Reviewer's report

Title: Genetic Diversity and Epidemiology of Genogroup II Noroviruses in Children with Acute Sporadic Gastroenteritis in Shanghai, China, 2012-2017

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Reviewer: Yuanyun Ao

Reviewer's report:

In this manuscript Lu et al performed the epidemiology of noroviruses on the 1433 fecal samples from children with acute sporadic gastroenteritis, in shanghai, during 2012 to 2017. Partial sequencing of the polymerase and capsid region revealed that high detection rates of and diverse genotyping noroviruses have been circulated in Shanghai. They also analyzed the possible relevance of norovirus infections and children ages as well as seasons. Although this study provides the data to understanding of the molecular epidemiology of norovirus, there are still many improvements that need to be made to clearly tell an accurate story.

Major issues:

1. The authors described the epidemiology of norovirus throughout the study, however, the noroviruses were detected just using the primers targeting the GII norovirus combination of RdRp and capsid genes; the identification for another human norovirus genotypes such as GI and GIV were not conducted in this study. Thus I am not sure if the true positive rate of norovirus that displayed, based on the current date. An enzyme immunoassay (EIA) or RT-PCR were firstly suggested to tested for the presence of all human norovirus genotypes, and then the norovirus positive samples were subjected to genotyping by RT-PCR.

2. Since the clinical data were collected, the symptoms characteristics of different norovirus in patients with acute gastroenteritis could be suggested to analyze in this study, except for age, season and genotype characteristics of norovirus.

3. During 2012 to 2017, diverse genotypes of noroviruses has been found to be circulated in Shanghai. However, there is no substantial date showing the systematically analyses of norovirus sequences and evolution, especially GII.2, GII.4, GII.17 viruses that had been associated with epidemics worldwide.

4. Table 3: I would suggest to use a figure not a table, as it seemed more clear to show the results.

5. Figure 2: It is very not proper that the authors analyzed the seasons of norovirus by combining the months with six years. It may be correctable to describe and claim the relationship between seasons and noroviruses by divided months in each years. Please accordingly rephrase the results in the paper.
Minor comments:
Line 29: replace "Noroviruses" with "Norviruses (NoVs)".
Line 30: delete "prevalence and"
Line 33: add "1433" before "children".
Line 39 to 40: replace "With high detection" with "with the high detection rate".
Line 76: replace with "rotaviruses" for "rotavirus".
Line 85 to 91: please rephrase the sentences. It's too wordy.
Line 93 to 94: please delete "conducted the current study".
Line 103: please add the definition of acute gastroenteritis or reference.
Line 122 to 123: replace "phylogenetic analysis on the nucleotide sequences obtained in our study and sequences data from GenBank" with "phylogenetic analysis on the sequences in our study and GenBank"
The writing style should be revised by a English native speaker scientist.

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

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Please indicate the quality of language in the manuscript:
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