Author’s response to reviews

Title: An epidemiological and molecular study regarding the spread of vancomycin-resistant Enterococcus faecium in a teaching hospital in Bogotá, Colombia 2016

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Author’s response to reviews:

Bogotá D.C., February 8th 2019

Professor
Oliver Cocks

Editor
BMC Infectious Diseases

Dear Professor Cocks,

Regarding our manuscript entitled, “An epidemiological and molecular study regarding the spread of vancomycin-resistant Enterococcus faecium in a teaching hospital in Bogotá, Colombia 2016” by Corredor et al., we have fully addressed all the minor revisions suggested by the Statistical Reviewer during the last revision round, as follows:
GENERAL COMMENTS

Q1: Line 156: Mention full form of 'TD'.

Reply to Q1: The meaning of the TD acronym has now been included (Page 8, line 163).

Q2: Table 2A: Write short name of the month 'August' properly.

Reply to Q2: The proper short name of the month 'August' (AUG) has been included in Table 2A.

SPECIFIC COMMENTS

Q3: Lines 84-86: Elaborate upon those additional therapeutic efforts.

Reply to Q3: As per your request, we have now clarified those additional therapeutic efforts by including a short paragraph and one reference was updated (Reference 36 is now reference 16) (Pages 4-5, lines 86-88).

Q4: Lines 100-103: Rewrite in separate sentences.

Reply to Q4: Thanks for your suggestion. The paragraph has now been rewritten in separate sentences (Page 5, lines 102-105).

METHODS

Q5: Mention basis of sample size calculation, sampling technique, study procedure and statistical analysis (descriptive as well as inferential).

Reply to Q5: Our research was aimed at describing VREfm transmission routes during a VREfm outbreak estimated by combining hospital and molecular epidemiology methods. The purpose and scope of the research did not intend to obtain statistical inferences as association and causation, but to assess possible benefits of implementing this combined approach during and after outbreak response. Similar study designs are referenced (27, 48-52).

Regarding study procedure, study design, clinical setting and data collection, they have been described in the methods section.
RESULTS

Q6: Elaborate upon the diagnosis for which vancomycin was started and showed resistance pattern.

Reply to Q6: Thanks for pointing this out. Infection source, clinical status and clinical sample details are included in Table 2A.

Q7: Simplify the supplementary table 1.

Reply to Q7: Thanks for your comment. To achieve our goal of estimating transmission routes based on the epidemiological criteria (1, 2 or 3) of the modified time-place-sequence (TPS) algorithm we adapted, an inpatient tracking within each hospital ward and during the whole outbreak period was required (Supplementary table 1).

These epidemiological criteria (included in the transmission analysis section) are: criterion 1 patients A and B were located in the same ward (24 hour minimum overlap before VREfm was first detected in patient B), criterion 2 patient B was located in the same room which patient A had occupied a maximum 2 weeks before patient B and criterion 3 concerned both patient A and patient B having stayed in the same room (minimum 24 hours overlap before VREfm was detected in patient B).

We are aware that this table may look overloaded, but it only includes the minimum required data to apply the modified TPS algorithm in our research. It was the result of several revisions and adjustments made by the Reviewers in previous revision rounds.

Q8: Table or figure showing molecular study (as mentioned in the title) is still lacking.

Reply to Q8: As per your request, a supplementary figure showing the different VNTR products found in the most frequent clonal profile “A”, has now been included (Supplementary Figure 2).

Q9: Lines 113-116: Total number of beds was not 802 while counting all the beds mentioned.

Reply to Q9: Thank you for pointing this out. This sentence has now been rewritten for clarity (Page 6, lines 115-116).

Q10: Line 124: Patients cannot be expressed in a mount (rather expressed in number).

Reply to Q10: The word was modified accordingly. Thanks for your suggestion (Page 6, line 126).
Q11: Line 125: Mention the criteria established by the Bogotá District Health Secretariat.

Reply to Q11: Thank you, this is an important point. Criteria established by the Bogotá District Health Secretariat are now mentioned (Pages 6-7, lines 129-133).

Q12: Line 269: Cite references to these criteria.

Reply to Q12: Reference 27 is now cited (Page 13, line 273).

Q13: Line 278: Elaborate upon the conventional epidemiological surveillance.

Reply to Q13: The paragraph has now been modified based on your recommendation (Page 13, lines 285-286).

Q14: Figure 2: Cite the reference to support the statement "If this index is above the third standard deviation (SD), an outbreak is confirmed."

Reply to Q14: Thank you, this is an important point. The reference has now been included in Figure 2 legend (Page 25, line 593).

DISCUSSION AND CONCLUSION

Q15: Elaborate upon your conclusion "... real-time combined clinical and molecular epidemiological models contributed towards introducing/enforcing more efficient outbreak control strategies." How can you conclude based on the descriptive statistic of just 33 sample size? This needs elaboration in large scale sample size to get conclusive evidence.

Reply to Q15: Thanks for your comment. This conclusion was based on results of previous studies involving infectious disease outbreaks. We have now modified the sentence and added references to support this statement (Page 16, lines 338-339).

REFERENCES

Q16: Rewrite references 2, 3, 6, 9, 16, 17, 19-21, 27, 31-41, 43-45 and 47 keeping the names of the journals properly.

Reply to Q16: References were updated according to your recommendation and names of journals were adjusted as follows:


*As cited in reply to Q3, reference 36 was now updated as reference 16, therefore, the numbering of the following references was updated too:


Reference 27 (now listed as reference 28): Horan TC, Andrus M, Dudeck MA: CDC/NHSN surveillance definition of health care-associated infection and criteria for


Q17: Rewrite references 10, 23, 24 and 28 in English version to allow the prospective researchers track them.

Reply to Q17: Listed references were translated to English according to your advice, as follows:


− Reference 23 (now listed as reference 24): Instituto-Nacional-de-Salud: Results of the surveillance program for antimicrobial resistance and healthcare-associated infections in Colombia. . In.; 2014.


Q18: Rewrite references 12, 13 and 46 by removing the brackets.

Reply to Q18: References 12, 13 and 46 were modified and brackets were removed:


Q19: Rewrite reference 22.

Reply to Q19: Reference 22 was modified as follows:


Thank you and warm regards,

Manuel Alfonso Patarroyo M.D., Dr.Sc.

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