Reviewer's report

Title: Uptake and correlates of HIV testing among men in Malawi: evidence from a national population–based household survey

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Reviewer: Mostafa Shokoohi

Reviewer's report:

This manuscript using secondary data analysis conducted on cross-sectional household data for 7,478 men from the 2015-16 Malawi Demographic and Health Survey aimed to assess the uptake and determinants of HIV testing among men in Malawi. The authors found that over two-third (69.9%) of the corresponding population ever been tested for HIV. Adjusted analyses illustrated that individuals with age groups equal or greater than 20, ever married men (either currently or former), having higher education and those who read newspaper frequently were more likely to ever uptake HIV test than other men belonged to other categories.

HIV testing practice is indeed an important step in controlling HIV infection on which this manuscript has focused. However, there are some concerns with this manuscript that I would like to share with the authors. I am hoping that the authors find these comments helpful and constructive for their valuable research. My main concern is their statistical analysis and the results section.

Comments for Abstract:

The abstract, results section, is expected to reflect the main findings of the manuscript. It is not clear why the authors only reported the estimates for age group 30-39 years while other upper age groups are also significant; or, why currently married status is reported the only significant marital category while formerly married group is also significant.

The P-value for being significant should be less than 0.05, NOT less than or equal 0.05.

The conclusion is a bit confusing when the authors compare their estimate in 2016 with the estimate in 2010. The authors should consider this point that they studied ever (lifetime) HIV testing as their main measure. So, I feel that that 52.2% in 2010 might be a part of the 2016 estimate and there had been only around 17% change within this period.

Comments for the main text:

I would like the authors explain a little bit more on the scientific background and rationale for their research on why they are exclusively forcing on data from men. I am wondering if there is such data among women but the author did not report them? While I see that the authors
highlighted that "more women utilizing HIV testing services than men", but a more discussion or support is required for their hypothesis that it is good to understand men's behaviors with regard to HIV testing practices.

Definition of HIV testing as the main outcome of the study is indeed the main challenge of the study: a) While the HIV surveillances do predominantly focus on recent HIV testing (i.e., last 3 months, last 6 months, last year), this study has hinged on the lifetime occurrence of HIV testing. Undoubtedly ever HIV testing can be useful in some contexts, but in the context in which HIV infection is prevalent might not have that much implication; b) While the HIV testing per se is an important practice, this without knowing the "results of the test" might not again have implication for HIV prevention. This should be clear that whether the participants who took HIV test knew their results of their test or not. More discussion on this required in this manuscript.

Modeling: the regression modeling of this manuscript is also another challenge. The authors modelled "lifetime" HIV testing on a set of sociodemographic measures that had reflected the "current status"; for example, current marital status, or currently working. Such type of molding makes the interpretation of the findings difficult. This is barely acceptable that the current working status, for example, can reflect the past occupation history of the study participants. The interpretation is also vague: How can current working status predict lifetime HIV testing? There are two general recommendations: a) either choose only those variables/covariates in the modeling that are either measured for a lifetime period or/and those that might have impacted the lifetime HIV testing; b) change the approach of analysis and tell the audience that among how the sociodemographic and other factors (please do not call the covariates as independent variables - instead, call them covariates) were different between those who reported HIV testing and those who not. In the second option, you need to report the percentages/proportions of the study covariates according to the HIV testing status (like with I see in Table exactly). With this, you may not need to do regression analysis (not sure), but even descriptive statistics can of greater importance and informative that what we see now. However, if the authors still would like to keep their approach of analysis, I would strongly recommend to remove some of the covariates in the regression molding that is conceptually not well fitted in the analysis.

Another point with regard to statistical analysis is that I can see five clusters of covariates (can be seen from the Figure). So, I would like to see the impact of each cluster separately. Significant predictors in each cluster (sometimes called chunk-wise regression molding, sometimes called as stepwise molding) can be molded in a final regression analysis. This is given the fact that the authors select only those covariates that are well defined and fitted with their outcome measure.

Any changes in the analysis and findings need to be taken into account in the discussion as well.

Lastly, I would like ask the authors about the possibility of having a comparison table for data of 2016 and 2010; on both descriptive statistics and regression analysis.
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?
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No

Are the conclusions drawn adequately supported by the data shown?
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