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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In the proposed manuscript, authors investigate the dynamic of heterogenous SEIR model under the effect time delay in transmission. In this work, disease free equilibrium and endemic equilibrium are calculate and their global stabilities discussed. They provided the set conditions for the stability of the equilibrium points in both cases with and without time delay based on the basic reproduction number which is well known in literature. In the numerical simulation, they present the effects of time delay in the dynamic of infected compartment and reveal that there are range of time delay which increase the number of infected and other which slow it. Obviously, these are the properties of the Hopf bifurcation. It is well proved in literature that it is a critical time delay of transmission which induce bifurcation at the critical point. The system is stable before this point and unstable after. Globally the main idea of this work has been previously developed by several authors who have pointed more improved results than what proposed in this manuscript. Some of these contribution can be find in the attachment. Based on all above, we regret to point that the project lacks novelties and should be rejected.