

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

Taofeek O. Alade

Potential competing interests: No potential competing interests to declare.

## Review Report on “Qualitative Analysis of a Time-Delay Transmission Model for COVID-19 Based on Susceptible Populations with Basic Medical History”

Based on the SEIR COVID-19 epidemic model of susceptible people with basic medical histories, this paper introduces time delay, establishes a class of COVID-19 time-delay transmission model, obtains the basic reproduction number of its transmission, and determines the existence of the equilibrium point of the model. The global stability of the equilibrium point is proved by constructing the Lyapunov function and using the LaSalle invariance principle. The theoretical results are verified by numerical simulation, and the impact of different time delays on the spread of COVID-19 is discussed.

The manuscript has scholarly importance and it seems very interesting. However, here are few comments to improve the quality of the paper:

1. Grammatical errors and some typos exist that should be checked and corrected throughout the paper.
2. Try to improve your manuscript introduction, and add more recent citations.
3. The figures are not well explained; therefore, the authors should give more explanations on the interpretations of all the figures for the readers to understand.
4. The conclusion is very short and authors should include future research.