Reviewer's report

Title: Sex education in India: exposure and opinions of adolescent students in Mumbai: A cross-sectional survey

Version: 1 Date: 20 May 2011

Reviewer: Aoife Doyle

Reviewer's report:

- Major Compulsory Revisions

The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

Abstract

1. You state that you will ‘explore the potential impact of school based sex education..’ however, given the design of your study this was not possible nor discussed in the paper itself. I suggest that you remove mention of ‘potential impact’ of such education from the abstract as this is misleading.

Background

2. Para 3, last sentence: You suggest that countries with a long-history of school-based sex education have low teenage birth rates and low rates of STIs among, however, you fail to acknowledge that there are likely to be other cultural, familial, societal and health service factors that influence the rates of pregnancy and STIs in those countries. You should discuss the possibility of other causes of the low rates or remove the sentence.

Methods

3. Para 1, sentence 2: You state that the state’s government refused to take part in the federal government initiative but did they offer an alternative? Or were there any other groups e.g. NGOs offering sex education to these students? Please provide more details.

4. Para 1, sentence 3: More information needs to provided here on the selection of these 5 schools i.e. how representative were they of schools in the city? What is the total number of such schools in the city and how were these 5 selected? Also, it is essential that you should provide details of the grades that were involved in the survey and the age-ranges and sex-distributions within those grades.

5. Para 3, sentence 2: This explanation of how classes were selected is unclear. How many classes of the relevant grades were in each school and how many were chosen to participate? Any difference between the classes chosen and not chosen? e.g. were the classes streamed for academic ability, by sex etc.?

6. Para 4, sentence 2: The basis of the sample size calculation is unclear. Please
provide the proportion of students exposed to sex education that was used in the calculation. Was the plan to analyse for each sex separately and if so were you aiming for 400 students of each sex? In fact, the need for such a sample size calculation is unclear as you do not present 95% CI for the proportion of students exposed to school-based sex education and do not carry out any statistical comparisons e.g. between sexes for this outcome.

7. Para 4, sentence 4: You mention that you carried out logistic regression yet you do not provide sufficient details of the methods used to create your models e.g. was it forwards stepwise regression? What was the p-value that you used a cut-off when including/excluding variables from your model? In general, it is unclear to me why you wanted to look at factors associated with the students opinions on the importance of having sex education as part of the school curriculum. What is the public health importance of this? And if this was a key question (requiring such statistical analysis) then why was it not one of the aims of your study? (as described in the abstract) I suggest that you clarify the reasons for looking at this association and the statistical methods used or alternatively remove this analysis (and Table 2) from the paper.

8. Para 5, last sentence: Please explain why individual written informed consent was not obtained from the students and also state whether students were given the chance to ask questions following receipt of the ‘information statement’ (Methods, para 3).

Results

9. Para 1, sentence 1: Why so few males? (see my earlier suggestion to include age and sex distributions within the relevant grades in the schools)

10. Para 1, sentence 2: Please state the % that returned a completed questionnaire.

11. Para3, sentence 1: Was there any information available from the students or their teachers/another source on the content of the sex education lessons that had taken place at the study schools?

12. Para 4, last 2 sentences: See my earlier comments re the usefulness of this logistic regression analysis especially as almost 90% of the students thought that sex education was important.

13. Para 7, last sentence: Such statements where proportions are compared should be accompanied with some indication of whether this was a real difference between sexes, e.g. provide a p-value from a chi-squared analysis.

Conclusions

14. Para 2, sentence 2: Please provide some indication of whether the study in Dehli took place in the same time period and among a similar age/sex group of participants?

15. Para 2, sentence 3: A major limitation of this study is the absence of detail on what sex education lessons the students received and so any comparison with the level of ‘sex education’ in other studies and/or the ‘expected/unexpected’ level of ‘sex education’ are futile. For example, the ‘sex education’ that the students are referring to could simply have been one lesson where the teachers
told them not to have sex (i.e. not comprehensive sex education). If this were the case then it might not be unexpected that ~62% of students had received such a message.

16. Para 3, last sentence: Please see my earlier comment re: this research question- if you are going to retain this analysis in the paper and suggest that further work be carried out on this question then you need to explain why is this important in terms of public health?

17. Para 4: Please discuss the possibility of biased reporting given that the interviews took place in the school? i.e. Is it possible that students overemphasised the importance of knowledge obtained in school.

18. Para 6: Please discuss the possibility of social-desirability bias e.g. if the survey was led by a doctor then would students be more likely to say that they would like to obtain sex education from a doctor?

19. Para12, first sentence: Please provide more details of the ‘robust evidence which suggests that curriculum-based sex education programmes are beneficial in preventing HIV, STIs and early pregnancy in adolescents’. To my knowledge the only study (at least in SSA) that has shown this has been the Stepping Stones study in South Africa which found a decrease in HSV2 (not HIV). See the update to the Steady, Ready, Go review (http://www.evidence4action.org/images/stories/documents/srgreview.pdf and associated article that is due to be published soon (Mavdezenge SN, Doyle AM, Ross DA. HIV prevention in young people in sub-Saharan Africa: A systematic review Adolescent Health In press.))

General comments

20. A major limitation of this study is the lack of depth of information that was obtained e.g. on previous exposure to sex education and also on what kind of sex education programme students would like to happen in the future. A further limitation in terms of usefulness of the findings stems from the fact that even if students responded to questions such as ‘Do you feel you have good access to the advice you need?’ honestly, they may in fact not know what ‘good and complete advice’ consists of as they have never received it. These limitations, their implications for interpretation of the findings and the subsequent usefulness of the findings for public health should be thoroughly discussed in the paper. Further discussion of the potential policy implications of these findings should be provided as it is not clear that the findings from this study provide enough information to inform the design or implementation of sex education programmes in schools.

• Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Abstract

21. The first sentence of the abstract is currently a fragment and should be made into a proper sentence e.g. The aim of this study was to determine....
22. In the methods section of the abstract you should mention the age and sex of the students interviewed.

23. The phrase ‘majority desire’ in the conclusions section of the abstract is unclear and you should edit e.g. the majority of those interviewed indicated their desire for....

Background

24. Para 1: Reference 3- I’m surprised that you quote HIV statistics from a 2007 online article. I suggest that you use (and reference) the data from the most recent UNAIDS HIV/AIDS epidemic update that is available online.

25. Para 1: Reference 4- Again I suggest that you update this incidence figure using recent UNAIDS data- it is unlikely that the HIV incidence in 1996 is relevant for a study carried out in 2010.

26. Para 2, sentence 3: Please clarify if you are referring to ‘new’ (incident) or ‘existing’ (prevalent) HIV cases.

27. Para 4, sentence 4: Please explain ‘co-curricular’.


29. Para 5, last sentence: I suggest that you replace ‘lacunae’ (a less commonly used word) with ‘gap’.

30. Para 6, first sentence: I suggest that you update references 3 and 4 (see my earlier comment)

Methods

31. Para 3, 2nd last sentence: I suggest that you replace the word ‘ensure’ with ‘encourage’ as there is no way of ensuring honest responses.

32. Para 5, 2nd last sentence: Reference 20 does not seem appropriate for Indian policy on issues of informed consent- is there not a government document that states the rules re parental consent?

Results

33. Para 1, sentence 3: Was religion missing for the other 10 participants or did they state other religions?

Conclusions

34. Para 5, last sentence: Please see my suggestion re a replacement/addition to reference 18.

35. Para 7, last sentence: Please check that this is the latest literature on the effectiveness of peer-educators. It might be worth referencing the Steady, Ready, Go! Review carried out by WHO and others which reviews studies in all developing countries: (http://www.who.int/child_adolescent_health/documents/trs_938/en/index.html and the recent update to this review covering studies in SSA only: http://www.evidence4action.org/images/stories/documents/srgreview.pdf)
36. Para 9, sentence 2: Insert the word ‘reported’ in this sentence as behaviours were reported not observed and reported behaviour is prone to many potential biases.

37. Paragraph 13, second sentence: this should be reference 12 not 13 (I think)

Tables

38. Table 2: If you are going to retain this table (see my earlier comments) then
   (i) Please insert the number of students who were in each category (e.g. number who reported prior formal sex education), and within each group the number who thought that sex education was/ was not important.
   (ii) Please provide details of the model e.g. in a footnote describe what you adjusted for.
   (iii) Minor suggestion: 2 decimal places is sufficient

Tables in general:

39. Why do you not present details of the answers to question B4?

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests