Reviewer's report

Title: Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia

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Reviewer: Amy Tsui

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Review of “Substance use and its predictors among undergraduate medical students in Addis Ababa University, Ethiopia”

This descriptive 2009 study of 622 medical students (426 male and 196 female) in the flagship university of Ethiopia finds use of alcohol in last 12 months to be 22%, khat use in last 12 months to be 7% and current smoking to be 2%. Significant differences by gender are observed. Background factors analyzed for association with use of the 3 substances include gender, age, religion, source of family income, residence, medical education status, parental substance use, and friends’ use of substances. Concordant use of alcohol, khat and tobacco is observed and exposure to friends’ use is often implicated.

The manuscript can benefit from the following changes:

1. Abstract line 3: “devastating” is too strong a word.
2. The significance of the medical student population is not highlighted in the paper or in the abstract. Why should the reader care about substance use in this student population, which is a fairly elite one? The behavioral consequences as well as the potential impact of substance use on professional performance are not discussed, except in the final section and then only marginally.
3. Although there was IRB review, what steps were taken to ensure confidentiality, since it would be relatively easy to deduce the identity of students who reported consuming or using large amounts of alcohol or khat. What is the risk of social desirability bias in the findings?
4. The models for alcohol, khat and tobacco use all have different covariates. Given the concordant use of these substances, it would have been helpful to estimate models with common covariates, where the latter are selected on theoretical grounds. The background factors have more distal associations with substance use behaviors, while the social context factors of parents’ and friends’ use are more proximate (and more interesting). The paper will be stronger with a common specification of factors across the 3 use models.
5. The significant differences by gender further suggest that it may be an effect modifier and the analysis should be stratified. This could be empirically problematic since there are first fewer female students and second they do not smoke or use khat that often. Thus it’s possible estimation of the female models would not converge. Nevertheless, the pattern of associations for males as
compared to females would be important to differentiate and understand separately.

6. The large confidence intervals bely the disproportionate distribution of cases in relation to the outcome. When the measured outcomes are so low, e.g., 1, 2%, there is not much utility in estimating associated factors. There is no variation to be explained. I advise estimating gender-specific models, even if their model specifications (covariates) end up being different.

7. In the discussion, the authors note that the levels of use among the AAU medical students are much lower than those found in other studies. They need to justify why study attention is warranted.

8. The authors should also be careful in the discussion when comparing their findings on substance use with those from studies with different study populations, e.g., adolescents, students in general etc.

9. Please check the percent distributions, shown in Table 1, for completeness. Each should add to 100% but, for example, parent’s education x female does not (off by 4.1%).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.