Author's response to reviews

Title: Prevalence and factors associated with syphilis in parturient women in Northeast, Brazil

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Author's response to reviews: see over
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Title: Prevalence of factors associated with positive Venereal Disease Research Laboratory in parturient women in Northeast, Brazil

Authors: Maria Alix Leite Araujo, Silvio Carlos R de Freitas, Heber J de Moura, Ana Paula S Gondim and Raimunda M da Silva

We are restating the manuscript with all changes suggested by the referees, whose modifications are highlighted at the text.

Reviewer: Angelique Vermeiren

Major compulsory revisions.

General:
1. Between Title, abstract, end of background and conclusion: No consistent aim of the study. Was the goal of the study only to provide insights of factors related to a positive VDRL result or was the prevalence also of interest?
Change made as indicated by the reviewer in title, abstract, background and conclusion. to clarify the text.
The objective of the study was analyzed the prevalence and factors associated with syphilis in parturient women admitted to public maternity hospitals in Northeast, Brazil.

Title:
2. “Prevalence of factors” is confusing. Do the authors mean prevalence and factors? Or just factors?
The title of the article has been changed as the reviewer indicates.

Abstract:
3. There is no background indicated in the abstract. Remove heading “background’’ or, when describing the “background” is obligatory: add background information.
Change made as indicated by the reviewer

4. A major part of the method section in the Abstract concerns a power calculation, while I think only the outcome of this calculation should be in the abstract.
Change made as indicated by the reviewer

5. It would be informative to include more details on the analysis in the abstract.
Change made as indicated by the reviewer

6. The last sentence “Additionally, other internal……women’s health care’’, is a bit vague and general and does not seem to rise specifically from this research.
Change made as indicated by the reviewer

**Background:**

7. Second sentence:

(The worldwide prevalence…..in South Africa). Do the authors mean with “range” that the lowest syphilis during pregnancy is found in Korea (north or south?) and is 0.11? And the highest is found in South Africa? We wanted to show the range of syphilis around the world. We change the sentence to improve the comprehension.

8. Aim of the study: The authors mention insight into prevalence and factors related to positive VDRL as an aim of the study. It would be nice if the authors could also include why insight into these factors is important as an ultimate aim. The objective was changing as indicated by the reviewer.

**Methods:**

9. I am not sure what the authors exactly calculated in the sample calculation: the number needed to find a significant difference into a certain factor? The number needed to calculate the prevalence? Please describe more clearly in the manuscript. Change made as indicated by the reviewer and now appears as follows:

The study population consisted of parturient women who were at the hospitals lodging. All the women who performed the VDRL test at the time of their admission for the delivery were included. The sample calculation used 22,232 childbirths from women assisted by SUS, a prevalence of 2.3% of syphilis in pregnant women in Fortaleza [3], a 2% sampling error and a 95% confidence interval. The sample size was made up of 222 pregnant women and it was stratified proportionally considering the total number of childbirths performed in each maternity hospital in the year 2009. The sampling fraction was calculated using \( f = \frac{n}{N} \) and to obtain the number of elements to be observed in each hospital it was used \( n_1 = f \cdot \frac{N_1}{N} [14] \).

10. Second last paragraph: “It was performed a descriptive analysis……STATA, version 10”. This section is unclear to me due to the following points:

a. “It was performed”, is not grammatically correct, please change sentence structure. Change made as indicated by the reviewer

b. I seem to understand that frequency distribution was used for the variables to split them into groups (for example initiation of sexual activity < and > 19 years)? If this is correct please state more clearly in the text. Change made as indicated by the reviewer
c. I am not sure what the authors mean by the distinction between ‘Qualitative’ and ‘Quantitative variables’ and I am not sure why this distinction is mentioned.
Change made as indicated by the reviewer

11. Please add for which factors the multivariate logistic regression was adjusted.
Change made as indicated by the reviewer.

12. Research ethics: Are the two hospitals that approved the study the only hospitals included?
The study included all public hospitals in Fortaleza city, however, was approved by the ethics committee of the two hospitals because the others hospitals ethics committee had not deployed.

Discussion
13. Can the authors explain the high OR ratio for “previous diagnosis of syphilis” in the discussion.
It was decided to remove this variable from the analysis because of the possibility of serologic scar.

14. A paragraph should be added in which limitations of the study are discussed.
Change made as indicated by the reviewer and added the study limitation in the discussion.

15: Paragraph 6: ‘sexual activity occurs earlier as time goes by”. Do the authors mean sexual activity starts earlier in the relationship when people get older? Or: Start of sexual activity has become younger over the time? Please clarify and add a literature reference.
We change the sentence to clarify the comprehension and added a literature as indicated by reviewer. The sentence now appears as follows:
Most of the parturient women had their first sexual relation when they were less than 15 years of age and all the women with positive VDRL initiated their sexual activities when they were 19 or younger. This shows that the early initiation of sexual activity may favor the exposure to STD [21].

Tables:
16. I miss the variable “had sex for money” in table 1.
Included changed sex for money in table 1.

17. I am a bit confused by the adjusted odds of having sex for benefits. It seems highly protective. This result should be considered in the results (and perhaps explained/discussed in the discussion).
Initially set the variable had been "carried out sex in exchange for some benefit," referring to exchange sex for money. Subsequently, it was decided to change the name of the variable to "changed sex for money" to explain the variable more clearly.
The variable age, family income, occupation, initiation of sexual activity, changed sex for money, number of prenatal consultations, prenatal initiation, VDRL in the 1st and 3rd trimesters were not statistically significant and did not make part of the discussion.

Minor Essential revisions (can be trusted to correct)
18. The manuscript could be improved by English editing. I have proposed some points of improvement in the review; however as I am not a native speaker I will most probably not been able to correct all points that need consideration.
Change made as indicated by the reviewer.

19. Authors contribution: Ana Paula Soares analyzed (instead of analized)
Change made as indicated by the reviewer.

20. General - Language:
Please write out Didn’t (did not), isn’t (is not) and other comparable abbreviations.
Change made as indicated by the reviewer.

Methods:
21. Language: the study population was ‘’made up’’. Please change in “consisted of” or “included”. (I do hope you did not "Make up" your population, as it means your subjects are fictional).
Change made as indicated by the reviewer. Now the sentence appear as follow: “The study population consisted of parturient women…”

22. Structure could be improved. Please divide methods into subparagraphs to improve structure, for example: - Study population - Data collection and - Statistical Analysis
Changes made as indicated by the reviewer and make the division in subparagraphs.

23. The page settings of the 4th paragraph are different than that of the others.
Change made as indicated by the reviewer and organized the settings of the 4th paragraph.

24. Last paragraph, language: ‘’the people who were in charge of them”’, I am not sure whether this expression really says what you want to say.
Make changing to clarify the expression as indicated by reviewer.

Results
25. Please mention “Table 1” in the paragraph describing table 1.
Mention Table 1 in the paragraph describing table 1.

26. 4th en 5th paragraph: Please rewrite these two paragraphs in one paragraph, stating the p-value and direction of every significant effect found.
The sentence has been split into one sentence to clarify meaning and we stating the p-value and direction of every significant effect found.

**Discussion:**

27. First paragraph:” since these studies performed confirmatory tests.” I believe could be better states as: “especially considering that these studies did perform confirmatory tests.”
The paragraph was modified to clarify meaning.

28. “It is recommended” “it was found”, not grammatically correct in combination with the rest of the sentence structure.
Change made as indicated by the reviewer

29. Third paragraph. Please consider splitting this paragraph into two sentences, as it is hard to understand this way.
The sentence has been split into two sentences to clarify meaning.

Tables

Table 1:
30. All n’s of the variables add up to 320 except for Family income; please explain (in methods or table)
Explained below the table that 10 people did not answer this question, and therefore lower values found in this variable.

Table 1:
31. It would be informative to see, next to the percentage, also the number of positive VDRL among the subgroups.
Change made as indicated by the reviewer

Table 1 and 2:
32. Please make them consistent in whether or not you provide p-values.
Change made as indicated by the reviewer and determined to provide the p-value for all variables.

Table 3:
33. Please indicate under the table where the adjusted odds were adjusted for.
Ok. Putted under the table the explain about the adjusted odds variable.

Discretionary Revisions (recommendations for improvement can author choose to ignore)
34. I am not sure whether to include the name of the test in the title; I believe “syphilis” would be more a more informative outcome to mention in the title, especially for readers not familiar with VDRL.
Change made as indicated by the reviewer

**Methods:**
35: “Data were stored….version 18.” Since SPSS is a commonly used program, just the abbreviation can be used.
Change made as indicated by the reviewer

36: Why did the authors use both SPSS and STATA? Since all statistic analysis techniques used can be done by both programs.
Explain in the methodology why the two methods was used
The paragraph was modified to clarify meaning. The sentence appears as follows:

Pag 5. Analyses were performed using two programs, SPSS, version 18 and STATA version 11. The SPSS was used for the insertion of data and presented descriptive statistical analysis using frequency distribution to split variables in groups and central tendency and spread measures. In the STATA it was done a bivariate analysis using Pearson’s Chi-square test and Fischer’s Exact Test logistic regression to analyze the relation between the dependent and independent variables and risk factors for syphilis were performed with a significance level of 5% and a 95% confidence interval. All the covariates were entered simultaneously into the multiple regression models.

**Results:**
37. Last paragraph, I would prefer to just mention the CI or the P-value in the text. Please be consistent over the whole result section.
Change made as indicated by the reviewer
**Reviewer:** Mohammed Bukar  
Major compulsory revisions

1. The title is ambiguous. Change  
The title of the article has been changed as the reviewer indicates.

2. State the study type clearly. Cross sectional study complemented with some  
information from the records is not a standard study type  
Change made as indicated by the reviewer

3. Linguistic revision  
Make a linguistic revision in general text.

4. Large OR and extremely wide CI needs to be explained.  
After change the sample size we decided to change the presentation format of the  
multivariate analysis too.

5. Was the questionnaire translated into local language. How was it decoded? was the  
questionnaire validated. Was it structured or unstructured? How did you control for non  
response?  
The questionnaire was elaborate exclusively to this study in the local language. It was  
tested before the research begins to improve the questions and comprehension by  
interview. It was structured and explained at the methodology.  
We did not have problem with non-response, because the data basis was parturient, the  
records and the cards. Because the used of the different data basis, we did not have  
problem with the response.

6. A positive VDRL of 5.3% makes little significance as long as false positivity is not  
controlled for. Comparison as done in the discussion with antibody based test is  
inappropriate. Compare like with like!” pp  
Change was made at the discussion as indicated by the reviewer.

7. What were the illegal drugs identified as significantly associated with positive  
VDRL?  
We respond at the text in the statistical analysis at the page 5: use of illegal drugs  
(marijuana, crack, cocaine).

8. Would the manuscript be of more interest if the titer of VDRL is correlated with  
perinatal outcome if antibody tests are not readily available? This will give better idea  
as to the titration level at which CS occurs and recommendation on who to treat based  
on this rather than treating all patients with positive VDRL. Remember that treating all  
positive VDRL is not only an overtreatment but in the long run will lead to emergence  
of resistance and therefore more expensive drugs will have to be used in the treatment  
of syphilis in an environment that is already impoverished.
We would like to point out that this study aimed to analyze the prevalence and factors associated with positive VDRL test in parturient women and do not collected data form newborn. For this reason, it is impossible to associate the titration of the mother with the outcome in newborns.

9. Conclusion of the study should be strictly based on findings from your study.
Change made as indicated by the reviewer

10. The authors need to search more literature as there are many missing gaps in the background and discussion, which earlier articles had highlighted.
Change made as indicated by the reviewer and we search and included more literature in background and discussion.

11. The sampling method is a convenience sampling and not random as alluded to in the methods
Change made as indicated by the reviewer

12. Was the questionnaire structured or unstructured
The information about the questionnaire has been changed and now appears as follows:
The structured questionnaire was conducted with the parturient women and complementary information was obtained through hospitals records, admission forms and prenatal cards.

13. Cite statistical package in the standard way
Change made as indicated by the reviewer

14. Error margin was given as 2% in the abstract but 5% under methodology. Please reconcile.
Change made in abstract as indicated by the reviewer.

15. Under methods, it was stated that for those under 18 years, others sign the forms for them. What is the legal age of consent in Brazil?
In Brazil, people can take responsibility for signing an informed consent to participate in research only when they are 18 years old. For this reason, we request those responsible in case of minors.