Reviewer's report

Title: Prevalence and factors associated with overweight and obesity among adults in Hawassa city, Southern Ethiopia: A community based cross-sectional study

Version: 0 Date: 31 Aug 2018

Reviewer: Susan Clifford

Reviewer's report:

Thank you for the opportunity to read this paper. The authors report the prevalence of overweight (inc. obesity) in a sample of 531 adults in the urban Ethiopian city of Hawassa. The also report the odds of overweight by demographic, diet and physical activity characteristics.

Please see below general, then specific comments.

General comments

Introduction: The bulk of the introduction present global data on overweight prevalence and change over time, which is well known and could be condensed. The authors rationale for investigating prevalence in urban Ethiopia is that it hasn't been reported before/recently (2016 national prevalence is reported). What is the rationale for examining the suite of risk factors (e.g. physical activity, diet patterns) that you analysed? Do you have cause to believe the well-reported associations between these risk factors and BMI would be different in your population?

Results: How well does the sample assessed represent the adult population of the city? Were some groups over or under-represented?

In keeping with the aims of the study, I think the results should be re-ordered, so that after sample characteristics, the prevalence of ow/ob is reported. The next aim of the study is look at odds of ow/ob by risk factor. The descriptions of the prevalence of the risk factors is quite long for a non-aim; suggest putting these data in a table and just highlighting key information in the text.

Discussion: In the Discussion, many words are used repeating the study results. These could be condensed, and more weight given to how the study results compare to previous literature outside Ethiopia. Is it what we find in other countries? Also reflect on how the risk factors compare to each other - which had the strongest odds? If we had to pick just one or two to intervene on (and some of your risk factors are not modifiable), which should we target?
Specific comments

Abstract:

Line 36: Correct 'overweight/obesity' to 'overweight/obese'.

Line 36: Promoting these healthy lifestyle habits rarely translates to weight change. Suggest instead focusing in the conclusion on the relative impact that each risk factor has on BMI (which strongly predict BMI, and which don't really seem to be associated).

Introduction:

Line 57: The authors state that the increase in NCDs is known to be caused by increases in risk factors listed. Please provide appropriate citations that provide evidence of this causal association, and that the risk factors prevalence has risen over the same period as the NCDs increase. The current citation (a WHO fact sheet) does not suffice to support such a strong statement.

Line 66: The authors state overweight causes increased blood pressure, cholesterol and insulin resistance. My understanding is the relationship is bi-directional, e.g. insulin resistance can predict BMI, as BMI can predict IR.

Lines 52, 67, 69, ect: Throughout the introduction, when presenting prevalence of conditions, please also state the population the prevalence applies to. I presume most of these are global estimates, but it would be good to state for clarity.

Line 66: Please elaborate on the statement 'About 3 million people

Line 67 die each year as a result of being overweight or obese'. I presume BMI is not the direct cause of death, but death from other causes (e.g. stroke, infarction) is attributed to being due to BMI?

Line 71: The percent change in overweight/obesity over 40 years - 85% - is striking. Can the authors include in brackets the 1975 combined prevalence, for completeness/information?

Line 74: Please add a citation for where these prevalence data came from.
Methods:

Line 84: Much of the detailed information about Hawassa could be moved to supplementary material.

Lines 124, 127, 133: Add citations for the scales used. If they are not validated/published, please specify this.

Line 120: How were the selected adults approached and recruited into the study? Presumably they participated at home? How long did the questionnaire & ht & wt measurements take?

Line 129: I don't understand from this description how the pattern of consumption was scored. It seems frequency of consuming each of 12 items was scored on a six-point scale, but then was a total score generated? If so, how?

Line 135: How was the overall activity level (L, M, H) derived from the three separate context activity levels? Can you describe what levels of activity are considered low, moderate and high (e.g. 30 minutes of activity that makes heartbeat rise?)

Line 142: Add in the BMI formula \( \text{wt}/h^2 \)

Line 145: Suggest including a supplementary table describing how the independent variables were measured in the questionnaire (what were the response options?)

Line 146: Why was overweight and obesity combined into a single category, instead of looking at the risk for each separately?

Line 157: What were the covariates in the adjusted models? Can you clarify if the multivariable models were run separately for each risk factor (i.e. adjusted for covariates), or if all risk factors were entered into the same multivariable model. I presume the first.

Results:

Line 174: By 'response rate', do you mean the \([\text{number of people who participated} / \text{number of people approached to participate}]\)? It may be a co-incidence that the response rate of 92.7% is the
same as [number of people who participated / post-hoc calculated target sample size], so please clarify. I believe you should report the former, not the later.

Line 187: The description of the FFQ in the methods should be updated to mention it also captured breakfast and out-of-home data (if I'm interpreting this right?)

Line 234: It's not clear from the methods what the 24 variables are? I count 17. Please include a supplementary table showing the odds ratio and p-value for all variables considered for inclusion in the multivariate model (and therefore, which 10 have a p<0.25).

Line 241 onwards: Are the odds ratios presented adjusted odds ratios? Please specify.

Line 249: Please move Table 4 from supplementary material into the main manuscript. Add to the table footnote the covariates in the adjusted model. Please add to Table 4 the remaining diet variables (meal frequency, practices of skipping breakfast, behaviour of eating away from home, frequency of consumption of fast foods).

Discussion:

Line 273: Please add a citation to support the statement there are no meaningful difference in dietary intake of men and women.

Line 286: Line 222 says the prevalence of sedentariness was 21.6%

Line 293: Are these results reported in the results section? Avoid introducing new results in the Discussion section.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

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

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 recommend additional statistical review

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

Needs some language corrections before being published

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