

Review Form 1.6

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_80976
Title of the Manuscript:	Mathematical analysis for an \SEIR" epidemic model
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:

(<https://www.journalarjom.com/index.php/ARJOM/editorial-policy>)

Review Form 1.6

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	<ol style="list-style-type: none">1) General Comments: Generally, an article is well written and have contribution in the field of Epidemiology and diseases in particular. Sections are well identified and worked through with complete ideas. All computations are well done unfortunately, the author(s) did not show the sources of data in the simulation part of the manuscript.2) Specific Comments:<ol style="list-style-type: none">i. Title should reflect the introduction. Try to restructure the title to reflect COVID-19 as mostly seen in your introduction part. Remember different diseases have different transmission dynamics. Also, remove "" signs from the title. Which disease obeys this mode of transmission?ii. Is the disease not cause death? why?iii. What parameter associate the disease induced death?iv. Are d_s, d_e, d_i, and d_r, differ? why? I think all represent the natural death rate of susceptible population. Check them all clearly.v. Is this theorem valid "Theorem2"? Is the endemic equilibrium point unstable for $R > 1$?vi. What is the origin of the model parameter values?vii. Are the parameters assumed or estimated?viii. What methods have been used to estimate your parameter values?ix. Observe critically, why do susceptible population increasing without any control?3) After identifying the disease, looking for data related to the disease, author(s) can draw again the graphs.4) The conclusion part is ok.	<ol style="list-style-type: none">1- The title was modified to "Mathematical analysis of a SEIR model with nonlinear incidence rate for COVID-19 dynamics"2- We don't include a death compartment into the proposed model. The death caused by the disease can be included into the death parameters d_s, d_e, d_i, and d_r.3-4- d_s, d_e, d_i, and d_r are the natural death rates and could be in particular equal but in general they are general due to health situation of an individual.5- There is a typo in theorem 2. The endemic equilibrium E^* is locally asymptotically stable if $R > 1$.6- All used parameters values are arbitrary and no origin for them.7- The parameters are assumed.8-9- The susceptible increases and converge to the stable value s^* if $R > 1$ and converge to ρ/d_s if $R < 1$. <p>We have no complete data to compare to the theoretical results.</p>
Minor REVISION comments	Accept the manuscript and consider it for publication after the suggested Major corrections.	Thank you for the opportunity to revise the manuscript. The careful review and constructive suggestions and comments were appreciated. The manuscript was revised accordingly.
Optional/General comments	Generally, an article suites the Asian Research Journal of Mathematics (ARJOM)	

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?	(If yes, Kindly please write down the ethical issues here in details)	