Author’s response to reviews

Title: Tuberculosis care for migrant patients in Portugal: a mixed methods study with primary healthcare providers

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Response to Reviewers

Dear Editor,

Thank you very much for considering our manuscript “Tuberculosis care for migrant patients in Portugal: a mixed methods study with primary healthcare providers”. We are very grateful for the comments provided by the reviewers. We believe the suggestions provided significantly improved the manuscript. We went through each comment of the reviewers and made every effort to address them point-by-point. Here we present our revised version of the manuscript. All modifications are in track-changes, as requested. We hope our revisions are in accordance with the requests and high standards of this journal.

Reviewers’ Comments:

Reviewer #1: Julia Pescarini
“In general I believe the study is innovative as bring the healthcare professionals point of view on TB care among migrants. Usually, migrants trust and rely on these group and are an interesting perspective to be analyse. The study is not entirely new, but still important in the European context.”

We would like to thank the reviewer for the kind comments.

“Abstract

Line 15-17 - I believe it is fair to say that occur "an increasing number of cases" or "increased proportion of TB cases among migrants" but not incidence itself. Most studies say that there has been an increasing number of cases due to increase migration, but not necessarily accompanied by an increasing incidence (which is a rate).”

We fully agree with the reviewer’s comment. The sentence was revised accordingly as follows: “Tuberculosis (TB) is still a major global health problem. The increasing number of cases observed among foreign-born populations contrasts with the decreasing trends observed in later years in some high-income countries.” [Abstract section, lines 16-18, page 1 of the revised version of the manuscript]. We also revised the corresponding sentence in the Background section as follows: “In the context of high-income countries, the number of TB cases has stabilized or even decreased among native-born populations in the last decade. However, among the foreign-born, the number of cases has decreased more slowly or even increased in some countries [2].” [Background section, lines 54-57, page 3 of the revised version of the manuscript].

“Introduction

Line 55-58 - It is interesting to know if TB incidence is increasing among migrants or if TB among migrants is increasingly higher than native Portuguese because TB incidence is decreasing among native.”

We agree with the reviewer’s comment. In order to avoid any misleading interpretations we clarified the sentence as follows: “The proportion of TB cases among foreign-born individuals has been increasing over the last years: 19% of the total TB cases in 2017 occurred in foreign-born individuals vs. 15.9% in 2014 [3,4].” [Background section, line 58-62, page 3 of the revised version of the manuscript].

“Methods

Did the same researcher that conducted the interviews also transcribed and analysed the interviews?”
Indeed, the interviews, transcription and analyses were conducted by the same researcher. In order to provide clarification to the reader on this matter, we added the following information to the Methods section: “Each interview was conducted by one researcher (AMT) (…)” [Methods section, lines 166, page 8 of the revised version of the manuscript]; and “Each interview was transcribed and analysed by one researcher (AMT) and whenever doubts emerged during analysis, a discussion was held between two researchers until consensus was reached.” [Methods section, lines 171-173, page 8 of the revised version of the manuscript].

“Results

Lines 316-319 - what the HCP refers to when saying that "before" things were different? Before refers to when?"

Taking into account the reviewer’s question, we clarify that in the perspective of the interviewee the context of social and financial support to TB patients has changed during the financial crisis in Portugal. In order to better frame the meaning and context we included the following sentence: “Policy measures implemented during the Portuguese financial crisis were also referred to have reduced the support provided by the social services:” [Results section, lines 337-338, page 15 of the revised version of the manuscript].

The figures and tables are adequate and good.”

We are thankful for the kind comment and appreciation.

“Discussion

Line 388 - A better term is "cause drug resistance" or "selection of drug resistant strains"

We agree with the reviewer’s suggestion and, therefore, we revised the sentence as follows: “This is particularly worrying, given that suboptimal adherence to TB treatment may cause drug resistance [32] (…).” [Discussion section, lines 415-416, page 18 of the revised version of the manuscript].

“There are any limitation on the way was used to the first healthcare professional interviewed? The fact that the interviewee knows the person who is interviewing them?”

Taking into account the reviewer’s question, we clarify that the researcher who provided the first contacts from her network (ACG) did not conduct the interviews. The interviews were conducted by another researcher (AMT) who only met the participants on the day of the interview. We believe this aspect is now clarified in the text, in response to a previous comment, in which changes in the Methods section were performed as follows: “Each interview was conducted by one researcher (AMT) (…)” [Methods section, lines 166, page 8 of the revised version of the manuscript].
“Did the authors observed any suggestion that austerity policies in Europe impacted on TB control or access to care among migrants? This is a very important topic.”

We thank the reviewer for highlighting this important question. Indeed, in the interviews the context of financial crisis in previous years emerged as an aspect with impact on access and use of TB care among migrants. Therefore, in the Discussion section we further discussed the influence of the financial crisis and austerity measures in TB care, adding the following text:

“Moreover, political measures taken in the context of the financial crisis in Portugal were referred to impair mechanisms of social protection that used to be available for TB patients with low socioeconomic status. Budget-balancing measures introduced into the social protection system during the financial crisis have tightened the eligibility for social assistance, unemployment benefit, and other protection mechanisms, increasing poverty rates [39]. These constraints surely affected migrant populations disproportionately as they are often socioeconomically more vulnerable [40].” [Discussion section, lines 436-442, page 19 of the revised version of the manuscript].

Reviewer #2: Frank Baiden

“This paper addresses an important public health program in Portugal. Appropriate methodological approach was used, and the write-up follows standard format.

We would like to thank the reviewer for the comments to our manuscript.

A major problem with this paper is the quality of writing. The level of English language is less than satisfactory. This makes the paper boring and difficult to read. Extensive proofreading is needed.”

We are thankful for the reviewer’s comment. Taking into account the reviewer’s suggestions, an extensive proofreading throughout the manuscript was performed by a colleague who is fluent in English. With her collaboration we were able to improve the quality of writing, the use of English language, and the readability of the paper.

“I have extracted and put below some sentences that illustrate the need for this paper to undergo extensive proofreading”

We revised the illustrative sentences extracted by the reviewer as follows:

- “Semi-structured interviews were conducted with healthcare providers working on TB care at primary care services in Portugal, namely at Chest Disease Centres (CDCs), located in Lisbon region, that is inhabited by more than 182 thousand foreign-born individuals (about 43% of the total foreign-born population in Portugal) [26].”
We revised into: “Semi-structured interviews were conducted with healthcare providers working on TB care at primary care services, namely CDCs, in Lisbon Region. This region was inhabited by more than 182 thousand foreign-born individuals in 2017 (about 43% of the total foreign-born population in Portugal) [27].” [Methods section, lines 146-149, page 7 of the revised version of the manuscript].

- "A purposive sample of 17 healthcare providers was gathered through snowball sampling [27], including 11 nurses and 6 medical doctors (14 women and 3 men)."

We revised into: “A purposive sample of healthcare providers was obtained through snowball sampling [28]. (…) Participants included 17 healthcare providers: 11 nurses and 6 medical doctors (14 women and 3 men).” [Methods section, lines 150-155, page 7 of the revised version of the manuscript].

- "Participants were asked to recommend peers possibly interested in participating".

We revised into: “Interviewees were asked to identify other eligible peers.” [Methods section, lines 153-154, page 7 of the revised version of the manuscript].

- "The interviews were conducted until reaching data saturation".

We revised into: “Data collection was conducted until data saturation was reached.” [Methods section, lines 167-168, page 8 of the revised version of the manuscript].

- "Ethical approval for this study was granted from the Ethics Committees for Health of the Regional Health Administrations in Portugal".

We revised into: “This study was approved by the Ethics Committees of the Regional Health Administrations of each region where the study was implemented.” [Methods section, lines 187-189, page 8-9 of the revised version of the manuscript].

- "In this mixed-methods study, we were able to gain insights about perception of primary healthcare”.

We revised into: “This mixed-methods study allowed to gain insight into the perspectives of primary healthcare providers on current provision of TB care for migrants in Portugal.” [Discussion section, lines 387-389, page 17 of the revised version of the manuscript].

- “A considerable proportion of the surveyed providers perceived”

We revised into: “Over a third of the surveyed providers referred (…).” [Discussion section, lines 394, page 17 of the revised version of the manuscript].

Abstract Requires improvement in the use of language. e.g.
"Tuberculosis (TB) is still a major global health problem, and its increasing incidence among foreign-born populations has been contradicting the decreasing trends observed in later years in some high-income countries."

Taking into account the reviewer’s comment and also a comment from reviewer #1 (please see above), we revised into: “Tuberculosis (TB) is still a major global health problem. The increasing number of cases observed among foreign-born populations contrasts with the decreasing trends observed in later years in some high-income countries.” [Abstract section, line 16-18, page 1 of the revised version of the manuscript];

"Considering that the control of TB and HIV-TB infections clearly has healthcare providers as the main interveners, in this study, we aimed to explore…”

We revised into: “Healthcare providers are key interveners in the control of TB and HIV-TB infections. In this study, we aimed to explore (…)” [Abstract section, lines 20-21, page 1 of the revised version of the manuscript].

“Sentences should be kept as simple as possible

"Migrants' lack of knowledge on TB disease and its symptoms was considered the main factor responsible for an advanced stage of TB disease among these populations, and their mobility and social isolation were referred to hamper their adherence to treatment"

Can be put as: ‘Migrants' lack of knowledge was the main reason for advanced-stage presentation of cases. Their high mobility and social isolation affect adherence to treatment’”

We agree with the reviewer’s suggestion. The sentence was changed according to the suggestion of the reviewer [Abstract section, lines 30-33, page 2 of the revised version of the manuscript].

“Conclusion:

An abstract should be concise and contain key information. I will suggest that the statement "This study was, to our knowledge, the first to explore the views of the healthcare providers about the difficulties faced by TB-infected migrants in Portugal related with seeking care, complying with TB treatment and accessing and using healthcare services dedicated to TB care."…is not essential and can be excluded.”

We agree with the reviewer that the referred statement is not essential and therefore we removed it from the abstract as recommended.

“Background
More data is needed to justify the statement that TB among foreign-born individuals in Portugal is increasing. The statement that "According to official data, in 2017, 19% of the total TB cases occurred in the foreign-born individuals, and the incidence rate among this population was 5.4 fold higher than the national estimate [3]." is not conclusive enough. Increase in the number of foreign-born individuals in the general population could result in a higher proportion among all cases. Similar, unless adjusted for age, comparison of incidence could be misleading.”

Taking into account the reviewer’s comment, we provided more data as follows: "The proportion of TB cases among foreign-born individuals has been increasing over the last years: 19% of the total TB cases in 2017 occurred in foreign-born individuals vs. 15.9% in 2014 [3,4].” [Background section, line 58-62, page 3 of the revised version of the manuscript].

We also agree with the reviewer that the statement comparing incidence among foreign-born population and among national populations can be misleading. Therefore, and in line with a related comment of reviewer #1 (please see above), we removed the referred sentences from Abstract and Background sections.

“Line 83: "Mixed-methods" imply a combination of "qualitative and quantitative" approaches. The sentence is thus a tautology”

We agree with the reviewer’s comment. Therefore, we removed the terms “qualitative and quantitative” as follows: “A mixed-methods approach was used to obtain (...)” [Methods section, lines 89-90, page 4 of the revised version of the manuscript].

“Line 106: ".....email sent to the services" This is not coming out well”

In order to make the sentence clearer, and in line with reviewer #3, we revised the sentence as follows: “Intending to reach as much healthcare providers as possible, we sent an email to healthcare services (...).” [Methods section, lines 117-118, page 6 of the revised version of the manuscript].

“- Any evidence to support the statement

"No significant differences were observed between respondents and non-respondents regarding sociodemographic characteristics."?

Suggest you mention at least on parameter that illustrate the point.

- To the extent it was an online questionnaire, how were the sociodemographic characteristics of non-responders determined?

Indeed, as this was an online questionnaire, there was no information on the sociodemographic characteristics of healthcare providers who did not access the web link to our survey. However, we collected sociodemographic information (age, gender, occupation, country of origin, experience in TB care, and experience with migrant patients) from healthcare providers who
accessed the web link but chose not to participate in the survey. With this information we compared sociodemographic characteristics between the respondents and those who refused to participate. In order to clarify the text we changed the term “non-respondents” to “refusals” in Methods and Discussion sections. Moreover, considering the reviewer’s suggestion, we also provided parameters showing no significant differences between the two groups. The sentence was revised into: “No significant differences were observed between respondents and refusals regarding sociodemographic characteristics (gender, P=0.490; age, P=0.693; occupation, P=0.304; country of origin, P=0.610; experience in TB care, P=0.120; experience with migrant patients, P=1.000).” [Methods section, lines 122-125, page 6 of the revised version of the manuscript].

“Results

Tables and figures are used to complement descriptive text, but not to substitute it. Results should open with a presentation on the highlights of information contained in Table 1. The table should not substitute this write-up.”

We agree with the reviewer. As suggested, a brief presentation on the highlights contained in Table 1 was written as follows in the Results section: “Most participants were women (78.3%), born in Portugal (88.3%) and had 10 years or less (65.0%) of experience in TB care. There were equal proportions (46.7%) of medical doctors and nurses.” [Results section, lines 192-194, page 9 of the revised version of the manuscript].

“The descriptive statistics on the background of participants in the interviews should be done using summary statistics: mean or median (whichever is appropriate) with the appropriate measures of dispersion. Should include gender. This write-up should be revised and put better than it is presently”

Taking into account the reviewer’s recommendation, we present data on gender and also mean and standard deviation for age. We also revised the text as follows: “Of the 17 interviewees, 14 (82.4%) were women. Ages ranged from 38 to 67 years (mean 53.4 ± 2.3 years). Six providers had 10 years or less of professional experience in TB care, 4 providers had 11 to 20 years of experience and 6 providers had more than 20 years of experience. Three providers had 10 years or less of experience working with migrant patients, 7 providers had 11 to 20 years of experience and 7 providers had more than 20 years of experience.” [Results section, lines 195-202, page 9 of the revised version of the manuscript].

“Discussion: This section is too long and the quality of writing makes it so difficult to read.”

We took into account the comment of the reviewer and revised carefully the Discussion section to improve the quality of writing and to make it more interesting and easy to read. Please see the revised version of the manuscript.
Reviewer #3: Carl Abelardo Antonio

“The submitted manuscript, overall, presents the research approach and results in a very logical and systematic fashion. Authors were able to highlight the research question they wished to address, the tools and techniques used to answer the research question, and the data that supports the conclusion.”

We would like to thank the reviewer for the kind comments to our manuscript.

I would like to suggest the following refinements in the manuscript:

1. Study design (lines 83-84): In addition to the stated reason "to obtain an enriched insight and understanding of the participants' point of view", authors may want to provide a methodological grounding for their choice of a mixed methods study design. In particular, what aspect of the study aims cannot be answered by using either a survey or interview alone.

Taking into consideration the suggestion of the reviewer, we included a methodological grounding in the Methods section as follows: “A mixed-methods study was used to obtain an enriched knowledge on the healthcare providers’ perspectives and experiences about TB care for migrant patients. The quantitative approach allowed to obtain measurable evidence on providers’ perspectives, and the qualitative approach provided a deeper understanding of their perceptions [21].” [Methods section, lines 89-93, page 4-5 of the revised version of the manuscript].

2. Sample for online survey (lines 103-104, 108-109): To provide context, authors should specify the total number of healthcare providers comprising the study population. This will allow the reader to understand the representativeness of the 120 survey responses.”

The reviewer highlighted an important aspect. Unfortunately, there is no national official data on the total number of healthcare providers in primary care in Portugal specifically dedicated to TB care. Nevertheless, in order to provide context we added the following information: “The studied regions comprised approximately 60 CDCs. In each CDC work 3-4 healthcare providers.” [Methods section, lines 114-115, page 5 of the revised version of manuscript].

3. Sampling design for online survey (lines 105-107): Authors to specify if the initial intent of the study was to carry out total enumeration, or if the team wanted to do non-probability sampling. Justification for the sampling design should be stated in the manuscript as well.”

In this study, we wanted to explore the perspectives of healthcare providers on a sensitive topic regarding the provision of TB care for migrants and all barriers in TB care for these populations. To gather this information we aimed to reach as much providers as possible, always ensuring the anonimity of the participants. We sent an email containing the link to the web survey to all healthcare services appealing for healthcare providers’ participation, without accessing providers’ personal information or contacts. In order to increase the number of responses, we
also sent reminders to the healthcare services appealing to participation. A total enumeration in this specific study would imply access to providers personal contacts, and information about the participants would be necessary. This would compromise the anonymous characteristics of the survey. Nevertheless, attending to the suggestion of the reviewer, we added a justification for the sampling design as follows: “Intending to reach as much healthcare providers as possible, we sent an email to healthcare services inviting the providers to participate in the study. The providers were asked to access the web link of the survey and to complete the questionnaire.” [Methods section, lines 117-120, page 6 of the revised version of the manuscript].

“4. Data analysis for interviews (lines 150-159): Two points that require clarification: (a) Was the interview data analyzed separately from the survey data, or was the latter deliberately used to frame the emergent themes? (b) Was the coding done in vivo or were pre-defined categories identified by the research team?”

As suggested by the reviewer, we added a clarification to the Methods section as follows: “The initial categories for the qualitative data analysis were defined based on a preliminary literature review and descriptive analysis of the survey data. These categories further evolved and changed during the analysis of the interviews.” [Methods section, line 173-176, page 8 of the revised version of the manuscript].

We hereby hope that the revisions made to the manuscript are satisfactory and that enable the acceptance of our manuscript for publication. We look forward to hear from you.

Ana M. Tavares