Review Form1.6

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| Journal Name: | Asian Research Journal of Mathematics |
| Manuscript Number: | Ms_ARJOM_88978 |
| Title of the Manuscript: | |
| Type of the Article | Original Research Article |

GeneralguidelineforPeerReview process:

This journal's peer review policy states that NO manuscript should be rejected only on the basis of 'lackofNovelty', 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.journaljamcs.com/index.php/JAMCS/editorial-policy )

PART 1: Review Comments

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| | Reviewer's comment\<br>Regarding COVID–19 pandemic situation in Uganda, we proposed an SEIR epidemic model that incorporated prevention and intervention measures. This research illustrates capabilities of the SEIR model in predicting and therefore informing the general public about the impact of COVID–19 using a mathematical approach. The results obtained will be used to predict, inform and monitor the progress, timing and magnitude of the COVID–19 pandemic in Uganda<br>The human–infecting corona virus disease (COVID–19) caused by the novel severe acute respiratory syndrome corona virus 2 (SARS–CoV–2) was declared a global pandemic on March 11th, 2020. Current human deaths due to the infection have raised the threat globally with only 1 African country free of Virus (Lesotho) as of May 6th, 2020. Different countries have adopted different interventions at different stages of the outbreak, with social distancing being the first option while lock down the preferred option for flattening the curve at the peak of the pandemic.<br>In this study, it is aimed at adherence to social distancing, preserve the health system and improve survival. It has been proposed a Susceptible–Exposed– Infected–Expected recoveries (SEIR) mathematical model to study the impact of a variety of prevention and control strategies Uganda has applied since the eruption<br>of the pandemic in the country. In 2022 /1/21 UNDER PEER REVIEW analyze the model using available data to find the infection–free, endemic/infection steady states and the basic reproduction number. In addition, a sensitivity analysis done shows that the transmission rate and the rate at which persons acquire the virus, have a positive influence on the basic reproduction number. On other hand the rate of evacuation by rescue ambulance greatly reduces the reproduction number.<br>This study is therefore set to model the COVID–19 pandemic that incorporates prevention and intervention measures with awareness to reduce the previous projected infected numbers in order to reduce the disease spread and consequently flatten the COVID–19 Pandemic Curve in Uganda. We adopt the vital dynamics of the SEIR that incorporates awareness through media coverage, prevention and control measures. The results have potential to inform the impact and effect of early strict interventions including lock down in resource limited settings and social distancing. Keywords: COVID–19, SEIR model, Awareness, Infection rate, control measures, | Author's comment (if agreed with reviewer, correct the manuscript and<br>highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
| Compulsory REVISION comments | 1. The main motivation and contribution should be highlighted at the end of the Introduction.<br>2. The numbering of equations preferred to be added according to the numbering of Sections.<br>3. All references should be cited in the text in sequence (instead years indicated in the text). For example, the first cited item should be ref. [1]; then comes ref. [2]…. Etc. | |
| Minor REVISION comments | | |
| 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)* |
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| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* | |

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**Reviewer Details:**

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|---|---|
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