PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Health morbidity in Brazilian prisons: A time trends study from national databases
AUTHORS	Job Neto, Francisco; Miranda, Raquel; Coelho, Ronaldo; Gonçalves, Cinthya; Zandonade, Eliana; Miranda, Angelica

VERSION 1 - REVIEW

REVIEWER	Gulati G University of Limerick, Ireland
REVIEW RETURNED	31-Oct-2018

GENERAL COMMENTS	This study aims to add to international literature on prison health morbidity by describing findings from Brazil. This would be a valuable addition to literature. There are multiple errors in grammar and syntax as well as some spelling errors throughout the manuscript including the abstract, requiring review. In the introduction, referencing needs to be clearer – are the authors making specific statements about the state of healthcare in Brazil and Brazilian prisons? (Needing Brazil –specific references) or in respect of morbidity from international prison based studies (systematic reviews such as Fazel correctly cited in this case)? More upto date systematic reviews can be referenced. More details needed in respect of what notifiable diseases are. Who decides this? Are there studies estimating accuracy of notification systems? Under Methods- Types of study- the last sentence needs clarification/re-writing (line 18-19) Results – The editor may wish to commission a statistical review. Discussion - There is little information on prevalence of mental illness /mental healthcare in Brazilian Prisons referenced or discussed. How would this impact on communicable/notifiable diseases and physical healthcare? Referencing and discussion – could be strengthened by providing a more international picture. Has a similar study been conducted elsewhere? What were the results? How do they compare?

REVIEWER	Emma Plugge
	PHE, UK
REVIEW RETURNED	13-Nov-2018

GENERAL COMMENTS	General comments
	It was refreshing to see a paper looking at infectious diseases in Brazilian prisons. This is an important piece of work and potentially provides key information for service development. However, there are some important omissions and some areas which lack clarity and these need to be addressed prior to publication.
	Introduction
	It was good to see the Mandela rules being referenced, but on the whole, the introduction would benefit from further development as there are some important pieces of information that are lacking. These include:
	☐ A description of the prison system in Brazil – number of prisons, number of people in prison, trends, etc.
	☐ The current state of evidence regarding infectious diseases in Brazilian prisons
	☐ An outline of disease surveillance systems in Brazil generally and in Brazilian prisons specifically
	☐ A justification of the importance of disease surveillance, for example its importance in informing service development
	☐ A description of infectious disease prevention programmes in Brazilian prisons. For example, are there any routine vaccination programmes? Is there any ID screening? If not, a comment on the paucity of ID prevention interventions.
	The aim of study is not sufficiently clear. The authors must be clear what they mean by 'notified diseases'.
	Methods
	The methods section also requires further development – it is too brief as it stands. I don't think the study design is either cross sectional or ecological.
	The authors should justify their choice of diseases – not all are infectious/notifiable diseases.
	I am unsure about choice of statistical methods. Please see comments on results below – I do not think the data provided is the most relevant/interesting. I appreciate that time trends are very important but it is not clear why looking at data by state is important. The authors should justify this or omit this analysis.
	Results
	This section is not clear - the key findings are not highlighted. The tables do not provide useful data. As noted above, why is it important to look state by state? The regression analysis tells us very little about time trends. I would like to see disease rates for each disease each year (not absolute numbers as this is unhelpful in the context of a growing prison population and thus changing denominator)
	The authors should consider a very different presentation of the data.
	Discussion
	This needs major rewriting and restructuring. I suggest the authors use the conventional discussion structure – summary of key findings, discussion of findings with regard to published literature,

	discussion of strengths and weaknesses, and finally implications for policy/practice/research. They should omit information that does not focus on the key issues in the paper (such as mindfulness) and be sure emphasise the main points from this interesting study.

VERSION 1 – AUTHOR RESPONSE

Response to Reviewer: 1

Reviewer Name: Gulati G

Institution and Country: University of Limerick, Ireland

This study aims to add to international literature on prison health morbidity by describing findings from Brazil. This would be a valuable addition to literature.

Response: Thank you for this comment. We are happy you like the topic.

There are multiple errors in grammar and syntax as well as some spelling errors throughout the manuscript including the abstract, requiring review.

Response: Thank you for this comment. As English is not our first language, we had sent the manuscript to a translation enterprise (https://www.editage.com.br) for English corrections. After your comments we resent the manuscript to them and we help it had been improved now.

In the introduction, referencing needs to be clearer – are the authors making specific statements about the state of healthcare in Brazil and Brazilian prisons? (Needing Brazil –specific references) or in respect of morbidity from international prison based studies (systematic reviews such as Fazel correctly cited in this case)? More up to date systematic reviews can be referenced.

Response: Thank you for this comment. Data were in respect of morbidity from international (worldwide) prison based studies. We tried to be clearer in the text and changed the systematic review presented by Fazel for the one it was updated in 2017.

More details needed in respect of what notifiable diseases are. Who decides this? Are there studies estimating accuracy of notification systems?

Response: Thank you for your comment. We included a paragraph in the end of introduction section to explain what notified diseases are. Now you can read: "Notified diseases are diseases that the Brazilian law requires to be communicated to the public health authorities. The data allow authorities to monitor the disease and allow for probable outbreaks. They are included in the International Health Regulations that represent an agreement between several countries including all World Health Organization (WHO) member states to work together for global health security19."

 Under Methods- Types of study- the last sentence needs clarification/re-writing (line 18-19)

Response: We agree with your comment and had rewritten the text. Now you can read: "This study was a time trends evaluation, conducted using secondary data, from mandatory reporting diseases cases from the incarcerated population in Brazil from 2007 to 2014. Diseases diagnosis and individual data were available at the National System of Disease Notification (SINAN), Mortality Information System (SIM), and Prison Registration Systems (INFOPEN and GEO prisons). The units identified as prison's health facilities in the National Health System sent the information to the official information systems."

Results – The editor may wish to commission a statistical review.

Response: Our database is available for redoing the analysis. One of the senior authors is a statistician (Dr. Eliana Zandonade) and can clarify any further questions.

Discussion - There is little information on prevalence of mental illness /mental healthcare in Brazilian Prisons referenced or discussed. How would this impact on communicable/notifiable diseases and physical healthcare?

Response: Unfortunately, as mental health is not considered a notified disease in Brazil, they were not present in our database. In general, there is little published information on prevalence of theses diseases in Brazilian Prisons. We assume that they are frequent and there are researchers working to include mental illness in the list. It is important to implement these discussions in the Brazilian health and justice systems.

Referencing and discussion – could be strengthened by providing a more international picture. Has a similar study been conducted elsewhere? What were the results? How do they compare?

Response: Thank you for this comment. We had rewritten the discussion to include all the information you suggested and we added new references to strengthened it.

Response to Reviewer: 2

Reviewer Name: Emma Plugge

Institution and Country: PHE, UK

General comments

It was refreshing to see a paper looking at infectious diseases in Brazilian prisons. This is an important piece of work and potentially provides key information for service development. However, there are some important omissions and some areas which lack clarity and these need to be addressed prior to publication.

Response: Thank you very much for this comment. We are happy you like the topic. We tried to answer all your questions and clarify the text including your comments and suggestions.

Introduction

It was good to see the Mandela rules being referenced, but on the whole, the introduction would benefit from further development as there are some important pieces of information that are lacking. These include:

☐ A description of the prison system in Brazil – number of prisons, number of people in prison, trends, etc.

Response: Thank you for this comment. We included a paragraph to explain the prison system in Brazil. Now you can read: "The imprisonment organization in Brazil is a responsibility of each federal state, producing different profiles. According to the most recent report of the National Prison Monitoring Database of the National Justice Council18, the total population of inmates in Brazil is 630,092 inmates distributed in 1.423 units, 95% are men and 5% are women. They are distributed in 2,695 state prisons units and four federal prisons units."

☐ The current state of evidence regarding infectious diseases in Brazilian prisons

Response: Unfortunately, Brazilian data about infectious diseases in prisons are from specific studies in specific states. This is the first study to the approach national situation. We need to have a broader

picture of the situation to plan prevention strategies. We know that prisons facilitate the spread of communicable diseases, injuries related to violence, and mental disorders, as we cited in the introduction, but the majority of data in our prisons are only from HIV and tuberculosis. We discussed it in the discussion section.

 An outline of disease surveillance systems in Brazil generally and in Brazilian prisons specifically

Response: There is a paragraph in the introduction where the Brazilian policies are stated. We tried to be clearer. "In 2014, the Brazilian Ministry of Health formulated the "National Policy for Integral Attention to the Health of Incarcerated Persons in the Prison System" in order to organize health activities and services for prisons within the scope of the national primary care model17."

 A justification of the importance of disease surveillance, for example its importance in informing service development

Response: Thank you for this comment. We included a paragraph in the discussion section where you can read: "The increasing in the diseases notification among prisoners is a signal of the improvement of the health care for this population and can contribute for the better quality of care. These data are critical to assess the quality of the health system's response and evaluate the vulnerability of the incarcerated population for accessing health care6."

 A description of infectious disease prevention programmes in Brazilian prisons. For example, are there any routine vaccination programmes? Is there any ID screening? If not, a comment on the paucity of ID prevention interventions.

Response: Unfortunately we do not have a general prevention program in Brazil for prisoners. We included this information in the discussion section. You can read: "Historically in Brazil, health care for inmates has been performed in fragmented and vertical programs (routine immunization, screening for tuberculosis, prevention of HIV and other sexually transmitted infections)6,7. There is not an infectious or chronic diseases prevention program in Brazilian prisons. The country does not have a general picture of the situation and most of the published data in Brazil concerning the incarcerated population have focused on HIV/AIDS, viral hepatitis, and tuberculosis and are from specific states or regions10,11,12".

The aim of study is not sufficiently clear. The authors must be clear what they mean by 'notified diseases'.

Response: Thank you for your comment. We included a paragraph in the end of introduction section to explain what notified diseases are. We also rewrote the aim of the study to be clearer. Now you can read: "The goal of this study was to explore the surveillance data about mandatory reporting diseases, included in the official information systems, and evaluate the historical trend analysis in prisoners from Brazil."

Methods

The methods section also requires further development – it is too brief as it stands. I don't think the study design is either cross sectional or ecological.

The authors should justify their choice of diseases – not all are infectious/notifiable diseases.

Response: We changed the design to "time trends evaluation".

We had chose the cross sectional because of the diseases frequencies data and the ecological design because we thought to identify risk-modifying factors on health based on prisons' population defined geographically (Brazilian states) and temporally (5 years period). Both risk-modifying factors

and outcome were averaged for the populations in each geographical or temporal unit and then compared using standard statistical methods.

I am unsure about choice of statistical methods. Please see comments on results below – I do not think the data provided is the most relevant/interesting. I appreciate that time trends are very important but it is not clear why looking at data by state is important. The authors should justify this or omit this analysis.

Response: We decided to include the states as a variable because the imprisonment organization in Brazil is a responsibility of each federal state, producing different profiles. As there are social, economical and political differences among the states, we would like to check if these differences affected the frequency of the diseases in the different states. As said before, a total of 2,695 state prisons units are administrated by the states. We justified it in the text, including information in several sections of the paper.

Results

This section is not clear - the key findings are not highlighted. The tables do not provide useful data. As noted above, why is it important to look state by state?

Response: We answer this question above and try to clarify it in the paper text. We found 4 states (poorer ones), located in the two less developed regions of the country that did not notified any disease from the 8 years of the study. It happened because they do not have investments in prisons care. We tried to clarify it in the text. We also reorganize Table 1 to be easier to read it.

The regression analysis tells us very little about time trends. I would like to see disease rates for each disease each year (not absolute numbers as this is unhelpful in the context of a growing prison population and thus changing denominator)

Response: Thank you for this comment. We agree with you that the total number is not necessary and we dropped it. We have changed Table 2 to add the relative frequency besides the absolute number. Now you can read the rate of each disease by year of the study.

The authors should consider a very different presentation of the data.

Response: We tried to reorganize the results and changed the 3 tables. We decided to keep the states information to try to highlight the differences between the Brazilian states and we justified it in the text. We tried to consider the results for the different geographical regions.

Discussion

This needs major rewriting and restructuring. I suggest the authors use the conventional discussion structure – summary of key findings, discussion of findings with regard to published literature, discussion of strengths and weaknesses, and finally implications for policy/practice/research. They should omit information that does not focus on the key issues in the paper (such as mindfulness) and be sure emphasise the main points from this interesting study.

Response: Thank you for this comment. We rewrote the discussion to follow the structure you suggested and add the information you had asked for.