Author's response to reviews

Title: Evaluation of tuberculosis infection control measures implemented at primary health care facilities in Kwazulu-Natal province of South Africa

Authors:

Ntambwe N Malangu (gustavmalangu@gmail.com)
Michah M Mngomezulu (Michah_Mngomezulu@embanet.com)

Version: 3  Date: 18 October 2014

Author's response to reviews: see over
Authors responses to Reviewers’ report

Title: Evaluation of tuberculosis control measures implemented at primary health care facilities in Kwazulu-Natal province of South Africa

Major compulsory Revisions

1. The title should be edited to reflect what was actually done. The title talks of TB control measures which is a broader term than just TB infection control. It should say TB infection control measures.

The title has been now changed to: “Evaluation of tuberculosis infection control measures implemented at primary health care facilities in Kwazulu-Natal province of South Africa”

This mix of terms should be edited throughout the abstract and entire manuscript.

The Find and Replace Commands were used to ‘tuberculosis control measures’ to “tuberculosis infection control measures” throughout the whole document

2. It is also not clear which data was obtained from physical observation and interviews. This should be clarified.

The clarification has been provided in the Methods Section: The fourth paragraph has the following statements added: “In addition, observational data were collected on the day of unannounced visits to the health facilities from facilities from which completed questionnaires had been received. Observations were made about building designs and air-conditioning systems, availability of personal protective equipment, documents such as tuberculosis infection control plans, TB registers, specimens tracing log books and several other documents”. And also: “Data from observations were also used to corroborate some responses in the completed questionnaires”.

3. A short description of the health facilities can help readers assess if these results apply to their facilities. This should be added.

A description of health facilities has been added in the Methods Section towards the end of the second paragraph as follows: The hospitals were of modest capacity, with the number of beds ranging from 60 to 200 beds; while the clinics were all day facilities providing primary healthcare services.

4. Data analysis was based on present or absent of measures. Is there a critical level below which transmission is highest. It would not be practical to expect that facilities would comply with all recommendations. This analysis of critical absences should be done even if not quantitatively to enrich the discussions

Rebuttal: at the moment there is no specified quantitative measure or a level below which tuberculosis transmission is highest. It is however accepted that close proximity with a TB infected person increases the risk of transmission, hence the need to separate suspected and confirmed TB infected patients from other patients. In the Discussion Section, the fourth paragraph is about this as follows” In contrast, it is disconcerting that only one facility reported separating patients suspected of tuberculosis from
the others. This precautionary measure is very important because of the possibility of tuberculosis transmission as an infected person is coughing profusely in the presence of other patients [34]. It can be speculated that this shortcoming could have contributed to the emergence of transmission of multi-drug resistant tuberculosis that occurred in the whole province of KwaZulu-Natal [35-37].”

5. The return of questionnaires was very low. If physical visits were made; would it have been possible to follow up on non-respondents. A minimal data table should be added to compare at minimum a few demographics such as age, cadre of respondents and non-respondents. Even those who responded could not disclose age, responsibilities.

Rebuttal: Physical or site visits were conducted only for facilities that responded in order to gather observational data as explained above. It would have been unnecessary to visit the facilities that actually refused to voluntarily participate in the study. In the Methods Section, in the second paragraph the following statement has been added to explain how the follow-up was performed: “In order to increase the participation, telephonic follow-up was conducted to encourage those who had not submitted their completed questionnaires to do so”. Furthermore, the targeted respondents were institutional managers whose basic demographic data could be known only through the process of data collection and not before the study, so the characteristics of non-respondents could not be established. In the third paragraph in the Methods Section, the following has been added” The questionnaires were filled in by these institutional managers or the people they delegated to perform this task”.

This points to something serious about how front line health care workers view infection control activities. They could have misinterpreted the study as a policing exercise. It should be further explored and discussed.

In the Discussion Section, this issue has been addressed as follows. In the sixth paragraph the following statements have been added: “This response rate is not too low because it is well-know that the participation of healthcare workers to postal surveys is generally low and the lack of incentives may have contributed also to this [44-45]. Upon telephonic enquiry on why some institutional managers did not complete the questionnaires, the most common excuse was that they were too busy to find time to complete the questionnaires. It seems that some institutional managers may have refused to participate simply because they may have wrongly perceived this study or had fears about the use of its findings particularly because it was clearly stated that unannounced visits will be conducted subsequently [46]”.

6. Figure 1 adds little to the report. Consider removing.

Indeed, Figure 1 has been removed
7. The numbers of health care who have been diagnosed with TB is given. But the time is not given. Is it one year, two etc. This should be clarified.

In the Methods Section, the following statement has been added as the last portion of the third paragraph “...on the number of healthcare workers at their facilities they knew had been diagnosed with TB during the last three years through occupational screening.”

8. Other corrections made:

8.1. The word “respondents” has been replaced with “healthcare workers” throughout the whole document using Find and Replace commands

8.2. Abstract: In the Methods Section, this has been added” Data were collected from healthcare workers at 52 health facilities from the beginning of February to mid-March 2012.” The conclusion has been re-worded and expanded as follows: “Overall, it appears that at the facilities surveyed, less than 50% of tuberculosis infection control measures were complied with. This finding calls for appropriate interventions to be designed and implemented. These include the purchase and installation of environmental control systems; the implementation of administrative tuberculosis infection control measures at each facility together with the training of staff members on the strict adherence to preventive measures including the use of personal protective equipment.”

8.3. Background: two paragraphs have been added:
• One elaborating on transmission of MDR-TB as follows as the third paragraph “Yet high rates of resistant tuberculosis have been notified for the Western Cape, Eastern Cape as well as KwaZulu-Natal provinces. Moreover, there is evidence that resistant tuberculosis in South Africa is spread mostly by the transmission of MDR strains [2-6].”
• The other elaborating on the conceptual framework: linkages between variables in the study as follows. The fifth paragraph now reads” In South Africa, previous studies in KwaZulu-Natal province have reported also that knowledge gaps and several health system factors are driving the tuberculosis epidemic particularly resistant tuberculosis. It is noted that, conceptually, several individual characteristics of healthcare workers, institutional and managerial systems in place as well as the regulatory frameworks affect the implementations of infection control measures [11-12]”

8.4. Methods:

• A sentence has been added to explain why these two districts were chosen as follows in the second paragraph “These districts were chosen because of their rural location and for logistical reasons as they are in the same area.”
• The sampling and the description of health facilities have been added as follows in the third paragraph “A census of health facilities was conducted; the questionnaires were sent to institutional managers of all 95 facilities in the two health districts.”

• The expected compliance is now stated as follows in the last portion of the fourth paragraph “To comply fully with the WHO and the South African National Department of Health guidelines, facilities needed to have implemented all (100%) infection control measures.”
• A statement has been added on the individual consent as follows in the Ethical Considerations Sub-section “Individual institutional managers consented to participate in the study; similarly, where individuals other than managers completed the questionnaires, they also consented to participate in the study.”

8.5. Results:

• Significant findings have been flagged in the four tables as follows: * high but not statistically significant; ** high and statistically significant

8.6. Discussion:

• The citation showing the names of authors has been corrected, one style is used throughout

8.7. Conclusion:

• It has been modified as this: In conclusion, overall, it appears that at the facilities surveyed, less than 50% of tuberculosis infection control measures were complied with.

• Recommendations remain the same

Sincerely,

N. Malangu and M. Mngomezulu