Author's response to reviews

Title: Correlates of Opium Use: A Study in Tribal Community of Arunachal Pradesh, India

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Author's response to reviews: see over
Reply of comments:

Reviewer 1:
1. Your sample was based on lists of villages/tribes from the 1991 census. This is over 20 years old. Please comment on how this may impact your study, and why you chose not to use a newer version.

Reply: The list of villages used for random selection was all the census of villages of the study districts. It is mainly to avoid any new village or village formed temporarily and not listed in the Census. The list of census villages was obtained from Statistical office of districts at the time of survey which is an updated version of 1991 Census. But, there was no change in the name of villages. However, we may delete the year and it can be stated as Census villages.

2. The authors claim that they chose to use un-weighted data, because the Sample closely reflected the population. They chose to sample 65 tribes/villages. Can the authors comment on how many villages/tribes were not included? Also, can the authors provide some data to show that their sample demographics mirror the main population?

Reply: Though the tribe wise population of all the tribes are not provided in the Census report. However, I am enclosing the 2001 Census data Sheet of the study area, which shows the population of three major Scheduled tribes in the study area. It clearly indicates that Population of Tangsa tribe is very high (20,431 i.e almost 48 or 50% of total tribal population). However, population of other tribes such as Singpho (3400 i.e. about 8%) and other tribes are also having lesser population as only three major tribes population is given in the enclosed data sheet. However, the population of other tribes could be around 3000 to 3.5000. Considering this proportion and using the male and female population proportion, the weighted estimate is computed as 11.09% opium users among male tribes whereas un-weighted is 10.6%.

Regarding the tribal villages counted from the sample datasets (65 villages), Tangsas are concentrated in 34 villages, Singphos are in 11 villages, Khamati in 5 villages and Tutsas in 3 villages. There are some more tribes such as Lisu and others tribe confined in some villages, but opium use was not recorded among them.

Reviewer 2:
1. Suggest English and technical editing of entire manuscript including tables.

Reply: Necessary editing could be done with the help of Editors.

2. It appeared that data was un-weighted (eg. Table 1: overall opium use for male - 191/1795 = 10.6%). If the data is un-weighted, the estimates cannot be considered as representative to either study population or any of the specific tribes. Suggest clarifying the weighting and include appropriate methodology in the section on methods.
Reply: This is clarified in the reply of 2nd Comment of Reviewer 1.

3. Gender is only the major significant factor explaining the differences in overall opium use which was ignored in some of the tables due to low prevalence. And only other significant correlate was age.

Reply: It is true that the major significant difference was recorded between male and female, but the analysis has also indicates the significant effect of religion, types of tribes and occupation. The finding of analysis is presented and discussed in detail.

4. Suggest significant rewrite of the methodology section describing the survey design and implementation process concisely.

Reply: This has been rewritten as suggested by the reviewer.

5. Table 3: Suggest checking the model summary and convergence due to low prevalence among female users 2.1% (34 cases) which were analyzed by 7 socio-demographic variables with many sub-categories Suggest justifying the inclusion of many correlates in the logistic model with less sample size, particularly among female users. This warrants the need to check the statistical analysis and summary of the model to determine the validity of the estimates and their precision. Request to please provide the model summary statistics along with rebuttal letter.

Reply: The model summary of analysis is presented in the Table-3 which has been discussed. It is also mentioned that the range of confidence interval is wider even if the variable has significant effect. It is mainly due to the overall prevalence of opium users among females was low (2.1%). But it was high in some tribes such as Singpho and Khamti, and among Buddhists. I agree with reviewer that the precision of estimates are low which is also reflected in the confidence interval of estimates which is wider despite of significantly higher MRR. This is accepted and mentioned as the limitation of the findings in the Discussion section. But it is important for intervention measure.

6. Suggest deleting the figure 1 as it does not add much to the analysis and also suggest deleting the description of the figure 1 in Page 10.

Reply: it is deleted as suggested.