Reviewer's report

Title: Characterising the Aetiology of Severe Acute Gastroenteritis Among Patients Visiting a Hospital in Qatar using Real-time Polymerase Chain Reaction

Version: 1 Date: 22 February 2013

Reviewer: d j nokes

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Major compulsory

1. Abstract. The statement ‘Viruses, especially noroviruses, play a major role as agents of severe diarrhoea in children and adults in Qatar’ indicates a causal relationship between the observed pathogens and AGE. We can only say there is an association between the presence of certain pathogens and AGE. Change the word causal.

2. Page 4. ‘The patients were enrolled in the study between June 2009 and November 2009.’ Why were samples only collected over a 6m period. If there is significant seasonality of any or all the viruses then your estimates of prevalence are biased. This represents a serious epidemiological design flaw.

3. Page 4. ‘Whole stool samples were collected from each subject during the hospital visit. The samples were obtained only once from each patient’. Did you collect samples within a certain number of hours post admission in order to avoid sampling children who might have an in-hospital after a longer in-stay? The methods should be revised to include this and if you did collect later than 48hr you should include this as a study limitation.

4. Page 6. ‘and astrovirus was detected in 0.30% (1 out of 288).’ The observation of only one astrovirus positive is a little perplexing. Can you be sure your assay was working? What controls were in place?

5. Co-infection. Did you identify concurrent enteric viral infections? Please describe the coinfection proportion and which were the main pathogens involved.

6. Page 6. Epidemiology. Please indicate the prevalence of each virus over time which might give an indication of the seasonal pattern of occurrence.

7. Page 8. ‘Finally, the lack of healthy controls limits conclusions about the relative importance of each pathogen’. Given that you recognise this as a significant limitation can you justify why you did not collect data from such controls?

Minor essential
8. Page 2. ‘These include three RNA viruses (rotavirus, norovirus, and astrovirus) and one DNA virus (enteric adenovirus) [3,4].’ Is ref 4 appropriate ie a study in Germany?

9. Page 2. The statement ‘Saporovirus, Aichivirus and members of enterovirus group also cause AGE but are less common’ requires a reference.

10. Page 4. ‘AGE was defined as #1 episode diarrhoea with abdominal discomfort with 24 hour period, with or without vomiting and passing of loose/watery/soft stool with or without mucus.’ This definition is a little unclear. If it is both with and without a particular symptom then that symptom is irrelevant and should be removed.

11. Page 6. The statement ‘Parasitic infections were not investigated in this study.’ should be deleted as it is clear this is so from the methods.

12. Page 6. ‘Viral agents were identified in 131/288 samples’ and ‘Bacterial agents were detected in 35 of 288 cases (12.2%),’ Both statements are repeats made earlier in the first sentence. Repetition should be avoided.

13. Page 7. ‘No correlations of symptom severity and viral aetiology were made in this study. The causes of these diseases (e.g. recent travel, food, etc) were not investigated.’ These are not results and so should be included as limitations in the discussion.

14. Page 7. ‘An aetologic viral agent was identified in almost 50% of the patients (131/288).’ Remove aetiologic.

15. Page 8. ‘Indeed, the lack of rotavirus infection among the elderly group does suggest that adults may have been infected through exposure from infected children.’ Please explain the logic of this statement.


17. Page 8. Conducting the study in the rotavirus vaccine era is a limitation and should be stated at that point of the discussion.

Discretionary revisions

18. Page 6. ‘aetiology viral agents were identified in 131 patients’. Strictly speaking this is not an aetiological study. I suggest that aetiology be replaced.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests