Reviewer’s report

Title: High number of diarrhoeal co-infections in travellers to Benin, West Africa

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Reviewer: Iruka Okeke

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The manuscript seeks to elucidate the etiology of travelers’s diarrhea in visitors to the republic of Benin. This is an important question since very little is known about diarrheal etiology in West African countries, particularly francophone ones. Moreover, travelers’ diarrhea studies indirectly provide insight into potential causes of life-threatening infantile diarrhea, the so –called ‘rest of the hippopotamus’(1).

Major compulsory revisions

The paper’s main flaw is the small sample size and in particular the small number of pre-travel samples that were evaluated. It is admittedly hard to collect the samples the investigators need and the population of travelers from which the sample was recruited was small. The investigators however need to clearly acknowledge these limitations (perhaps include a limitations para in the discussion). On the other hand, they also need to make sure that the abstract indicates that the design and analysis is based on pre- and post- samples. I was very negatively pre-disposed to the article until I discovered half way through that pre- samples were collected. And although these samples were few, the absence of pathogens in them provides significant value to interpreting the data obtained. Another thing the authors may wish to point out is the bias the absence of pre-travel samples introduced. Individuals who did not submit a pre-travel sample are more likely to submit a post-travel one if their diarrhea is particularly disturbing, thus increasing the proportion of exceptionally virulent pathogens recovered.

The questionnaire and pre-travel advice seems to be rather unsuited to a West African country. West African diets rarely include true ‘salads’ or undercooked meats. Salads are available in major cities but these are largely tourist faire. However there are foods that are high risk for diarrhea, which tend to be warm foods that are not terminally cooked (for example boiled and then pounded root vegetables). Travelers should have been advice to avoid these and told what they were. I see no indication from the paper that this was included in the advice and this may in fact account for the high rate of infection.

As the authors indicate, this study revealed EPEC as an important cause of travellers’ diarrhea, something that does not feature in the published literature. Were these atypical or typical EPEC (bfp results)? Would the authors be able to conduct PCR for lineage-specific EPEC virulence genes such as espC or specific bfpA/ per alleles?
Discretionary.

The data demonstrate that diagnosis for diarrheagenic E. coli is important for traveller’s diarrhea and should also be available in West African countries since it is possible that these pathogens account for a large proportion of infantile diarrheas as well. The authors may also want to compare their data with that of the GEMS study (2), which did not include Benin and was focused on infantile diarrhea, because their data suggests that a separate study of infantile diarrhea in Benin is warranted.

Literature cited

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests