Author’s response to reviews

Title: Prevalence and determinants of mental distress among University students in Ethiopia: a systematic review protocol

Authors:
Berihun Dachew (berihunassefa21@gmail.com)
Berhanu Bifftu (berhanuboru@gmail.com)
Bewket Tiruneh (jeryfiker21@gmail.com)
Degefaye Anlay (degefaye@gmail.com)
Meseret Wassie (meseretadu@gmail.com)
Kim Betts (k.betts@uq.edu.au)

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Response to reviewer

Ref: SYSR-D-18-00016

Title: Prevalence and determinants of mental distress among University students in Ethiopia: a systematic review protocol

Dear Editor

Thank you for giving us the opportunity to address the reviewer’s concerns. We appreciate the reviewer’s constructive comments and suggestions. We have carefully revised our manuscript based on the comments. We believe we have addressed all concerns in the revised manuscript. Below, we have provided a point by point response to the comments and suggestions.

We look forward to hearing from you.
Kind regards,

Berihun Assefa Dachew

Corresponding author
berihunassefa21@gamil.com

Reviewer #1:

Please do not capitalize spelling of "university".

Authors’ response: Thank you, this has been corrected.

P.3, l 41: "mental" instead of "metal"
Authors’ response: Corrected

P 3. L 48-49: the authors should explain more in depth what is the problem with previous studies of prevalence, low statistical power can mean many things. Moreover, if all previous studies are affected by these problems, why do a meta-analysis, which would just combine many small studies? A new, larger survey might be more useful. These aspects need to be made clear.

Authors’ response: Thanks, this has been corrected (see page 3, line 65-76)

P.3 l 55-60: I do not understand what the authors are trying to say here. The mix various concepts like pooled prevalence, which cannot be a goal in itself, and epidemiological data, which would suggest to the reader a new observational study is being proposed. Pooled prevalence is only relevant if the sources to pool are enough and have some reliability. It only makes sense as an assumingly more accurate estimation of the true prevalence, and not a goal in itself. There is no mention of previous reviews on this topic. Are there none, not even non-systematic ones?

Authors’ response: This has been described (page 3, line 65-76). Although several individual studies have reported the prevalence of mental distress and associated factors among university students in Ethiopia, there is no published systematic review and meta-analysis that shows pooled estimates of mental distress and its associated factors.
p.4. Data sources: I recommend the authors use the MeSH dictionaries (and its Emtree equivalent). Some of the terms they indicate are not enough because they could have many synonyms which are not covered (e.g., few papers will probably use "common mental disorders"). The authors need to familiarize themselves with MeSH and use it for their search strategy.

Authors’ response: Thanks, the search comprises both Medical Subject Headings (MeSH) and free text words. This has been corrected now (method section, page 4, line 83-94).

Inclusion criteria:

Why are the authors restricting to the clearly methodologically weaker cross-sectional studies and excluding longitudinal studies?

Authors’ response: Thanks, this has been corrected. All observational studies reporting the prevalence of mental distress and/or factors associated with mental distress among university students will be included. We will contact authors when additional information is required to calculate the prevalence (page 4-5, line 96-101)

More details need to be given, for instance what is a recognized instrument? What will happen with a study that includes a sample only partly composed of university students?

Authors’ response: These issues are addressed the revised version of the manuscript. Recognized instrument refers to using standardized instruments or questionnaires used to assess mental distress (such as the Beck's Depression Inventory, Patient Health Questionnaire-9, Self-reporting Questionnaire-20 or clinical interviews) (page 5, line 99-101).

When studies include a sample only partly composed of university/college students, we will extract required information to calculate prevalence. We will contact authors if additional information is required (page 5 line 102-103).

Insufficient effect size data cannot be an exclusion criterion: where data is insufficient, authors can be contacted.

Authors’ response: Thanks, this has been corrected.

How will effect sizes be calculated? What will be effect size indicator?

Authors’ response: The pooled prevalence of mental distress with 95% confidence interval (95% CI) will be calculated as effect size (ES) using random-effects (recognizes within and between
study variance) and quality effect models. These models accounts sample size and the number of events in each study in calculating effect sizes. We will also use MetaXL (freely available software program for meta-analysis) to examine how the quality of each study changed the pooled estimate compared with the results from random-effects meta-analysis. This analysis accounts the quality score of each study in the calculation of the study weight, which is a robust and innovative technique to help minimize the estimator variance and account for subjectivity in quality assessment (page 6, line 124-130).

The description of what exactly will be extracted from the eligible articles, particularly in reference to what information will be used for effect size calculation is superficially described.

Authors’ response: Thanks, this has been described now. We will extract required information to calculate the effect size such as the sample size, number of cases, prevalence or proportion of the outcome. We will also assess the quality of all included studies using Newcastle-Ottawa quality assessment tool adapted for cross-sectional studies (page 5, line 110-113).

The description of the study synthesis is completely insufficient and does not take into account the nature of the data, which are binomial (I am assuming the authors will combine proportions) that cannot simply be combined like continuous outcomes. The authors need to consult specific methodological sources for meta-analysis of proportions or prevalence, such as: https://www.ncbi.nlm.nih.gov/pubmed/23963506. The specific method used to compute the standard error (what method will be use to stabilize the variance, if necessary) and derive the confidence intervals needs to be stated.

Authors’ response: Thanks for sharing this important resources. We will used double arcsine transformation if there is variance instability (see page, line). “The definition of prevalence is the same as the definition of the binomial distribution (number of successes in a sample), and therefore the standard assumption is that prevalence follows a binomial distribution. With the main meta-analysis methods based on the inverse variance method, the binomial equation for variance (expressed as a proportion) can be used to obtain the individual study weights: \( \text{Var}(P) = P(1-P)/N \), where ‘P’ is the prevalence proportion, and ‘N’ the population size.”

Note: We did not include this mathematical formula in the manuscript, as this will done by the software. However, we will include this if the editor believes adding this information will improve the quality of the paper.

Metaan is not an adequate package for meta-analysis of proportions; package metaprop_one is dedicated to this and I strongly advice the authors look into it
I would also advise them to consult recently published meta-analyses of prevalence. As it is, this section is lacking most of the necessary information.

Authors’ response: Thanks. This has been corrected (page 6, line 134)

Comments from Associate Editor:

Thank you for submitting your manuscript. The manuscript covers an interesting and important topic, however a full description of the existing reviews in this area is needed to justify this is a unique review is needed, along with more detail of appropriate methods for this question. There resulting protocol (and review) should then be much stronger. In addition to the comments from the reviewer please consider the following:

1. P1 The corresponding author’s full physical address is required. Please confirm if the address for Dr Dachew is a full physical address. Consider adding the city, and postcode/zipcode

Authors’ response: Thanks, this has been stated.

2. P2 Consider registering the review with PROSPERO register of systematic reviews. This is not a requirement for publication in our journal but is recommended. If there is a reason for not registering the protocol consider adding this as an explanation in the manuscript.

Authors’ response: Thanks, the review protocol has been registered in the International Prospective Register of Systematic Reviews (see abstract, line 44 and methods, line 78-81)

3. P3 Describe existing systematic reviews in this area or a similar field e.g. mental distress in University students in other countries/regions, mental health in Ethiopian/African students. Describe the gap in evidence your review is aiming to fill and the rationale for why a review is important.

Authors’ response: Thanks, we have revised the manuscript based up on the above suggestions (page3 &4, line 65-76).

4. P3 line 6-7 use ‘present’ not ‘presented’
5. Line 11-12 add ‘a’ - affects a substantial

6. Line 40 – use mental not metal
Authors’ response: Thanks, corrected.

7. P4 Please add more detail to the search strategy and data source description as per PRISMA-P items 9 & 10
Authors’ response: Thanks, this has been corrected (page 4, line 88-89 (additional file 2)).

8. Add coverage dates for all databases e.g. EMBASE 1947 – present. Different institutions have access to different versions of databases, so adding the dates provides transparent reporting of the actual data source you are using. If there is no beginning date available for the database use inception e.g. PubMed from its inception – present.
Authors’ response: We have now included coverage dates for all databases (page 4, line 83-86).

9. Add a full search strategy that can be reproduced by a reader. State which database the search strategy is for. All search lines should be numbered, and combinations shown. I’d advise the search comprises both index terms (MeSH) and free text words (title and abstract word searches) in the databases. Also use truncation symbols (*) to identify single and plural terms (student, students). To improve the ‘Ethiopia’ search, include ‘Ethiopian*’……
Authors’ response: Thanks, we have revised the protocol based up on the above suggestions (page 4, line 85-94).

10. Consider adding grey (unpublished) literature resources such as a database/website of dissertations and theses, conference abstracts, and websites of professional bodies (e.g. mental health charities, Psychiatry professional bodies) that may have conducted research in this area.
Authors’ response: Thanks, this has been corrected page 4, line 89-92).

12. P5 line 25 use lower case p – pooled

13. Line 30 spelling – Cochrane’s not Cochran’s

Authors’ response: Thanks, corrected.

14. P7. If the review was supported in some way by an institution providing resource, equipment and/or staff time please acknowledge this in the funding section (as per PRISMA-P 5c)

Authors’ response: the review is not supported /funded by any institution