

**Review Form 1.7**

Journal Name:	<b>Asian Journal of Probability and Statistics</b>
Manuscript Number:	<b>Ms_AJPAS_117434</b>
Title of the Manuscript:	<b>MATHEMATICAL MODEL FOR MITIGATING THE COMMUNITY SPREAD OF COVID – 19 IN AFIKPO NORTH LGA OF EBONYI STATE, NIGERIA</b>
Type of the Article	

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**PART 1: Review Comments**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory REVISION comments</b></p> <p><b>1. Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</p> <p><b>2. Is the title of the article suitable?</b> (If not please suggest an alternative title)</p> <p><b>3. Is the abstract of the article comprehensive?</b></p> <p><b>4. Are subsections and structure of the manuscript appropriate?</b></p> <p><b>5. Do you think the manuscript is scientifically correct?</b></p> <p><b>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Yes, the manuscript appears to be important for the scientific community, particularly for researchers and practitioners in the fields of disease mitigation. It provides detailed experimental investigations and analyses on the community spread of Covid-19 in the states of Africa especially in the least developed state Ebonyi of Nigeria and how the state is still dealing with the after effects of Covid-19. Also, it provides the equilibrium range of national and global stability. The findings offer valuable insights into the stability analysis of Covid-19 for a disease-free community. Additionally, the extensive list of references indicates a comprehensive review of existing literature, further contributing to the scholarly discourse in this area.</p> <p>The title of the article," MATHEMATICAL MODEL FOR MITIGATING THE COMMUNITY SPREAD OF COVID – 19 IN AFIKPO NORTH LGA OF EBONYI STATE, NIGERIA" is suitable as it accurately reflects the content and focus of the study.</p> <p>The abstract of the article appears to be comprehensive, as it provides a concise summary of the study, objectives, methods, key findings, and conclusions.</p> <p>Yes, the subsections and structure of the manuscript are appropriate. The main comments regarding the appropriateness of different sections are as follows:  1. Title: The title seems appropriate as it clearly reflects the content of the study, which explores the stability analysis of Covid-19 through Mathematical Modeling.  2. Abstract: The abstract provides a concise summary of the study objectives, methods, major findings, and conclusions. It effectively communicates the key points of the research.  3. Introduction: The introduction section appropriately introduces the research topic and provides background information to contextualize the study. It effectively outlines the objectives and significance of the research.  4. Model formulation: The model formulation section seems to describe the parameters and assumptions used in the study, which is crucial for replicability and understanding the mathematical modeling for getting the equilibrium state of the stability for disease-free community. It is well defined.  5. Model analysis and parameter estimation: This section provides the complete analysis of the formulated model and the estimation of the parameters assumed to get the equilibrium point of stability.  6. Numerical simulation: Numerical Simulation section displays graphs to show the effect of testing rates and intervention measures of covid-19 dynamics within the community.  7. Conclusion: The conclusion section summarizes the key findings of the study and discusses their implications. It appropriately suggests recommendations for future research based on the study outcomes.</p> <p>Yes, the manuscript is scientifically correct as it shows the real-life problem of Covid-19 and its after effects and also provides the insight of getting the equilibrium point of stability for the state or a region to become disease-free.</p> <p>The manuscript includes a sufficient and recent references relevant to the topic of mitigating the spread of Covid-19. Also, the references indicate a consideration of both recent and foundational literature in the field. However, some more recent references can be included to enhance the quality of the manuscript.</p>	

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<b>Minor</b> REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	Yes, overall, the English quality of the article appears suitable for scholarly communications. However, there are some minor grammatical errors throughout the text that could be improved for clarity and readability.	
<b>Optional/General</b> comments		

### **PART 2:**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

### **Reviewer Details:**

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