**Reviewer’s report**

**Title:** PREVALENCE OF GOITER AND ITS ASSOCIATED FACTORS AMONG PRIMARY SCHOOL CHILDREN IN CHOLE DISTRICT, ARSI ZONE, ETHIOPIA: A CROSS SECTIONAL STUDY

**Version:** 0  **Date:** 14 Jun 2018

**Reviewer:** Hasina Rakotomanana

**Reviewer's report:**

I would like to thank the Editor-in-Chief as well as the authors for providing the opportunity to review the manuscript "Prevalence of goiter and its associated factors among primary school children in Chole district, Arsi zone, Ethiopia: A cross sectional study design".

The study is interesting, especially considering the high prevalence of goiter and iodine deficiency in the country. Results from this study could be helpful in informing research and interventions priorities in the Arsi zone, Ethiopia. However, the authors should consider working with professional editors or native English speakers to correct the grammatical and formatting errors throughout the manuscript. And the authors should include line numbers for future submission.

Below are the detailed comments.

**Title**

Consider removing the "a cross sectional study design" from the title, it is misleading and readers may think it's a study protocol paper without results.

**Abstract**

Line 12  
Remove "therefore"

Line 14  
Remove "school"

Lines 19-21  
Consider rewording "Interviewer…questionnaire", it is confusing

Line 34  
Among the study participants…  
What about the 15 other participants? Consider rewording the sentence, did only 407 participate voluntarily in the study?
From these, Double check (AOR, 95% CI) and add p-value

Introduction

"health problems outweighs in economically disadvantaged", phrase not clear

Page 4
Consider finding stronger, more relevant references for lines 4-7 in page 4. References 2 and 3 are studies conducted in Ethiopia and Pakistan while the sentence refers to the global prevalence of goiter. References by the WHO would be better. These links could be helpful: https://link.springer.com/chapter/10.1007/978-3-319-49505-7_3
https://www.nature.com/articles/nrendo.2012.43

The African continent
Is the prevalence of 4.7-28% across various countries? What is the Ethiopia prevalence?

Remove "thyroid gland that indicates"

Replace "due to" by "by"
Replace "diets" by "foods"

Reference 20 is a study in a particular district in Ethiopia, consider finding a more relevant, empirical research to support that last sentence

…for goiter formation that is associated with…

The recommendation of 120 micrograms is for children how old exactly?

Replace "mental retardation" by "developmental delay", that term is no longer used

Where is Karnataka, Kasmir valley?

"most cost-effective" and "least expensive" are saying the same idea, delete one
Line 43
Delete "be made"
What do the authors mean by "improving economical and social development"? Because the sentence is still about USI

Line 45
Replace "pollution" by "population"
replace "had been" by "has"

Line 52
What are the current efforts to reduce IDD?
Line 54
Add a comment about why people in the high lands are more prone to goiter

Line 58
What is TGR?

Page 5
Line 4
Furthermore,

Line 6
mountains areas in the Oromia…

Line 8
in Ethiopia believed to have a high prevalence of goiter…

Line 10
Remove "therefore"

What are the outcomes of the study? What can be done with the results?
Consider adding more comments to justify the need for the study

Methods

Line 16
A school-based cross sectional study…

Line 24
Delete "was"

Line 25
What is disabilities of speech and/or hearing…

Line 44
What is "concerned"?

Page 6
Line 4
Delete "the" and "under the supervisors of a supervisor and the principal investigator"

Line 14
"salt samples were tested qualitatively on the spot" does that mean it will only give two results possible? Adequate and not adequate? How could the authors determine the content of iodine if it was a qualitative assessment?

Line 19
Delete "were" and replace "on" by "in"

Lines 29-32
Consider rewording and put directly the grades and their description immediately after, no using the respectively. It will be easier for the reader to read.

Reword phrase in line 34
"determine the prevalence of goiter" possibly?

Results

Page 8
Line 7
Replace "was" by "were"

Line 11
…female…

Line 12
The majority…

Table 1

Male and female are invariable

For the variable education level, the breakdown is confusing. People who are able to "read and write" could also be in the "elementary" and "secondary categories". Consider reassigning.

Page 9
Line 4-6
Were these collected as a 24-hour recall? Please include more details in the methods section

Line 49
Consider including only percentage in prevalence results
Page 10
Line 37
Replace "during" by "in"

Liens 53-60 not necessary

Page 11

Table 3

How was the "family history with goiter" asked? I wonder if the children knew what was goiter? Consider using stars only for the expression of p-values

Page 13
I wonder if iodine content was still included in the model or if it was entered as a categorical variable (adequate iodine intake vs. inadequate), would it change the model much?

Lines 27-29
The authors do not need to address the possible reasons of a higher prevalence in goiter in Shebbe Sonbo District.

Lines 34-42
Is poor soil conservation the only possible reason of the high goiter prevalence in that region? What about food insecurity and other important factors? Reference 17 is not adequate here

Lines 57-60 and reference 7
The authors should add more comments here on the importance of iodine in growing children

Page 14
Lines 35-37 not clear

Line 51
Access to milk…

Line 55
Sentence incomplete

Page 15
Lines 17-21
Why the accessibility of iodized salt is very low in this region? Any comments? Any recommendations?

Address the cross-sectional design in the limitation
Conclusions should be directly drawn from the results of study

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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