

Review of: "Qualitative Analysis of a Time-Delay Transmission Model for COVID-19 Based on Susceptible Populations With Basic Medical History"

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Potential competing interests: No potential competing interests to declare.

TITLE: The title of the article was very clear and represents the nature of its work.

INTRODUCTION: Introduction was clearly mentioned the basic needed facts of COVID-19. The review of Literature was very depth and deeply impressive.

FORMULATION OF MODEL: The time delay in SEIR COVID-19 model was well established and meaningful.

ANALYSIS OF THE STUDY: The finding of reproduction number and existence of equilibrium point was flawlessly done. The stability analysis, when

$$\tau = 0$$

observed for E_0 and E^* where satisfactory. And for

$$\tau > 0$$

was very much impressive and appreciable.

NUMERICAL SIMULATION: The numerical simulation of the model in the article where proven in agreement with the theory mentioned.

CORRECTIONS:

1. For more clarity, can change the finding of reproduction number as separate section.
2. Check the subscript and superscript of the parameters
3. Check the alignment like indent, space.
4. Check the font size especially for Headings
5. Check thoroughly for spelling mistakes

SUGGESTIONS:

- Try to add, more matlab simulations at least 2-3
- For further study, focus on different analysis such as bifurcation, sensitivity

RECOMMENDATION: The article may be accepted in the present form after the corrections mentioned above.

