Author's response to reviews

Title: Indian medical students in public and private sector medical schools: are motivations and career aspirations different? - Studies from Madhya Pradesh, India

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Author's response to reviews: see over
To,
The Editor
BMC Medical Education

Subject: Submission of the revised manuscript “Indian medical students in public and private sector medical schools: are motivations and career aspirations different? – Studies from Madhya Pradesh, India.” (Vishal Diwan et al.) (Case 2029850879918279) First revision.

Dear Sir/Madam,

We have now responded to Reviewer’s and Editor’s comments on the above mentioned manuscript. We have revised the manuscript as per comments and action taken are reported below. For easy reading we repeat the comments by the reviewers and the editor in bold and then make our comments in plain text. In addition, we have further edited the manuscript.

Editorial Comment:

This is an interesting study, but please take into account the reviewers' comments and revise before we can make a final decision. In particular the students' motivation for working in rural areas is of interest to many others, also internationally. In the same vein, I have some queries about table 4: You report the adjusted effect on willingness to do 2 year rural service in the text only, at the end of results. This finding deserves to be linked to table 4, as a foot-note for example. Though, it is also a bit strange that the adjusted OR is larger than the bivariate OR (1.46 versus 1.38)?!

Our reply: The adjusted OR; we re-checked our bivariate and multivariate analysis, It does seem like the bivariate is 1.38 and the multivariate is larger at 1.48. We paste here the bivariate and multivariate analysis results from SPSS for the editor to see.

As suggested, table 4 has now been modified to show both the bivariate and multivariate analyses.

Bivariate analysis: the predictor college is categorized into public and private.

college * 2 year rural service Crosstabulation

<table>
<thead>
<tr>
<th></th>
<th>2 year rural service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>govt college</td>
<td>183</td>
<td>258</td>
</tr>
<tr>
<td>% within college</td>
<td>41,5%</td>
<td>58,5%</td>
</tr>
<tr>
<td>private college</td>
<td>119</td>
<td>232</td>
</tr>
<tr>
<td>% within college</td>
<td>33,9%</td>
<td>66,1%</td>
</tr>
<tr>
<td>Total</td>
<td>302</td>
<td>490</td>
</tr>
<tr>
<td>% within college</td>
<td>38,1%</td>
<td>61,9%</td>
</tr>
</tbody>
</table>
The Odds ratio (bivariate) of 1.38 is in bold font

<table>
<thead>
<tr>
<th>Risk Estimate</th>
<th>Value</th>
<th>95% Confidence Interval Lower</th>
<th>95% Confidence Interval Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Odds Ratio for college (govt / private)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For cohort 2 year rural service = yes</td>
<td>1.224</td>
<td>1.019</td>
<td>1.470</td>
</tr>
<tr>
<td>For cohort 2 year rural service = no</td>
<td>0.885</td>
<td>0.794</td>
<td>0.987</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>792</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the multivariate regression for the same outcome, please see the predictor variable college which refers to sector of the school i.e public or private.

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I.for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sex(1)</td>
<td>0.155</td>
<td>0.151</td>
<td>1.046</td>
<td>1</td>
<td>0.306</td>
<td>1.167</td>
<td>0.868 - 1.570</td>
</tr>
<tr>
<td>age_cat(1)</td>
<td>-0.067</td>
<td>0.274</td>
<td>0.059</td>
<td>1</td>
<td>0.807</td>
<td>0.935</td>
<td>0.546 - 1.602</td>
</tr>
<tr>
<td>state_name(1)</td>
<td>-0.285</td>
<td>0.202</td>
<td>1.981</td>
<td>1</td>
<td>0.159</td>
<td>0.752</td>
<td>0.506 - 1.118</td>
</tr>
<tr>
<td>college(1)</td>
<td>0.394</td>
<td>0.157</td>
<td><strong>6.286</strong></td>
<td>1</td>
<td><strong>0.012</strong></td>
<td><strong>1.482</strong></td>
<td><strong>1.090 - 2.016</strong></td>
</tr>
<tr>
<td>either_parents(1)</td>
<td>0.240</td>
<td>0.180</td>
<td>1.786</td>
<td>1</td>
<td>0.181</td>
<td>1.272</td>
<td>0.894 - 1.809</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.357</td>
<td>0.358</td>
<td>0.997</td>
<td>1</td>
<td>0.318</td>
<td>0.700</td>
<td></td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: sex, age_cat, state_name, MEDIUM, college, either_parents.

Reviewer # 1

**Major Comments**

NIL

**Minor Comments**

NIL

**Discretionary Comments**

What is the admission procedure for government quota students in private colleges for out of state students?

At the time of the study private medical schools were allowed to admit government quota
2. Is there any compulsory rural health service now existing in the state after completion of internship? Any legal bond is taken from the student? If they do not undergo compulsory rural service, what is the penalty imposed by the state?

There have been repeated attempts to initiate a compulsory rural service for medical graduates across the country. The latest such recommendation was made to the government in 2012. However the implementation of a compulsory rural service has been weak and the vast majority of medical students do not do it. This is alluded to in the introduction ‘Also, rural medical service is an often emphasized need in the country; though willingness among medical students to take this up varies.’

3. No explicit mention about written informed consent by study participants?

Written informed consent was taken from all the study participants. This is now added in data collection section on pg 6.

4. No follow up effort for those who missed on the day of the survey in their institutions?.

The participants who missed the survey on the day of our visit to medical school were not followed further due to logistic and financial constraints. We have now inserted the following lines to clarify this at the bottom of Pg 11.

‘The views captured in our study are those of students who were present on the day of questionnaire administration. The views of those who were not present for any reason are not reflected’.

5. Whether the survey was conducted simultaneously in all the institutions?

The survey was not conducted simultaneously. The same team of researchers traveled from one institution to the other over a period of 4 months.

6. Mention the average time gap between student's admission & time of the survey?

The students normally admitted in medical school in September. The survey was done in all the medical schools between September 2010- Jan 2011. So it was done 0 to 4 months after admission. We have now clarified this in the methods section on at the top of pg 6.

7. Data could have been collected about how many had one/ both parents as doctors? This can also influence their selection in medical college / rural service.

This is an excellent point. We did collect the data but did not include it in the analysis in the original version. However this comment from the reviewer, has made us look more in depth at this variable, and include it in the analysis as it is revealing. 21.7% of students had either parent qualified as a physician. This variable has now been included in all the tables and discussed in the paper.

8. How many students were from All India Quota / CBSE in Govt. medical colleges?

This information was not solicited during the survey. We have mentioned this in limitation section of the MS.
9. Any difference between General merit / reserved category admission students?

The research team did not enquire into reservation status (reservation is part of a positive affirmative action program for historically disadvantaged groups), as this can be perceived as stigmatizing and is politically sensitive. Further, the objective of the paper was not to look for differences between General merit and reserved category students.

10. Reference not quoted for recent changes in migration rules of foreign countries.

This sentence has been clarified to read what was intended and an appropriate reference has been provided.

11. Students could have been asked in the questionnaire about under which quota they were admitted in private medical colleges, if data was not available with college.

This information was not elicited as it can be sensitive, students are often reluctant to mention that they are management quota, NRI quota etc.as these can be stigmatizing. Further the objective of the paper was not to look for differences between different admission quota, though we state that the reason for any differences could stem from different admission criteria in the discussion.

12. A follow up study may be planned after five years for the same batch of students in the same institutions (during internship /after graduation) to see whether their preference for Rural service / pursuing PG study / Going abroad has changed.

We appreciate the idea of follow up study after five years for the same batch of students in the same institutions. We will explore the possibility of conducting this study after five years.

Reviewer # 2

MAJOR COMMENTS

1. Introduction. So far, the rationale of this study is not clear. Why is this important to medical education? Can the study findings inform improving current medical education in India and potentially in South Asian?

This study was done to study and compare between first year medical students in public and private sector medical schools (i) motives for choosing a medical education (ii) career aspirations on completion of a medical degree (iii) willingness to work in a rural area in the short and long terms.

We believe the study makes an important contribution to informing medical education in India. There is an often perceived notion, which we have mentioned in the introduction that students in private colleges are different from those in public with regard to motivations for studying medicine and career goals. This paper scientifically studies these aspects and clearly lays out what the differences and similarities are. To the best of our knowledge, there are no known studies of this nature previously reported.

With regard to the rest of South Asia, the generalizability is probably limited (this is also the case for India) as this sample is drawn from one Indian state. This is mentioned in the discussion.
2. Methods – data collection. How the 792 students were selected? How big was the total number of eligible students in the two schools?

At the time of survey we met 792 students (out of total 1120 students) from studied 9 medical schools. This is described in data collection methods.

3. Methods – data analysis. Which variables were adjusted for in the multivariate analysis?

This has now been clearly presented in the revised table 4

MINOR COMMENTS

1. Introduction. Overall, the introduction section is too long. Please make it more relevant to the study.
   We have made minor modifications to the introduction to improve clarity

2. The writing needs to be improved
   The paper has been language edited.

We hope that now the editor and reviewers will be satisfied with our responses and with the modifications incorporated in the manuscript.

Sincerely,

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