Reviewer's report

Title: Limited effectiveness of a peer-led HIV prevention intervention in secondary schools in Rwanda: results from a non-randomized controlled trial

Version: 1 Date: 5 June 2012

Reviewer: Amanda J Mason-Jones

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REPORT TEMPLATE

Review 5th June 2012
Amanda J Mason-Jones

'Limited effectiveness of a peer-led HIV prevention intervention in secondary schools in Rwanda: results from a non-randomized controlled trial'

Kristien Michielsen, Roxanne Beauclair, Wim Delva, Ronan Van Rossem and Marleen Temmerman

BMC Public Health Research article

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Confidential comments to editors

None.

Reviewer's report

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Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

The study is a non-randomised controlled evaluation of a peer-led HIV prevention programme in secondary schools in Rwanda. It is good to see peer-education evaluations from Sub-Saharan Africa. I feel that the study has merit and have made suggestions about how the manuscript could be improved. Although I know it looks daunting I do think that the manuscript would benefit from these changes/additions.

1. Rwanda has instituted anti-AIDS clubs in secondary schools and 98% have installed such clubs. The authors say however that such clubs often remain inactive. How did this affect the intervention? For example, how active were these clubs in the intervention schools?

2. How were the schools selected to receive extra support for the clubs. The
authors say that ‘in most cases’ this support consisted of a peer education programme. What happened in other schools?

Is the question posed by the authors well defined?

3. The authors evaluate the HIV prevention peer education programme implemented by the Rwandan Red Cross society in Bugesera. Later on under ‘study design and sample size’ the authors mention that the primary objectives were to assess whether the intervention influenced the time trend in condom use and recent history of sexual intercourse. These primary objectives need to be stated at the end of the background section also.

Are the methods appropriate and well described?

4. In the first paragraph there is no mention of the theoretical background employed in the development of the programme. Can the authors say a little more about this?

5. What did the 6-day training consist of?

6. How were the peer educators chosen? Were they volunteers, did teachers or some other adult choose them? Were they credible sources of information? This is important (Mason-Jones, Flisher and Mathews 2011)

7. The authors say that the peer educators were tasked with teaching their fellow students how to adopt positive and responsible behaviours towards HIV/AIDS through group and individual counselling, drama songs and other interactive methods. Did the training include counselling skills? What were the ‘positive and responsible behaviours?’ You need to describe this in more detail.

8. The intervention ran for one year (August 2009 to November 2010) what activities took place during this time in the intervention schools? (Fidelity monitoring)

9. Under study design and sample size, there is no mention of how the control schools were selected. Were they matched with the intervention schools? Did they also complete the survey at baseline, T1 and T2?

10. Was the sample size adequate? I suggest that this needs to be looked at by a statistical expert. Are you saying that your assumptions were 30% baseline condom use? Did you account for the intracluster correlation coefficient within the schools? You say under ‘statistical analysis’ that the correlation between students within schools was ignored as it was weak and non-significant. I think this needs a more robust explanation (and possibly a post hoc power calculation)

School and participant selection

11. How were the 8 schools selected out of the 15? Did you randomly select the schools in a stratified sample of urban/rural, public/private, small/large number of students etc?
12. Why did you select student in 2nd and 5th year of school? What about 3rd year?

13. ‘Coding system guaranteeing confidentiality’ needs a little more explanation.

14. You say that all schools agreed to be involved. How did you approach the schools?

15. Did parents give informed consent for their child to be involved in the research study? Did the students give written informed consent?

16. More detail is needed on the instruments used (surveys) for collecting the data. Why were the questions chosen? Were these related to the theoretical basis of the programme?

17. The statistical analysis needs to be explained in more detail. Particularly relating to the use of a propensity scoring model. If the propensity model misses an important reason why subjects are selected to treatment or control there may be a problem. I suggest a statistical expert. Eg. Dr Thomas Love, Case Western Reserve University (thomaslove@case.edu). Also the model includes variables that are primary outcomes (ever had sex, had sex in last 6 months, used a condom at last intercourse). This needs to be explored further as to whether this is appropriate.

18. Good that you used a scale for programme involvement. This is very useful.

19. There is not enough detail about the instrument used for measuring variables and whether they were validated for this population. How many items were there in total and what scales were used? You have mentioned some in this first section and then later on. It would be useful to describe the scales in one place in the methods. More detail on the scales. Often Cronbachs alpha was quite low (0.58 for Knowledge of HIV protection modes health locus of control, 0.59, sexual self concept 0.52), or very low, (0.28 for severity of HIV). Usually a Cronbachs alpha of over 0.70 is considered a ‘good’ scale (Bland and Altman 1997).

Results

20. Why was attrition more in the intervention group? Did you do a sensitivity analysis to find out if this was related to any of the outcomes of interest?

21. There was significant baseline imbalance suggesting that the intervention and control school students were different. Was this related to how they were selected?

22. Why was the knowledge significantly different in the control group after the intervention?

23. You also mention that the intervention students were significantly more likely to think of HIV as a severe disease but as mentioned previously, the scale may not very good measure of perceived severity in this population.
24. You mention in the discussion that schools in both groups were asked if there were other activities taking place but do not mention this anywhere in the text earlier on. This is important to include.

Are the data sound?

25. As only 12-14% of students actually participated in the intervention and some students were excluded from the analysis do you think your analysis is sound?

26. You imply that participation in activities was not necessary or meaningful. The discussion then does suggest that the peer education activities and the way they were implemented were not necessarily acceptable to the students. Can you give more detail about this. You reference the dissertation published from this study but can you say something here which gives some insight into why this may be?

27. How can you suggest that the peer education programme could have succeeded in creating a communication climate? You don’t give any other evidence for this.

Discussion

28. Before going on to talk about reasons for limited effectiveness I think it is important for you to provide details of the limitations of the study itself. How the groups were selected is one issue that needs to be addressed, especially as they are clearly different at baseline.

Factors associated with the implementation of the intervention

29. This section needs to be stronger and a little more detailed. Was the implementation problematic in all schools?

30. Were some peer educators followed up and not others? You mention ‘limited monitoring and follow up’ but don’t give very much detail.

31. You also mention a ‘second round’ of training here but not in the methods section. Just make sure there is consistency throughout in reporting the study.

Factors associated with the design of the intervention

32. You say that the intervention was ‘thoroughly developed’ but don’t give details about this in the methods section. What are ‘validated manuals’ for example? What does this mean?

33. Again you don’t mention the theoretical basis of the programme (if indeed there was one at all). What was the theory behind the design of the intervention?

34. You mention that the methodologies were limited. However you don’t give enough detail as to why information giving, counselling, drama, theatre or song are not appropriate. I suggest adding references here.

35. You also start mentioning use of health services here which was presumably
not part of the evaluation at all. Maybe just stick to aspects that were actually part of the intervention.

36. You also mention that peer education programmes should be seen in context such as contributing to a change in communication and breaking taboos. This is not supported by evidence or data from the study.

Factors associated with peer education as a prevention strategy


38. In the section above you also start to introduce data and a table about preferred sources of information that was not presented in the results. It needs to go in the results if you want to discuss it further here.

39. You need to explain more about the ‘peer education approach’ and why it is used, where it comes from, what the theoretical basis for it is. You do include some of these issues but this section needs more work.

Factors associated with the evaluation of the intervention

40. This raises issues related the sexual health research on adolescents more generally and ethical and adult oriented judgments about ‘what is the correct behaviour’ and therefore how to measure appropriate outcomes. Whilst a valid and very interesting discussion, how it relates to the data is not totally clear.

Conclusion and recommendations

41. I don’t think that you can say that the study has illustrated limited effectiveness of peer education. Whilst I’m not convinced about the merits of peer education as it is currently conceived, your study has many limitations which mean that you need to be much more circumspect in your conclusions.

42. Were peer educators in this study aware of key specialists and services? You mention it here but nowhere else in the manuscript.

43. You say “Peer education should not be a stand-alone intervention and should be embedded in a larger strategy” but don’t give enough detail as to why this might be.

44. The next section on the involvement of young people needs re-writing.

45. You say “This distance between prevention researchers and prevention implementers hinders the development of novel interventions” but provide neither explanation nor references for this assertion.

46. You mention sexual competence only in the second to last sentence. Again this needs to be mentioned somewhere in the introduction and discussed more thoroughly.
Does the manuscript adhere to the relevant standards for reporting and data deposition?

47. More information is needed about the study.

Are the discussion and conclusions well balanced and adequately supported by the data?

48. The conclusions are based not only on this study but include other studies. The conclusions are rather overstated for this study and the authors should ensure that conclusions are based on the data at hand.

Are limitations of the work clearly stated?

49. Yes limitations section is good.

Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

50. Yes they do.

Do the title and abstract accurately convey what has been found?

51. I'm not sure that the title is appropriate. Was the peer education programme truly limited in its effectiveness? Lack of effectiveness may well be related to the study being underpowered or poorly implemented or the outcome measures being inadequate. More detail is needed by answering the questions raised in this review.

Is the writing acceptable? (Minor issues not for publication)

52. Generally the paper is well-written. I just have a few comments to make:

53. Use past tense throughout.

54. Keep to US or UK spellings and be consistent. A mixture of US and UK English is used for example in the section on ‘Variables’ second paragraph you use programme and program in the one sentence. This is the same for behaviour and behavior which you use interchangeably.

55. The manuscript needs some editing and proof reading. For example, changes to sentences such as ‘pulling it out of the taboo space’

Typos: susceptibly should be susceptible (2nd para in Results “ On the other hand they were less likely to feel....)

Large fraction should read large proportion.(3rd para in Results)

..Sensitising methodologies as... should read ...such as...(4th para in Discussion)

..while peer educators are now the centre of the intervention informing...needs a comma between intervention and informing (Conclusion 1st para)
If you keep this sentence....recognize these interventions in their true value- i.e contributing to a changing communication climate etc...it should read...recognise the true value of these interventions in changing the communication climate and breaking taboos.

What next?
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Based on your assessment of the validity of the manuscript, what do you advise should be the next step?

- Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English
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As we do not charge for access to published research, we cannot undertake the costs of editing. If the language is a serious impediment to understanding, you should choose the first option below, and we will ask the authors to seek help. If the language is generally acceptable but has specific problems, some or all of which you have noted, choose the second option.

- Needs some language corrections before being published

Statistical review
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Is it essential that this manuscript be seen by an expert statistician?

If you feel that the manuscript needs to be seen by a statistician, but are unable to assess it yourself then please could you suggest alternative experts in your confidential comments to the editors.

- Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests
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In the context of peer review, a competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Reviewers should disclose any financial competing interests but also any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

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  Yes

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have also published in the area of peer education evaluation for HIV prevention in Sub-Saharan Africa. It means that I have expert knowledge in the field but that I may also potentially bring my own biases to the review. Nevertheless, I have tried to be as objective as possible and have included some of the issues that were mentioned by other reviewers with respect to my previous papers. I hope
therefore that the authors will benefit from this prior knowledge and experience and won’t be too daunted by how much detail I have included in the review.

Open peer review

Submission of this report is taken as confirmation that you are happy for your signed report to be posted on the BMC Public Health website as part of the pre-publication history of this article.

References

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, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I have also published in the area of peer education evaluation for HIV prevention in Sub-Saharan Africa. It means that I have expert knowledge in the field but that I may also potentially bring my own biases to the review. Nevertheless, I have tried to be as objective as possible and have included some of the issues that were mentioned by other reviewers with respect to my previous papers. I hope therefore that the authors will benefit from this prior knowledge and experience and won’t be too daunted by how much detail I have included in the review.