Author's response to reviews

Title: Effectiveness and cost of recruitment strategies for a community-based randomised controlled trial among rainwater drinkers

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Author's response to reviews: see over
Dear Editors,

Thank you for the opportunity to revise the manuscript entitled “Effectiveness and cost of recruitment strategies for a community-based randomised controlled trial among rainwater drinkers”.

We appreciate the time taken to review this manuscript and have given serious consideration to the comments of Reviewer 1 and the Editorial requests. The changes made to the manuscript are detailed in the following pages.

We consider this revised manuscript to be much improved and believe that it will be of significant interest to readers.

Kind regards,

Shelly Rodrigo.
Reviewer 1: Comments and Responses:

All comments are highlighted in bold italics with the accompanying response given below each comment in normal text.

1. **The background in the first paragraph addresses recruitment issues in general and the second paragraph water issues, but no clear link between the two paragraphs is made.**

A linking statement was placed in paragraph 1, line 9 which reads “…as in the case of the use of alternative water sources.”

2. **Reference 1 requires a website address to allow readers to easily access this reference.**

The reference has been edited to include a web address. The text added is:

   Available from: http://www.waterquality.crc.org.au

3. **Is reference 3- ABS statistics on rainwater use- really the right citation for “health authorities do not approve the consumption of untreated water if an alternative tap water supply is available.”**

The reviewer is correct as the reference relates to the percent of households that currently have rainwater tanks installed. To address this comment and also take into consideration the location of the reference has been changed (Background section, paragraph 2, lines 6 – 9):

   However, in Australia, although 19% of households have rainwater tanks [3], health authorities do not approve the consumption of untreated rainwater if an alternative tap water supply is available.

4. **Results: in paragraph 1, 443 are said to have met the eligibility criteria but this is not strictly correct looking at figure 1, it is actually 441 as 2 declined to participate.**

   Figure 1 details the number of participants at each stage. A total of 810 participants were initially screened and of these 377 were excluded. The second box on the right hand side with excluded participants after first screening then gives a breakdown of the 377 who were excluded hence the 2 participants who declined to participate were counted as part of those excluded. The figure quoted in paragraph 1 is 433, the number eligible after the first screening and these were sent the information booklet. The following text has been added to the Results, line 5:

   “…and were willing to receive further information,...”
5. **Discussion:** The authors raise external validity as an issue but it may be worth a brief comment on the need to optimize internal validity in their study.

Clarifications and changes have been made in a number of places in the text to sufficiently address this issue, including:

“For all methods of recruitment, the text contained the same information.”

6. **Methods:** the methods used to determine effectiveness of recruitment methods were not clearly explained. The first method is percent recruitment and enrolment from each approach. This suggests that it is the number of persons who were recruited/ the total number approached by that method. But this is the not the case and stage 1 it is the number of persons who were eligible within that strategy/ the total number of persons who called to express interest in the study and who were eligible.

The method to determine effectiveness of recruitment has been modified to take into consideration the reviewer’s comment. Line 5 of the “Analysis” sub-section now states:

“…percent eligible at a particular stage of recruitment…”

7. **This approach to measuring the effectiveness of recruitments needs to be justified further in the methods, as some 150,000 letters led to 446 calls whereas a certain number of approaches to school led to 89 calls. It seems it is a measure of the effectiveness once the first contact to study group is made. However the crucial part of recruitment is to get the persons to make the first contact.**

We have addressed this comment by providing information on the number of school pamphlets and community posters distributed. The definition of effectiveness has also been clarified (see point 6 above). The following additions were made:

Method sub-section “Recruitment strategies”, 2nd paragraph, lines 4 – 5:

“…with concurrent distribution of pamphlets in schools (29,728) and posters on community boards (130).”

Discussion, page, 10, lines 3 – 4:

When the number of pamphlets distributed in schools was considered, the overall response rate was also 0.3%.
8. The per cent yield and cost effectiveness are also not clearly defined in the methods. The cost effectiveness is determined by dividing the total cost for that strategy by the number of household enrolled for that strategy.

The costs included in determining the total costs are not clear in the methods but are described briefly in a footnote to table 3. It needs to be clear what the costs are for each strategy, for example it should be clearly stated that the cost for the invitation letter included printing, envelopes, inserting letter in envelopes, postage, electoral roll extraction. Why were costs of the printing of the insert for school newsletters not included? In addition the costs do not appear to include the costs of the 809 calls taken that were for information about the study. While these calls did not eventuate in screening, they were still a cost of the recruitment process.

The percent yield was explained in the Method sub-section “Analysis”, lines 5 – 6:
“…the percent yield (the number of households randomised as a proportion of the total callers reporting the strategy)…”

With respect to cost effectiveness, the following text has been added to the Method sub-section “Analysis”, lines 9 – 11:
Cost effectiveness was determined by dividing the total cost of any method by the number of household randomised as a result of that method.

The information on total costs were part of the footnote to Table 3, this information has now been incorporated as part of the Method sub-section “Analysis”, lines 11 – 16:
Total cost was determined for each method by considering material and personnel costs. Invitation letters were generated by a mailing house hence the figure given includes all associated costs (printing, envelopes, inserting letter in envelopes, postage) as well as the cost of obtaining the AEC data extract. For schools and community methods, the total cost includes cost of posters/pamphlets and delivery by personnel to the locations. No costs were incurred for school newsletter inserts where brief text about the study was included in regular print or electronic newsletters sent by the school.

As a result, the footnote for Table 3 now reads:
Total cost includes material and personnel cost for all methods.

With respect to the comment on the 809 calls the following text has been added as a footnote to Table 3:
The 809 unscreened calls are not included in these calculations as it is not possible to attribute these calls to a specific recruitment strategy.
9. The estimated or known denominators for each approach are given in the discussion but they would be usefully presented as part of the methods.

To address this comment the following text has been included in the Method sub-section “Recruitment strategies”:

2nd paragraph, line 3:
“A total of 150, 308 invitation letters....”

2nd paragraph, lines 10 - 13:
During the period April - June 2007, 4 advertisements were placed in the community and metropolitan (Saturday edition) newspapers, the latter having a readership of 691,000. [8]

10. The second sentence of the last paragraph of the discussion does not follow the first - the percentage 75% is not an indication of willingness to participate.

We appreciate the comment and the first sentence has been modified to read:

The agreement and hence willingness to participate in health related studies is dependent on many factors.

Editorial requests:

1. Please include some contextual, background information in the "Background" sub-section of your Abstract.

To address this request, the following text has been included in the “Background” sub-section of the Abstract:

Community-based recruitment is challenging particularly if the sampling frame is not easily defined as in the case of people who drink rainwater. Strategies for contacting participants must be carefully considered to maximise generalisability and minimise bias of the results.

2. Please revise the format of your Authors’ Contributions section so that it adheres to guidelines.

This was addressed by replacement of the previous text with the following:

SR was responsible for the analysis and interpretation of data and drafted the manuscript. MS and KL were involved in the design and management of the study, and reviewed the manuscript. DC participated in the study design and management of recruitment.