique remains unclear. Because cluster sampling is a probability sampling method where researchers divide a population into smaller groups (clusters), such as districts or schools, and then randomly select some of these clusters as their sample. Ideally, each cluster should be a mini-representation of the entire population.

RESULTS

In the results section, it is stated that "Factors include training on eye personal protective equipment use, working hours per day…." It would be better to say "Factors include lack of prior training on eye personal protective equipment use, prolonged working hours per day…. "

CONCLUSION

In the conclusion section, it is stated that "Based on this study, the visual impairment among welders was 29.34%." It

would be better to say "Based on this study, the prevalence of visual impairment among welders was high."

INTRODUCTION

2.1 In the third paragraph of the "Introduction," it is stated that "Approximately 89% of the visually impaired people, ranging from low vision to blindness, live in developing nations, particularly in Sub-Saharan Africa [8]." Please briefly summarize the prevalence of visual impairment (low vision, blindness, monocular VI, bilateral VI) from the global to Ethiopian perspectives.

2.2 In the last paragraph of the "Introduction," it is stated that "But in Ethiopia, there is a gap in awareness creating training for welders on what and why they use PPE to prevent eye injury from welding activities. Even though the majority of visual impairment studies have been conducted in Ethiopia, VI among welders has been given little attention. In the beginning, if you knew the presence of a gap in awareness about PPE, it would have been good to provide training for welders than conducting research." In this study, you couldn't assess awareness about VI since it was beyond your objectives. Hence, it would have been good if it were written as below:

"In Ethiopia, the majority of previous studies were conducted among adults in the general population. However, this study was conducted at the community level, exclusively involving participants engaged in welding activities. Furthermore, there are no similar studies conducted in Ethiopia or globally that have assessed the prevalence of visual impairment among welders. This lack of existing research hinders a comprehensive understanding of the prevalence and predictors of visual impairment in this specific occupational group."

METHOD AND MATERIALS

Data collection procedures and tools

3.1 In the first paragraph of the "Data collection procedures and tools" section, it is mentioned that "The data collection tool was adopted from the World Health Organization (WHO) and related different literature." However, it would be beneficial to include specific references for clarity and transparency.

3.2 In the first paragraph of the "Data collection procedures and tools" section, it is mentioned that "Visual acuity was performed with the aid of using the Snellen chart." However, it would have been beneficial to consider an alternative tool, such as the "E-chart," which is suitable for assessing visual acuity in both literate and illiterate individuals.

3.2 **Data processing and statistical analysis**

In the last paragraph of the "Data processing and statistical analysis," it is stated that "Multi-collinearity and fitness of the model were checked before multivariable logistic regression analysis was performed." It would be helpful to specify the type of test used and its corresponding value for multicollinearity (VIF= 1.07) and Hosmer-Lemeshow goodness of fit (p = 0.449).

3.3 **Operational definitions**

Please write operational definitions for the following terms:

Visual impairment (Yes/No, mild, moderate, severe)

Behavioral factors:-

Cigarette smoking (Yes/No, current smoker, ever smoker)

Alcohol use (Yes/No)

Coffee use (Yes/No)

3.3 **Quality assurance**

Please include the strategies you followed to ensure the quality of your study (e.g., data collectors' training, supervisors, tools used, expert review, pretest, etc.)

RESULTS

Severity of visual impairment among study participants

4.1 In the second paragraph of the "Severity of visual impairment among study participants," it is stated that "To identify the association between visual impairment and explanatory variables, bi-variable logistic regression analysis was first done for all independent variables. A total of ten variables were found to be associated in the crude analysis and were candidates for multivariable analysis with a p-value<0.2." You already described in the analysis section, so please remove the above statements.

4.2 In the third paragraph of the "Severity of visual impairment among study participants," it is stated that "Before running the multivariable logistic analysis, Hosmer-Lemeshow goodness of fit (p = 0.449) and multicollinearity (VIF= 1.07) were tested, and the model was adequately fit with no multicollinearity among the variables. The candidate variables identified for multivariable logistic regression analysis were run by multiple logistic regressions." You already described in the analysis section, so please remove the statements.

DISCUSSION

5.1 In the fourth paragraph of the "Discussion section," it is stated that **fn my study**." However, the appropriate phrasing should be "In this study."

5.2 In the fourth paragraph of the "Discussion section," it is stated that "training on eye PPE used, working hours per day, and eye PPE use was significantly associated with visual impairment among welders." However, a clearer expression would be: "lack of prior training on PPE used, prolonged working hours per day, and eye PPE use was significantly associated with visual impairment among welders."

5.3 In the fourth paragraph of the "Discussion section," it is stated that "Accordingly, this study revealed that the odds of

developing visual impairment among those who fail to use appropriate eye personal protective equipment during welding activities were 1.83 times higher than users." However, a clearer expression would be: "Accordingly, this study revealed that those who failed to use appropriate eye personal protective equipment during welding activities were 1.83 times more likely to have visual impairments than PPE users."

CONCLUSIONS

6.1 In the conclusion section, it is stated that "Based on the findings of this study, the visual impairment among welders was 29.34% (95% CI: 26.6-32.3%)." However, a clearer expression would be: "Based on the findings of this study, the prevalence of visual impairment among welders was high.

FUNDING

In the funding section, it is mentioned that "no specific funds were obtained from Gondar University." Could you please clarify who provided the grant for this research work? Additionally, since data collectors were recruited, who covered their expenses? It is crucial to ensure proper payment for data collectors and supervisors to avoid exploitation."

CONSENT FOR PARTICIPATION

In the 'Consent for participation' section, it is indicated as "Not applicable." However, it is essential to adhere to the ethical principles outlined in the Helsinki Declaration, which necessitates obtaining written consent from study participants. Ensuring proper consent is crucial to uphold ethical standards in research.

ACKNOWLEDGEMENTS

In the Acknowledgements section, it is stated that "First of all, I would like to sincerely thank Mr. Mihret Getnet and Fikadu Seyoum for their incredible contributions in guiding, encouraging, motivating, and helping with my research work and manuscript preparation. I also thank my colleagues for facilitating and supporting me during the period of data collection process. Finally, I would like also to express my deep gratitude and immense respect to the study participants who were willing to participate in this study."

Dear PI, you repeatedly wrote "I" rather than "we" throughout your manuscript. I think in this study, other coauthors (except your advisors) are included without recognizing their contributions and without considering the authorship guideline. So please be genuine in your work since you are a research scholar.