Response to the reviewer:  
  
Reviewer: 1  
  
Comments to the Author  
Assessing Contributory Factors of Diarrhea among Under Five Children in Bangladesh: A Comprehensive Analysis of  Three Waves of Nationally Represent Data  
Authors presented the analysis of 3 waves of MICS data showing trends of diarrhoea in children under five years in Bangladesh. The comments below would help improve upon the current paper.

Introduction  
•       In paragraph 1, there are 2 conflicting statements, one says 21000 children die of diarrhoea each day, and another says 5,000 children die each day. This needs to be relooked at and rephrased

**Response:** Thank you for highlighting this issue. In paragraph 1, lines 72-75, we incorporated recent information from the World Health Organization (WHO) and removed the previous confusing details. I also reorganized the sentence for improved clarity.

“According to the World Health Organization (WHO), every year, there are approximately 1.7 billion cases of diarrheal disease among children worldwide and diarrhea claims the lives of about 443,832 children under the age of 5, along with an additional 50,851 children aged 5 to 9 (WHO, 2024).”

•       From the introduction… “According to the information that we have, no study was conducted using the Multiple Indicator Cluster Survey (MICS) data of Bangladesh to portray the changes of factors influencing diarrhea over time.”  
Why is this important in a country like Bangladesh where extensive work on diarrhoea has already been done and is still ongoing? Authors need to provide a more meaningful justification.

**Response:** Thank you for your insightful comments. We have now included a valid justification for conducting our study. Recent data from two large, nationally recognized surveys indicate a significant increase in the prevalence of diarrhea. Therefore, it is crucial to reassess the contributing factors and provide recommendations for policymakers to address this issue. We hope the reviewers will be pleased with our updates.

In lines 129-132, we included, “Based on the Multiple Indicator Cluster Surveys (MICS) from 2006, 2012-13, and 2019, the prevalence of diarrhea among under-five children was reported at 7.1%, 3.9%, and 6.9%, respectively (MICS, 2006, 2014, 2019). Additionally, the BDHS from 2014, 2017-18, and 2022 indicated rates of 5.7%, 4.7%, and 4.8% (BDHS, 2014, 2019, 2022). Despite various interventions and innovations aimed at reducing childhood diarrhea, the burden of the disease appears to be increasing in recent years in Bangladesh.”

In lines 136-138, we included, “Additionally, we sought to understand the reasons behind the recent increase in diarrhea cases, despite improvements in various health indicators.”

Also, we modified our previous objectives, In lines 140-143, “Overall, we aimed to analyze the prevalence of diarrhea and identify the factors contributing to diarrheal diseases among children aged 0-5 years in Bangladesh from 2006 to 2019, in order to understand the recent increase in this serious health issue.”

Methods  
Outcome and possible covariates  
•       The definition of diarrhoea has diarrhoea in it. What exactly was the definition of diarrhoea used in this study?

**Response:** Thank you for highlighting this issue. In the outcome variable section, we did not provide a formal definition; we simply described how the MICS survey and our study defined the outcome variable. If mothers or caretakers confirmed that their children had diarrhea in the two weeks preceding the survey, we classified that as “Yes” for diarrheal status. I have rewritten the outcome variable section for clarity.

In lines 188-192, we modified the description of the outcome variable, “In this study, we assessed diarrhea among children aged 0-5 years based on whether they experienced diarrhea in the two weeks prior to the survey. The responses were provided by mothers or caretakers. We defined the binary outcome variable “Diarrhea,” which has two categories: “Yes” for children who had diarrhea and “No” for those who did not in the two weeks before the survey.”

•       It would be advisable to group the covariates as done in the result tables. Such as household characteristics, community characteristics, etc

•       How was the variable on supervision measured? How was it collected in the MICS? How was it presented in this study?  
  
Results  
•       The arrangement of tables after the references is unclear. Table S2 must come before the tables with the adjusted values  
•       Tables need to be properly formatted  
  
Discussion  
•       “However, it is not sure that the shared toilet facility caused diarrhea, but the unhygienic toilet facility contains the pathogens like norovirus, which caused diarrhea..” authors should refer to the paper below and revise their argument on the use of shared toilets (Ramlal et al., 2019)  
Ramlal, P. S., Stenström, T. A., Munien, S., Amoah, I. D., Buckley, C. A., & Sershen. (2019). Relationships between shared sanitation facilities and diarrhoeal and soil-transmitted helminth infections: An analytical review. Journal of Water Sanitation and Hygiene for Development, 9(2), 198–209. <https://doi.org/10.2166/WASHDEV.2019.180/643608/WASHDEV2019180.PDF>  
  
•       The recommendation must come after the conclusion  
•       The conclusion should reflect the aim of the study. The conclusion did not cover the prevalence of diarhoea over the years.  
  
•       What new knowledge does this study add that is not already known?  
  
•       Authors should be thinking about ideas such as \*are the factors changing over the years? Which factors have been the same over the years? Is the prevalence declining? Are there diarrhoea hotspots that need to be taken note of?\*  
  
Strengths and limitations  
•       You can consider looking rather at the nationwide data collected by the MICS and how generalisable its findings could be to the country  
  
Recommendations  
•       The recommendations are vague. What findings are policymakers supposed to consider? What are the exact things proposed to improve the diarrhoea situation in the country  
•       Authors should note that the data used for the study is cross-sectional and thus cannot show causality therefore all the interpretations must be made with caution. In the light of that, authors should appropriately revise their recommendations.  
  
  
  
  
Reviewer: 2  
  
Comments to the Author  
Abstract:  
There seem to be some omissions in the text, for example:  
“…a total of 31,566, 23,402, and 24,686 children under five were included from, 2012, and 2019, respectively.”  
Do you mean:  
“…a total of 31,566, 23,402, and 24,686 children under five were included from 2006, 2012, and 2019, respectively.”  
The language throughout the manuscript should be carefully reviewed. For example, to maintain the academic tone expected in scientific writing, it is recommended to avoid using subjective or qualitative terms such as "unfortunately."  
Introduction:  
Instead of “influential cause”, you can use “main” or “leading cause”  
Some information is inconsistent. For example you say that “…about 21,000 of them died every day” and further down you mention “more than 5000 children are dying every day”. From my understanding both of these numbers refer to daily child deaths from diarrhea, but the numbers are inconsistent. You should carefully check your sources and polish the text. Generally, the first paragraph of the introduction is disorganized and repetitive.  
The second paragraph also seems repetitive and disorganized, a lot of statistics are cited but a coherent storyline is missing.  
It is unclear what the innovative aspects of the study are. In the fourth paragraph, the authors list a lot of factors that have been shown in the literature to increase the risk of diarrhea among children. It is unclear whether the mentioned studies focused on Bangladesh or other countries too. The previous literature should be presented more comprehensively. The authors need to highlight better the innovative aspects of their study.  
Results  
In figure 1, the ORs should be displayed on a log scale.  
The discussion ties the results well with the broader literature on the topic.  
  
Editor Comments to Author  
1. Authors are encouraged to review and follow the recommendations put forward in the "Guidelines for reporting of statistics for clinical research in urology" (Assel et al., 2018) for guidance on the proper analysis, reporting, and interpretation of clinical research.  
  
2. Avoid relying solely on statistical hypothesis testing, such as P values, which fail to convey important information about effect size and precision of estimates. P values should never be presented alone without the data that are being compared and the test used to derive them. If P values are reported, please follow standard conventions for decimal places: for P values less than .001, report "P<.001"; for P values between .001 and .01, report the value to the nearest thousandth; for P values greater than or equal to .01, report the value to the nearest hundredth; and for P values greater than .99, report as "P>.99."  
  
3. References for the design of the study and statistical methods should be to standard works when possible. Define statistical terms, abbreviations, and symbols. Further, distinguish pre-specified from exploratory analyses, including subgroup analyses. At the end of the Methods section, please describe all of the statistical tests used for the analyses. State any a priori levels of significance, and whether tests were 1- or 2-sided. Also, specify the statistical software package(s) used in the analyses, and its versions. We encourage authors to follow SAMPL guidelines.  
  
4. Reporting guidelines ensure good reporting standards, so that your study can be understood, replicated, or used in a systematic review. Please stick to CONSORT guidelines when revising the manuscript. Ethical approval details and informed consent should be stated. These should appear in the Method section.  
  
5. The Abstract should be divided into the following sections 'Background and Aims', 'Methods’. ‘Results', and 'Conclusion', and it should not exceed 300 words. Details can be found in the journal Author Guidelines.  
  
6. Please state the following: "All authors have read and approved the final version of the manuscript [CORRESPONDING AUTHOR or MANUSCRIPT GUARANTOR] had full access to all of the data in this study and takes complete responsibility for the integrity of the data and the accuracy of the data analysis.”  
  
7. Further, when listing the funding sources and/or financial relationships (i.e. conflicts of interest), please provide explanations of the role of those sources, if any: in study design; collection, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication. Alternatively, please provide a statement declaring that the supporting source/financial relationships had no such involvement.  
  
8. Please provide a transparency statement: "The [lead author/manuscript guarantor] affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained". Please replace the [lead author/manuscript guarantor] text with the name of the author who will act as such.  
  
9. Please check all references to ensure that none of the cited articles have been retracted. You can use the Retraction Watch database, available here (<http://retractiondatabase.org/>). Zotero does this automatically (<https://bit.ly/2RPrA3F>). PubMed now also tags retracted articles. Similarly, please check whether a "Correction" has been issued for any of the cited articles, and if that is the case, please evaluate whether this affects the relevance of the citation for your article.  
  
10. If you are acknowledging people in your article by name, it is expected that the corresponding author has obtained permission for them to be included in the Acknowledgments section of your article. This is in accordance with ICMJE recommendations as acknowledgments may imply endorsement of acknowledged individuals of a study's data and conclusions.  
  
11. Please note that the submitting author is required to provide an ORCID ID.  
  
12. Please show your study type in the title. Example: The trend of top five types of poisonings in hospitalized patients based on ICD-10 in the northeast of Iran during 2012–2018: A cross-sectional study.  
  
13. Please provide a data availability statement indicating whether data and materials are available, and, if so, how and where to access them. For examples and templates, please see out Author Guidelines(<https://onlinelibrary.wiley.com/page/journal/23988835/homepage/forauthors.html#DataAvailabilityStatement>). For data that cannot be shared, a short description of the restriction will need to be provided. If, alternatively, no data is associated with the article or all data underlying the results presented are available in the article, then this is what will need to be stated. For the latter, an example would be "The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials."