Reviewer's report

Title: Molecular detection and characterization of resistant genes in Mycobacterium tuberculosis complex from DNA isolated from tuberculosis patients in the Eastern Cape Province, South Africa.

Version: 3
Date: 1 July 2014

Reviewer: Zhiqiang Z Zhang

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Minor Essential Revision

Abstract

Page 2, lines 34-35; “Mutation results in 100% MDR, 40% pre-XDR and 98.9% of XDR ...”

This statement is misleading and needs to be rephrased. Does the result indicate progression to mutation or percentages of organisms showing varied levels of drug resistance consequent to mutation?

Page 2, lines 37-38; “The results obtained reveal a high prevalence of MDR ...” Please, note that 5% of the sample population is not an indication of high prevalence hence, recast this section to represent the situation.

Background

Page 2, lines 47-48; “Tuberculosis is a major public health concern a third’s of the world’s population is infected with MTBC” This statement is ambiguous so, recast. Having contact with MTBC is not same as infection from pathology/public health perspective. A typical example is the vaccination/immunization with BCG. This should not be included in the infection ratio while looking at the disease burden.

Page 3, line 54; province should be written in lower case as it is not there as a noun.

Line 59; “Anti-TB drug resistance” this phrase is misleading please recast.

Lines 60-61; “Drug resistance arises due ... drug susceptible”. Please revise the statement as its present state conveys no meaning.

Lines 71-72; rephrase the sentence.

Line 77; what gene was detected? In other words, what was mpb64 and IS6110 coding for?

Methods
Line 82; Recast the subheading title as nothing in your write up showed documentation of the study area. I would suggest using “Sample Collection” alone.

Line 86; “culture over from January” what is this?

“Demographic profiles including...” there was no documentation on demographic profile rather there are documentations on biodata. Please use the appropriate terms.

Line 127; the subheading is inappropriate, it does not reflect the work done hence, revise accordingly.

Line 128; poor lexicon usage.

Results and discussion

Line 178; the authors reported 5% of the samples to be positive to MTBC hence, why the contradiction of 100% here?

Line 190; this contradicts the methods section where the authors documented an assay procedure carried out. Did the authors run this section or simply go the results from another lab (NHLS)? Please clarify this.

Line 195; “ the drawback of the Seeplex ... members of the MTBC” expunge this statement as it is a repletion of what you have in lines 182-183.

Line 199; replace “demographic data” with “biodata”

Line 200; replace “coloured race” with “mixed race” as black people are known as coloured.

Line 204; what was the bases for the classification of age group 0-14 as young people? 15 to 35 as youth? Etc. Please you the known standard of WHO/UNICEF for the classification of adolescents, youths and adults.

Lines 215-216; rephrase the sentence as it is contradictory.

General comments

The manuscript would read better if the authors revise language use; improve upon lexicon use and eliminate personal idiosyncrasies.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Needs some language corrections before being published

**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 interest