Reviewer’s report

Title: Characteristics of diarrheagenic Escherichia coli among children under 5 Years of age with acute diarrhea: a hospital based study

Version: 0 Date: 13 May 2017

Reviewer: Paula Magalhães

Reviewer’s report:

There is no doubt that diarrheal disease is a relevant matter worldwide what makes the study relevant.

Comments regarding the items evaluated:

- The methodology employed is overall adequate and although it is well described, it still raises some questions. For example: a) page 6, line 115: how does a "suspicious colony with E. coli morphology" look? In fact E. coli colonies may be lac+ or lac- in MacConkey Agar. Both of these morphotypes have been selected?; b) page 6, line 123: references 18 and 19 describe different PCR primers and it is not clear which of them the authors used, since they mentioned both publications. Also I could not find the description of this PCR protocol in the reference 17. Additionally the authors performed a multiplex PCR as proposed in the previous studies? It is not clear; c) The authors mentioned that antimicrobial susceptibility profile was evaluated according to CLSI (2015). However, I believe they should justify their choice since their list of tested antimicrobial drugs does not match CLSI list; d) Another doubt regarding methodology: the authors mentioned that "three suspicious colonies with E. coli morphology were selected..." All colonies identified as E. coli had been tested in the study? Or just one colony from each child infected with only one E. coli pathotype have been characterized? It seems that more than one colony isolated from the same child had been studied since the authors detected infection with two E. coli pathotypes. But they do not mentioned if this was the case only when one pathotype was detected.

- Overall the authors employed adequate controls.

- The conclusions drawn seem to be supported by the data shown. However I have some serious concerns regarding some results, mainly those included in the topic "Prevalence and epidemiological characteristics of DEC among infected children".

- Page 9, lines 186/187: age groups should have been mentioned or the result as presented does not mean anything. Also I could not figure out how the percentages have been calculated. The total should be 100%?

- Page 9, line 189: the same applies, meaning that the percentages of DEC detection in the four seasons shouldn't be 100%
- These corrections also have to be made in the corresponding figures (2 and 3). Figure 3 desires special attention because it does not seem right. What do the numbers (0, 5, 10, 15) mean? Number of isolates? The total for DEC should not be 54?

- Figure 1 seems completely unnecessary. All the results are presented in the text.

- Statistical analysis seems adequate.

- Clearly the language requires revision and some relevant improvement have to be made to make the text clearer.

- Also:

- Some references must be updated. For example: page 4, line 71 (ref 6, 2009), page 4, line 85 (ref 10, 2004).

- Although the authors mentioned that they did not detected DAEC, it should have been cited as a DEC in the "Background" (page 4, lines 77/78). This pathotype is considered as a major category of DEC by most authors including those cited by the authors (ref 10).

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
Declaration of competing interests

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal