Review of: "An Optimal Control for Ebola Virus Disease with a Convex Incidence Rate: Imputing from the Outbreak in Uganda"

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Potential competing interests: No potential competing interests to declare.

In the manuscript, the authors analyse a transmission model for Ebola Virus Disease (EVD) using a convex incidence rate through a differential function that takes into account the transmission by infected, treated and dead people. They identify the endemic equilibrium, calculate the basic reproductive number R0; they perform an optimal control analysis in order to make a comparative analysis simulating separated and combined control strategies including lockdown, contact tracing and treatment of EVD, and estimating the cost function for a period. In my point of view, the manuscript fails in making clear how data are considered in their analysis to estimate R0 for the outbreak in Uganda; it would be important to fit data in order to be confident about the value of R0 as well as to show the relevance of considering a convex incidence rate for EVD. Where is the time series of infected cases of Uganda outbreak of EVD in 2022? The comparative analysis of control strategies is very interesting for healthy reccomendations and should be explored. It would be important to perform an analysis of the effective reproduction number R(t) (see, for instance, Jorge et al. R. Soc. Open Sci. **9,** 220005 (2022)). to estimate the reduction impact of the strategies on R(t). It is important to make a language revision of the manuscript as well as to detect misprint; for instance: to replace “persons” by “people”, to take out extra commas on page 4 (line 8, "… this study aims as …"; line 17, “Section 3 gives ….”, line 19, “Section 4 gives …”). There is no “*” in “S” in equation (2.2) on page 6. In section 2.1.2, there is no sense to say that there is no E, I, T, R, and D for any value of t; probably the authors would like to refer that their values are zero at the initial time t=0. Summarizing I think the manuscript should be revised and the authors have to better clarify how the mathematical results are related to actual data.