Author’s response to reviews

Title: Tuberculosis Infectious pool and associated factors in East Gojjam Zone, Northwest Ethiopia

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Author’s response to reviews:

Cover letter to BMC Pulmonary journal editor
Dr. Robin L. Cassady-Cain
210th Oct 2019
Journal editor
BMC Pulmonary Medicine
Subject: Submission of the revised paper Tuberculosis Infectious pool and associated factors in East Gojjam zone, Northwest Ethiopia [ID: PULM-D-19-00245]

Dear Dr. Cassady-Cain,

Thank you for your email dated on 11 Sep 2019 enclosing the reviewers’ comments and continuous email reminders. We, the authors have great thanks to the journal editor and the reviewers for reviewing and giving insightful comments to our manuscript. We have carefully reviewed the comments, suggestions, clarity questions and revised the manuscript accordingly. We made significant revisions on the manuscript for language, clarity, concept, shortening sentences, changing words, adding explanations, incorporating missed findings, avoiding misleading words or phrases, and using appropriate punctuations. For details, please refer the general reflection to journal editor, and a point by point response sections below. Our responses are given in a point by point manner bellow. In the one by one response, comments of the reviewers are indicated in italics and replies to the comments are shown by the normal font style. Similarly, changes to the manuscript are shown by track changes in the manuscript. Also, line numbers, paragraph and page numbers are used in a point by point response to point out the location of changes on the manuscript. As evidence, we attached the track changed manuscript besides this point by point response.

Note: Activities and strategies that we have used to make this remarkable revision are presented below as a general direction or an introduction to a point by point response.
We hope, the revised version is now suitable for publication and look forward to hearing from you in due course.

Sincerely,
Mulusew Andualem Asemahgn
Associate professor of public health
School of Public Health, Bahir Dar University, Ethiopia

General reflections to the BMC Pulmonary Medicine journal editors
Dear BMC Pulmonary Medicine journal editors and reviewers, we heartily acknowledged your efforts made in each section of our manuscript. We are very happy with all the given comments and clarity questions that you raised. We know that the purpose of the review is improving the quality and readability of the manuscript. We fully accept them and did our possibilities by giving time to each section of a manuscript to address the given comment and clarity questions. Our approaches were not focusing on answering only the raised issues, but doing a revision to each section by taking the raised issues as triggering points. Frankly speaking, we see this an excellent opportunity to revise our manuscript and increase its quality.

Activities that we made to our manuscript are incorporating comments/suggestions, giving answers/explanations/justifications/reasons/ to clarity questions, adding concepts, incorporating new missed findings, improving language problems (type errors, wording, clarity, and sentence parallelism and complexity). The revisions are made to each section of the manuscript. The strategies that we used to address raised issues and revise the manuscript are the following:

1). Reading the comments and clarity questions individually,
2). Discussing the comments in team and we found all the comments except language were minor and manageable by authors.
3). Giving answers or explanations to comments individually
4). Revising the whole manuscript beyond the raised issues individually
5). Then, bringing individual responses/revisions for discussion and passing decisions as a team
6). For language issue, we accept that it is a common problem in our country/second language/ and no means or access to language edition services. We all authors accept the language limitation since we are facing every day from various journals while submitting manuscripts for publication, serving as a reviewer for journal manuscripts, conducting classes, advising students/master and PhD/, and reviewing local research projects. What we did is using all the possibilities that we have to improve the language such as: 1). Editing the language by ourselves as individual and in groups, 2). Using online open editing software services like the “Open Grammarly”, 3). Using free language materials from BMC Pulmonary TB journal site as indicated by the editor, 4). Using the peer review service among our staffs, and 5). Commenting the manuscript by senior English teachers in Bahir Dar University who have PhD and professorship in English from Addis Ababa University (Professor Abeye and Dr. Dawit Amogne, associate professor).
Unfortunately, we did not find a foreign/first language editor services/due to higher fee for edition since the research work has no funding for language edition and publication. However, professor Getu Degu, a senior epidemiologist and Dr Solomon, a senior researcher who has a foreign experience in Oslo University gave time to improve the language issue besides to the above applied strategies. Although we did these interventions, we acknowledge that the language issue is still a limitation to this manuscript.

We are sure that most of the clarity questions and comments given by the two respected reviewers are addressed as much as. A point by point response, and manuscript track change are evidences to see and appreciate the changes after your insightful comments. We gave our responses orderly to each reviewer as follows:

A. Responses to Dr. Robin L. Cassady-Cain, Journal editor

B. Responses to Reviever#1----Dr. Kelemework Adane

C. Response to Reviewer#2----Dr. Nathan Kapata

Point by point responses to the reviewers of BMC Pulmonary TB

Note: Under this section, we only put response to each comment. All the revisions are also indicated on the track change manuscript.

A. Responses to Journal editor

General comments given by the BMC pulmonary journal editor were the following:

Comment1: “Please include a cover letter with a point-by-point response to the comments, describing any additional experiments that were carried out and including a detailed rebuttal of any criticisms or requested revisions that you disagreed with. Please also ensure that all changes to the manuscript are indicated in the text by highlighting or using track changes.”

Replay1: We fully accept your comments and apply while developing this point by point responses. We prepared a cover letter, point by point response, track change manuscript, and the normal manuscript as per your comment.

Comment2: “Please also ensure that your revised manuscript conforms to the journal style, which can be found at the Submission Guidelines on the journal homepage.”

Replay2: Thank you and valued your comment. We see the journal format from the BMC Pulmonary TB journal home page and prepared the manuscript based on the required format.

Comment3: “Please note that you will not be able to add, remove, or change the order of the authors once the editor has accepted your manuscript for publication.”

Replay3: We fully agree with your comment and we did not make any change on the authors’ order and adding or removing authors.

Comment4: “Please copyedit your manuscript to improve the standard of written English. We suggest that you ask a native English-speaking colleague to help you with this, or consider using a professional service.”

Replay4: Thank you for your invitation. We accept your and reviewers’ comment and tried our best as much as possible to improve the language issue as mentioned above. We exhaustively
used the home country options, but unable to getting assistance from abroad or native speakers due to no budget for edition fees and no option to get help for free even if we asked more journal edition services for help freely including the BMC pulmonary TB as per your direction. No response to our email. Our best possibilities that we did here to improve the language are: 1). Editing the language by ourselves as individual and in groups, 2). Using online editing open software assisting services like the “Open Grammarly”, 3). Using free language materials from BMC Pulmonary TB journal and other sites, 4). Using the peer review service among our staffs, and 5). Commenting the manuscript by senior English teachers in Bahir Dar University who have a PhD and professorship in English from Addis Ababa University.

Response to Reviewer #1 (Dr. Kelemework Adane.)

Dear Dr. Kelemework Adane, we are happy and consider ourselves lucky for your insightful comments and clarity questions in each part of the manuscript. We have deepest thanks for your contributions that make us see each section of the manuscript and give remarkable revisions. We accept all the comments and incorporated into the manuscript as indicated below and on the track change manuscript.

Revisions to the Abstract section

We found all the comments given in this section are important, accept them and use for revision. For example, the background of the abstract is revised as: Globally, tuberculosis (TB) lasts a major public health concern. Using feasible strategies to estimate TB infectious periods is crucial. The aim of this study was to determine the magnitude of TB infectious period and associated factors in East Gojjam zone. It was revised by rearranging the place of existing words and adding more words, phrases and a sentence.

Comment1: “Lines 10-11: Good to mention the number and name of districts (30% of the 19)”
Replay1: We accept your comment and revised it as TB cases were recruited from all health facilities located in Hulet Eju Enesie, Enebse Sarmider, Debay Tilatgen, Dejen, Debre-Markos town administration, and Machakel districts.

Comment2: “Line 19-20: Just a minor note; …identify factors of TB infectious period (do you mean factors for the variations in the TB infectious pool)”
Replay2: It is a nice clarity question. It is to mean that factors associated with the magnitude of TB infectious period, the objective/aim of the study. It is revised as A multivariable logistic regression analysis was used to identify factors associated with the magnitude of TB infectious period.

Comment3: “Lines 41-42: it seems that all items in the socio-demographic, behavior, and clinical profile of etc are associated- please modify or you may leave it out from the conclusion (already mentioned in the results part). For example, behavior is self is extensive (it could be bad or good etc) and we do not really know here what type of behavior is associated.”
Replay3: Our aim was just to make a conclusion on both objectives. But it becomes redundant and even not a must to have conclusion in each finding. Hence, we accept your comment to
remove this section since it is well stated in the result section/one paragraph before the conclusion. However, we incorporated a sentence (This might be an indicator of poor access to TB services, service delays, low community awareness, impaired facility readiness, and poor transportation) to this section that shows the implication of the high TB infectious period in the study. Then, the revised conclusion is revised as: The magnitude of the TB infectious pool is high even if it is lower than the findings of previous studies. This might be an indicator of poor access to TB services, service delays, low community awareness, impaired facility readiness, and poor transportation. Improving personal awareness and behavior, timely management of commodities, and using the TB management time in TB control are crucial to improve TB control activities.

Comment4: “Line 33: please expand PTB (as it is in the first use)”
Replay4: We fully accept your comment and revised it by using its abbreviation in brackets in the first line of the method section talking about study design and sample size of TB cases (...among 348 pulmonary TB (PTB) cases…) on the method section of abstract.

Revisions to the introduction section

Comment1: “I have only minor comments on the introduction. 1. In general, the introduction could be shortened (a bit long) even though the justification is convincing. I am not sure if it is the journal's style, but here I would prefer to mention only the objective following the justification for the research question (significance and implication could be discussed somewhere in the discussions part rather).”
Replay 1: We fully accept your comments make the background shorter keeping its message as it is. We did it by minimizing extra explanatory words, sentences, and conjunctions which are already mentioned in the discussion part. We removed sentences that you indicated to be, for example sentences about the importance of the study are removed. We also improved the language of the background section since it was a comment from you and second reviewer. For example, the last two paragraphs of the background section are revised and become one paragraph as follows:
“With this in mind, two studies were conducted in Ethiopia in 2009 (14) and 2014 (15) and introduced a new concept, “TB management time”, time interval from the onset of cough to the initiation of treatment, to measure the size of the TB infectious pool and evaluate TB control activities at local levels. Those former studies recommended the applicability of the new approach as an alternative tool after reassessing and improving its limitations. Among the limitations were 1). Infectious period estimations for the different categories of TB patients were based on data obtained from patients who only attended public health facilities, 2). Data used for estimating the Sputum smear/culture conversion time to estimate the infectious period after treatment initiation was not based on locally available data, 3). The former studies did not identify factors associated with the total TB infectious period. Therefore, by addressing these limitations, the current study aimed at applying TB management time to measure and analyze factors associated with the total infectious period in East Gojjam Zone of Amhara Region, Ethiopia. (You can get it on the last paragraph of the background section, on page 3 and 4 of the revised manuscript.)

Comment2: “Line 4: Mycobacterium Tuberculosis: "T" should be small and "Mycobacterium Tuberculosis" should be in italics. Please do the same throughout the text if any.”
Replay2: We accept your comment and revised it as Mycobacterium tuberculosis (MTB), on page 3, paragraph one of the background.

Comment3: Line 18: Expand the word "MDR" as it is in first use

Replay3: We found your comment is valuable and revised it as multidrug resistant TB (MDR-TB), on page 3, paragraph 2 of the revised manuscript.

Comment4: “Lines 8-9: Check the TB death, it was not 1.6 million (it was 1.3 million plus 300,000 in those HIV co-infected)”

Replay4: We appreciate your comment and concern on each section. You are right, but, the 2018 WHO report says that there were 1.3 million TB deaths among the HIV negative people, and 300,000 (0.3 million) additional TB deaths among the HIV positive people in 2017. Hence, we will have a total of 1.6 million global deaths from TB in 2017. A recent paper published in the Lancet on the status of SDGs, challenges and opportunities in TB control was also reported the total TB deaths in 2017 were 1.6 million in total. To make it clear, we add the word “total” next to 1.6 million as “…1.6 million total deaths…” on the first paragraph of the background section.

Revisions on the Methods section

Comment1: Lines 44-51: “I am afraid that the selection seems purposive (all districts close to each other, all in one side of Debmarkos). It may happen by chance of course.”

Replay1: We thank you for your concern. But the studied districts are not close to each other and on one side of the Debmarkos. They are very far apart each other and from Debmarkos, zonal town. The challenge during our data collection was the high geographic disparity or far apartness. As indicated in the method section, the sampling method for the districts was simple random/lottery method/. As per our observation, our sampling was very appropriate and representative, which is by chance. Because, it included districts which are very far/remotest/ from D. Markos. For example, Hulet Eju Enesie is the northern border of the zone, 211 KM far from Debmarkos. Similarly, Enebsie Sar Mider is the remotest district, the Northeast border of the zone/border with South Wolo and 205 km far from Debmarkos. Dejen and Machakel are also the bordering areas of the zone. Thus, no one district, close each other except Debay, which is bordered to Dejen/southern/ and Hulet Eju Enesie/northern. The nearest area to the Debmarkos is Machakel, but there is still one district, Gozamin between them. From the map, Dejen and Hulet Eju seems in one line, but they are in the opposite picks (Figure1). Here, the sampled study areas are indicated with red colors.

Figure1: Map of East Gojjam zone based on the updated data.


Replay2: Thank you for your clarity question. It is to mean interviewing TB patients immediately after finishing/getting their healthcare services in the health facilities. It indicates the time of conducting an interview. An exit interview is highly recommended approach of the WHO and senior researchers get adequate quality data. If you conduct an interview before getting the services/entry interview/, you may not get the required data due to:

a). People are thinking only about how to get their services. So, they give responses without understanding your questions and may interrupt responding if they get their turn for service.
b). Their responses may be biased due to fear of getting quality services. Because, they may assume that you will affect their service that they are waiting for.

c). Respondents may not know the current service status, staffs’ approach, service readiness, waiting time, and their satisfaction level if you conduct an entry interview.

Comment3: “Lines 14-21: TB management time of relapse: Not clear for me why the time is counted from treatment completed/cured? Is that not from the re-occurrence of TB symptoms rather? I suppose such patients may remain non-infectious until a relapse may occur later due to some factors.”

Replay3: We thank you for your valuable comment. You are right, we fully accept the comment since it was an editorial error while compiling the final version of the manuscript. Frankly speaking, we have already detected this and other type errors while revising the manuscript before receiving this feedback. It is true that people who cured/completed their anti TB treatment have a certain noninfectious period before their relapse/re-occurrence of TB symptoms. The former sentence in our manuscript says “We computed TB management time of relapse cases by adding a time interval between the treatment completed/cured and re-treatment start to the time interval between the onset of cough and initiation of initial anti-TB drugs.” Now, it is revised as: Also, the median TB management time was calculated for each re-treatment categories; relapse, failure and defaulted. To compute the median TB management time of relapse cases, we considered two-time intervals; the time interval between first onset of cough to the first treatment initiation and the time interval between re-occurrence of cough to the start of re-treatment. on page 8, paragraph2/3.

In addition, we also found other type errors while assessing the manuscript after submission. For example, the study design says a facility based cross sectional study, but it is a prospective study (a one year follow up study between December 2017 and December 2018 as it indicated on the study design and setting sub heading) to know the treatment outcomes and the sputum smear conversion time of the recruited TB patients. We were waiting the commented manuscript to incorporate such revisions for submission after revision together with the reviewers’ comment. So, the study design is revised as a facility based prospective study…, it is found on the abstract (page2, paragraph2) and study design and setting sub heading page 5, paragraph 1.

Comment4: “Lines 37-41: If you used only the smear-positive cases to estimate the infectious pool of undiagnosed TB cases, wouldn’t it underestimate the final infectious pool (of these cases, because there are also smear-negative undiagnosed TB cases)?”

Replay4: Dear Dr Kelemework, thank you much for indicating this interesting point that we missed out in the manuscript. You are right untreated smear negative-culture positive PTB cases are potential sources of TB infection and transmission. The East Gojjam zone TB report stated that the undetected PTB cases accounted for about 51% of the zonal detected PTB cases in 2018 mainly due to lack of smear microscopy services as a result of no laboratory staffs. This implies that the 51% of expected PTB cases remain infectious in the study area with unknown infectious person days. Thus, it was our mistake not to consider the contributions of smear negative TB cases by assuming their contribution is minimal since the number of undetected smear negative culture positive TB cases are small. But when we see it based on your comment, we found it is significant and can contribute more as undetected smear positive TB cases. As a result, we considered the contribution to the revised manuscript, which is because of your scholar contribution.
Therefore, it is edited as “...For estimating the magnitude of a TB infectious pool of the study area, the contribution of undiagnosed TB cases was also considered. The number of undetected TB cases was estimated based on the 2018 East Gojjam Zone Health Department report where the undetected PTB cases accounted for about 51% of the detected PTB cases [19]. Based on literatures, undiagnosed TB cases were infectious for three years, but we used 365 days since our aim was to estimate the annual infectious period [14]. Thus, TB management time of the undiagnosed TB cases was calculated by multiplying the number of calculated undetected PTB cases with 365days.” It is on page 8, last paragraph of the revised manuscript. It is also indicated by the track change manuscript.

Revisions on the Results and discussion sections
Note: Since we considered the contributions of undetected smear negative culture positive PTB cases based on your comment and our decision, the infectious periods of undetected TB cases become 44,895 days. As a result, the magnitude of a TB infectious pool of the study area becomes 78,301 person days. These changes are made in abstract, result (Table3) and discussion sections. However, we approved that the change of these figures did not bring any change on the other sections/ results, discussion and conclusions) of the manuscript.

Comment1: “Table 2: Other comorbidities: please mention some of those comorbidities under a footnote.”
Replay1: We fully accept it and put it in the footnote as *other commodities include diabetes mellites and hypertension.

Comment2: “Lines 41-42: Mention the odds ratio for the rural vs urban as well.”
Replay2: We accept your comment and put the odds ratio as we did for other variables. It is revised as “The PTB cases living in rural settings were three times more likely to have a higher infectious period (OR = 2.95, 95%CI = 1.75-5.00) compared to PTB cases from the urban settings.” The contents under factors to TB infectious period are totally revised as indicated by track change manuscript. It is found on page11 and 12 of the revised manuscript.

Comment3: “Discussion needs to be improved. I meant it is great to compare the findings with previous studies and provide justifications for the variations (as you already did) but I would like to suggest that the potential public health/clinical implication of the findings should also be clearly mentioned. Just things like you mentioned from line 50-56.”
Replay3: We thank you for giving this insightful comment to improve the discussion. We fully share your idea that the discussion section is a place where findings are interpreted/given meaning in various ways. It was also a comment from the second reviewer. Taking this in mind, we did our best to improve the discussion part in terms of comparison with the previously known findings in the field, showing its implication in the existing system, stating the improved findings of the study over the previous studies, showing the importance of the findings to the existing system, and stating the limitations of this study. We also tried our best to improve the language and its readability. Since we revised most of the discussion part, we are unable to put the revisions here. But all the changes that we made in this section are indicated by the track change manuscript. But the main challenge that we had encountered to discuss our findings was the absence of adequate literature on TB infectious pool since it is a new approach.
Comment4: “I do not think that the private clinic issue is a limitation of this study; of course, it would have implications on your findings and that should be mentioned in the discussion part. This is a limitation from the health service and not something that you had compromised.”

Replay4: Thank you for your fruitful comment. We acknowledged your comment since you see it from another angle and indicate the place where it can be discussed. We were also discussing this issue before the first submission of the manuscript and decided to put it in the limitation section. We saw it only from its effect on the size of the TB infectious period and discussing it by facility type, forgetting the nature of the limitation, which is a system. It is true that being few in number is a limitation of the health system in the study area. Therefore, we accept your comment and removed it from the limitation. We discussed it on page 16, the last lines of the first paragraph.

B. Response to Reviewer #2 (Dr. Nathan Kapata)

Dear Dr. Nathan Kapata, we are very happy and consider us lucky for getting your contribution to our manuscript since you are a senior expert and had more experience on TB as we see from your profile. The comments you raised are also indicators for this. We valued your contribution. Because, it is because of your comments that we totally revised manuscript to be at this stage.

Comment1: “In the Background section, paragraph 3, first sentence, line 30 (page 3): The paragraph that starts, "Estimating the size of TB infectious pool is vital to know the burden and monitor TB control program ..........," the authors seem to imply that only using the measures applied in the cited articles in this part of the paragraph will give better estimates to measuring the TB burden. They further go ahead to indicate that the methods of relying on case notifications and TB prevalence surveys that are currently used are misleading to decision makers and other agencies. Can the authors rephrase that paragraph to be clear as to what they intend to mean? Although case notifications and prevalence surveys have some limitations in estimating the burden of TB in low resource settings, they still give good estimates for decision making purposes and devising strategic interventions for TB control.”

Replay1: Thank you much for your interesting comment which is crucial to improve the quality and readability of the paragraph as well as the background section as a whole. We fully accept the comments and revised the whole background section. We think, it is greatly improved as indicated by the track change manuscript.

As evidence, we put here the revisions made to the commented paragraph as follows: Estimating burdens from TB and monitor the activities of TB control programs is vital to scale up the achievements of TB control programs. At present, the world health organization (WHO) is using case notification (CN), periodic national TB surveys and data audit to estimate the burdens and monitor TB control programs. Although these strategies are contributing more in TB control activities, they have some feasibility and quality related limitations in developing countries where data quality (inaccuracy, incompleteness and none timeliness) and scarcity of budget are key problems. Therefore, estimating the total number of days that active PTB patients from all categories stay infectious could be an alternative approach to complement the existing WHO strategies. (page 3, paragraph 3), and it is also indicated by the track change manuscript.

Comment2: “Within the same paragraph three (page 3), the last sentence that starts as, "This will help to periodical.......," may be edited to read, "This will help to periodically......"

Replay2: Thank you much for your valuable comment. We accept it and it is removed by default while revising the paragraph as indicated above/ replay1/.
Comment3: “In the Methods section, Data processing and analysis, paragraph 2, lines 55-57 (page 7): The sentence that reads, "In this study, we determined the length of infectiousness after the initiation of anti-TB drugs using sputum smear microscopy" - Can the authors explain how smear microscopy was done? was it AAFB? Microscopy as well as Xpert MTB/RIF picks up dead bacilli as well, does this imply those cases were also considered infectious? Microscopy will also pick up non-tuberculous mycobacteria (NTMs), was that considered infectious as well?”

Replay3: Thank you, we valued your insightful comment and clarity question. There was limited recent evidence on sputum smear/culture conversion time in Ethiopia. Also, there were no GeneXpert MTB/RIF and sputum culture services in the study area. Thus, to estimate the sputum smear conversion time for smear positive PTB cases, we used the existing services, sputum smear microscopy despite its limitations. We agree that sputum microscopy can pick the dead bacilli and might have slightly impact to overestimate the size of a TB infectious period. However, we assume that such occasions are rare/a few in number. As per the authors’ discussion, it is better to record as positive/infectious/ when compared to reporting it as noninfectious for the clinical importance and giving attention. At present, the sputum microscopy is serving as both diagnostic and treatment monitoring tool on the 2nd and 5th months of treatment in most of the developing countries including Ethiopia. It is due to the absence of sputum culture services.

But we put its limitation as diagnostic limitation in the limitation section of the manuscript. We also found research works from abroad performed using sputum microscopy. Concerning sputum smear conversion procedures, we put the following on page7 last paragraph and page 8 a continuing paragraph of page7 to show how we conducted it. “Smear positive PTB patients were followed up weekly through the sputum smear test for up to 22 weeks until they underwent smear conversion whichever was earlier.” But, for the detailed procedures, we will describe by the next manuscript which is already under preparation on “The contribution of patients, facility and conversion delays in TB control activities of the study area.”

Comment4: “In the Methods section (page 8): The authors had indicated the challenges and unreliability of data due poor reporting and recording in low resource settings, however, the assumptions for determining the "TB management time" is based on these same records. Can the authors clearly state this limitation using this method?”

Replay4: Dear Dr. thank you very much for raising this valued question. Yes, you are, the poor data quality will have its own impact not only to this alternative approach, but also to every new approach that are going to be applied. But we hope data management has been improving since most of the healthcare industries are adopting healthcare technologies to assist their health information systems (data management, quality and use). In addition to this, the Ethiopian health system has a health extension program at the community level using health posts, the lowest level health facility, to deliver basic curative, disease prevention and health promotion activities. These facilities are part of the reform of an improved data handling system, a district health information system (DHIS). Besides, the new approach (TB management time) is applicable not only on the system, but also among TB patients for crosschecking. Hence, it will minimize the data quality issue and it is feasible in terms of budget compared to the national TB surveys among TB suspects and data audit/the existing strategy.
Comment5: “The discussion section needs to be improved. The authors may focus more on findings of this current study to inform on the TB Infectious pool and associated factors in East Gojjam zone.”
Replay5: We fully accept your comment and take it as an input to revise our discussion section. It was also a comment from the reviewer1 as indicated by replay3 to reviewer1.
To tell the truth, we highly benefited from your comments since we dramatically revised and improved the whole manuscript sections as indicated by the track change manuscript.
Remarkable revisions are made starting from abstract to the reference sections, where the discussion part is given a special attention because of comments from you reviewers. We made a vast improvement to the discussion part in terms of focusing on discussing only our study objectives, language clarity, concept, interpretation of findings, comparing the findings with the former research findings, showing the implications of the findings, indicating the improved parts over the limitations of the former studies, and mentioning the potential limitations of the study. We think, it is highly improved and can pass the message what we want to disseminate. All the revisions of the discussion part are shown by a track change manuscript as per the comment from the BMC journal editor.

Comment6: you said as, “by this stage, I am unable to see the method section.”
Replay6: From the message, we were worrying about the reasons why you were unable to review the data management and analysis section. But we assumed the problem might be a language limitation since it was made up of complex sentences. It was due to its nature where the measurements were composite outcomes. To measure the infectious period of one TB category, we need to measure different time intervals. When we see it, we found it unclear and complicated to take the message. The reasons for poor language could be 1). The nature of the study objective which is a composite outcome that needs other complementary outcomes from different segments of the TB control paths and 2). Language skill which is a common problem with non-native speakers, mainly in Ethiopia since no language edition services. With this in mind, we tried our maximum efforts to improve it by rewriting sentences, avoiding extra explanatory and conjunction words, and incorporating important words. We hope, you will appreciate the revisions or changes that we made. It is indicated on page 7-9 of the revised manuscript. However, we are not saying that it is free of language problems at this stage. It might have its own limitations as seen from the senior and native language speakers.