

Review Form 1.7

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_110679
Title of the Manuscript:	A Model of Tuberculosis and Diabetes Co-Infection with Optimal Control
Type of the Article	

Review Form 1.7

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)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Yes, it is.</p> <p>This research paper aims to improve the current model by including the co-occurrence of diabetes and tuberculosis to understand disease complications better. The study conducted stability analysis with R_C and found that if $R_C \leq 1$, the epidemic could be eliminated. At the same time, if $R_C \geq 1$, there is a risk of the epidemic spreading.</p> <p>Yes, it is. There is no further suggestion for the title.</p> <p>In the Abstract, the authors failed to mention the method applied for the numerical simulations.</p> <p>Yes, they are.</p> <p>Yes, it does</p> <p>There needs to be more than the recent reference from 2019 to date. I suggest that the following papers may be cited:</p> <ol style="list-style-type: none"> 1. Abiodun Ezekiel Owoyemi, Ibrahim Mohammed Sulaiman, Pushpendra Kumar, Venkatesan Govindaraj and Mustafa Mamat. (2023). Some novel mathematical analysis on the fractional-order 2019-nCoV dynamical model. Journal of Mathematics Methods in Applied Sciences. 2022. doi.org/10.1002/mma.8772. 2. Sulaiman, I. M., Owoyemi, A. E., Nawawi, M. A. A., Muhammad, S. S., Muhammad, U. R., Jameel, A. F., & Nawawi, M. K. M. (2023, March). Stability and Bifurcation Analysis of Rössler System in Fractional Order. In <i>Advances in Intelligent Manufacturing and Mechatronics: Selected Articles from the Innovative Manufacturing, Mechatronics & Materials Forum (iM3F 2022), Pahang, Malaysia</i> (pp. 239-250). Singapore: Springer Nature Singapore. 3. Owoyemi, Abiodun Ezekiel, Ibrahim Mohammed Sulaiman, Mustafa Mamat, and Sunday Ezekiel Olowo. "Stability and Bifurcation Analysis in a Fractional-order Epidemic Model with Sub-Optimal Immunity, Nonlinear Incidence and Saturated Recovery Rate." <i>IAENG International Journal of Applied Mathematics</i> 51, no. 3 (2021). 	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Yes, it does, but it needs to check for some typing errors. Like the first line in the abstract, "This paper expands existing..." may rather be "the existing".</p> <p>Tuberculosis is an ailment that affects both human and animal populations. It is caused by the mycobacterium tuberculosis complex (MTBC), which includes seven TB-causing mycobacteria [45]. It is an airborne disease and is transmitted through fluid particles called droplet nuclei of 1-5 microns in diameter generated from the respiratory system of TB-infected individuals when they cough, sneeze, speak,</p>	
<p>Optional/General comments</p>	<p>Describe the problem statement and methodology of the study in the abstract. The proof for all methods used needs to be explained in the procedure.</p>	

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PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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