



SDI Review Form 1.6

Journal Name:	Asian Journal of Research in Infectious Diseases
Manuscript Number:	Ms_AJRID_60433
Title of the Manuscript:	A Time Series Model on the Occurrence of COVID-19 Pandemic in Nigeria
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/journal/10/editorial-policy>)



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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)
Compulsory REVISION comments		
Minor REVISION comments	<p>The authors use a known technique and already traditional models for time series analysis.</p> <p>The authors differentiate the original series after using the logarithmic transformation. But the series has many zero values. So the authors need to clarify how they proceeded with the transformation to these values. Furthermore, the Log transformation did not stabilize the series variance, as can be seen in the figures in the paper, so the use of this transformation is not justified.</p> <p>The use of differentiation in this type of series eliminates a vital component of the series, which is the non-linear growth behavior of the series (logistic model type). Modeling this growth pattern is of great interest in analyzing this data (see SIR models).</p> <p>In the paper, the authors do not comment on how the series' heteroscedasticity was treated (they denote the variance with subscript i). Which model used?</p> <p>The ARIMA model can be valid for the series when it is in a growing phase. However, the model should fail after passing through the peak, and the data enter the decreasing phase.</p> <p>I suggest using non-linear regression models with ARMA errors. It is more appropriate for this type of data.</p>	<p>The original data has initial values of 1 for long period of time and the natural logarithm of 1 is zero when transformed. It is however not necessary in explaining this in text since everybody knows that $\ln(1)=0$. The log transformation has reduced the variance (see the figures in text).</p> <p>The data was actually differenced not differentiated. The order of integration was one, $I(1)$. ARIMA model was the best choice here.</p> <p>The data was homoscedastic (constant variance) after differencing. There was no heteroscedasticity in the data after differencing.</p> <p>The three data sets were all non-stationary in levels. That was the reason why ARMA models were not used. But ARIMA models with the integrated component were utilized.</p>
Optional/General 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>	