Reviewer’s report

Title: Determinants of Traditional Medicine Utilization for Children: A Parental Level Study in Tole District, Oromia, Ethiopia

Version: 0 Date: 20 Jan 2020

Reviewer: Trkulja V

Reviewer's report:

I have reviewed BCAM-D-19-0183 - a report on a cross sectional survey on use of TM (respondents: parents) in children in a region in Ethiopia, close to the capital. By all means - the addressed question is a relevant one. In my opinion, the major strength of the study is a part of the methods (some parts are unclear) - i.e., a) the sampling procedure; b) construction and, in a way, validation of the questionnaire; c) data collection process (operative). There are, however, several limitations requiring revision.

Minor limitations.

Language. English is not my native language, but it seems to me that rather thorough English editing is needed.

Figure1 - this is really unusual way to present data. Show percentage (on the y axis)...and you can provide also (n/N) in brackets.

There two tables enumerated as Table 1 - correct this.

Major limitations.

Methods (I suggest that the section is entitled "Subjects and Methods"). Sample size calculation - There are some unclear points here. Apparently, the sample (number of households) to be surveyed was determined based on a certain desired precision of the estimated proportions. Actually, a desired precision (i.e., width of the 95%CI around the estimate /i.e., 5% margin of error/) with the expected proportion of 88%, but not a single proportion is reported with CIs. Therefore, the entire work was primarily conceived as descriptive - to provide estimates about prevalence of certain phenomena. Later on in the Methods section - a subsection is added explaining the intention to use logistic regression in order to detect associations between various respondent characteristics and the outcome "ever use TM for your child?". This seems reasonable, but the following should be kept in mind: a) the whole work was conceived primarily as descriptive, and the sample size was based on this premise; b) under such circumstances, the logistic regression analysis could only be viewed as "exploratory". If detection of "determinants of the use of TM"..was the objective, the study would have been differently designed, at least - sample size calculation would be based on different criteria: e.g., a sample needed for detection of an independent contributing to explanation of the variability of the dependent by e.g., 3% or 5% or similar (R2 0.03, 0.05), or as defined in respect to a certain ORs etc. c) The part describing the approach to logistic regression is.."messy" (i) you should not use wording "statistically
significant (P < 0.2). If you meant: "all variables with P < 0.2 in a univariate analysis were entered into the multivariate model"...then, appropriate wording would be. "variables showing at least a trend towards univariate association with the outcome (defined as P < 0.2) were entered into the multivariate model". But I would like to warn you: there has been a lot of literature on the problem of building multivariate models in observational studies. What criteria? P-value or R2? (contribution to the explanation of the variance of the dependent?). OR - include many, and then use a backward selection process. OR...stepwise selection etc. But note - all these strategies are based simply on statistical indices. But...one should first think about PLAUSIBILITY...logic...only then "move" to statistical indices. For example..(at least, reading the Introduction) - it is reasonable to assume that a) age/education (which here could be collapsed to "literate or illiterate"); b) religious beliefs...and c) socio-economic status are factors THAT NEED TO BE CONSIDERED always..regardless of "statistica significance". so..you need to have some "forced" variables in the model..and then maybe select others. But - have in mind, a sample of 267 is not large enough for a meaningful logistic regression with too many independents. Finally, the sentence "In addition, P-value less than 0.05 is considered as significant at 95%CI" - is meaningless. If you wanted to say that the type I error rate was set at 0.05 - then state: "All tests were done at two-sided alpha level of 5%"....OVERALL: a) in the Results, provide estimated proportions with 95% CIs; b) in the Methods section - explicitly define logistic regression as "exploratory" (no firm inference possible). c) re-consider model-building strategy (and, if needed - re-analyze data).

Results. There are 5 or 6 Tables and 4 Figures - this really not needed. Plus - each table and figure is in extenso elaborated in the text. This should be revised. Try to "condense" the information into less tables and figures and avoid extensive "reading" of data from the tables and figures in the textual part - in the text, point out just MOST PROMINENT data presented in the respective table/figure.

Table 5 summarizes univariate and multivariate logistic regression. The table is relative "messy" - always list the reference level of a factor first (i.e., OR=1.0 should always come first. Next, if table states P=0.037 . there is NO NEED to additionally point out that this is "significant p<0.05". Finally, the effect of "monthly income" - OR of 0.025 (0.08-0.78) P=0.018 for the level 500-850 vs. &lt;500 - DOES NOT MEAN that "higher income was associated with lower odds of having used TM" - since levels 851-1500 and &gt;1500 were NOT associated with lower odds. Suggestion: Pool data for bands &gt;500 together and contrast it vs. &lt;500. But anyhow - the entire logistic regression - requires re-consideration..and, likely, data re-analysis. Be careful with this!

Discussion. The discussion seems somewhat too extensive. I suggest you should: (i) reconsider you data, think about the main points and (ii) then address this (including limitations etc.) into Discussion. Do not use wording like "data did not show statistical relation.." (or similar) - there is no such thing a "statistica relationship.." - relationships are biological, emotional, culturally or religiously defined etc....Statistical methods just serve as help in an attempt to recognize them..and, if possible, quantify them..:-}.

Overall - I believe that the manuscript contains relevant information, but the way in which it is communicated needs to be revised/upgraded.
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?
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No

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I am able to assess the statistics

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