Review Form1.6

Journal Name:	Journal ofAdvances inMathematics andComputer Science
Manuscript Number:	Ms_JAMCS_88388
Title of the Manuscript:	SIR Model for COVID-19 dynamics incorporating Clinical Management
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.
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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	COVID-19 is a respiratory disease whose first outbreak was reported in Wuhan City, Hubei Province, China, on 31st December, 2019. The disease is caused by a virus called Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) [WHO, (2020). World Health Organizaon]. COVID-19 mainly spreads via respiratory droplets produced when an infected person coughs, sneezes or exhales. The droplets are transferred from both symptomatic and asymptomatic people to others through close personal contact such as touching or shaking hands, touching an object or surface with the virus on it, and subsequently touching one's face (that is eyes,ears,nose or mouth) with contaminated hands. People can also get the infection through breathing in droplets coughed by someone who is infected [Acute Respiratory Syndrome Coronavirus 2. Shenzhen, China (2020)] In this paper, a mathematical model for COVID-19 disease incorporang clinical management based on a system of Ordinary Differential Equations is developed. The existence of the steady states of the model are determined and the effective reproduction number derived using the next generation matrix approach. Stability analysis of the model is carried out to determine the conditions that favour the spread of COVID-19 disease in a given populaon. Sensivity analysis of the model is carried out by use of the normalized forward sensitivity index (elasticity) which shows that the higher the rates of clinical management the lower the rate of infection. Numerical simulations carried out using MATLAB software showed that with high success of clinical management, there is low contact rate and low prevalence rate of the disease in the population.	
Minor REVISION comments	1. The main motivation and contribution should be highlighted at the end of the Introduction. 2. At the end of the Appendix, which theorems correspond to which conclusions need to be clearly stated.. 3. All references should be cited in the text in sequence (instead Years). For example, the irst cited item should be ref. [1]; then comes ref. [2]…. Etc. 4. The numbering of equations preferred to be added according to the numbering of Sections.	
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?	*(If yes, Kindly please write down the ethical issues here in details)*	

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