

Review Form 3

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_124294
Title of the Manuscript:	Mathematical Model for Antimicrobial Resistance Transmission Dynamics in Hospitals.
Type of the Article	

Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript presents a significant contribution to the scientific community, particularly in the field of antimicrobial resistance (AMR) and hospital infection control. The mathematical model developed for understanding AMR transmission dynamics in hospitals is crucial for identifying key factors driving the spread of resistance, such as antibiotic usage and healthcare worker contamination. I appreciate how the model offers insights into both resistance-free and endemic equilibrium points, providing practical implications for improving hospital hygiene and patient isolation. The manuscript's detailed analysis of transmission routes and its mathematical rigor make it a valuable tool for guiding policy interventions to control AMR.	
Is the title of the article suitable? (If not please suggest an alternative title)	Title of the article is suitable	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	Please add Sensitivity in the abstract and improve the sentence quality.	
Are subsections and structure of the manuscript appropriate?	Subsections and structure of the manuscript are appropriate.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript appears scientifically robust and technically sound due to its comprehensive and precise mathematical modeling of antimicrobial resistance (AMR) transmission in hospitals. The use of a well-defined compartmental model and ordinary differential equations (ODEs) ensures a solid mathematical foundation, allowing for accurate simulation and prediction of AMR dynamics. The assumptions made in the model are reasonable, grounded in established biological and epidemiological principles, and the model is validated through appropriate equilibrium and stability analysis, such as proving local asymptotic stability for resistance-free and endemic equilibrium points. Furthermore, the inclusion of numerical simulations strengthens the scientific rigor, demonstrating practical applications of the theoretical framework	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	I believe some recent references are necessary. You can add recent references like <ul style="list-style-type: none"> • Md Rifat Hasan, A. Hobiny, and A. Alshehri, "Dynamic Vector-host Dengue Epidemic Model with vector control and sensitivity analysis," <i>Advances in Dynamical Systems and Applications</i>, vol. 18, no. 1 (2023): 1-21. • Hasan, Md Rifat, Aatef Hobiny, and Ahmed Alshehri. "Sensitivity Analysis of Vector-host Dynamic Dengue Epidemic Model." <i>Communications in Mathematics and Applications</i> 14.2 (2023): 1001. 	

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	Yes	
Optional/General comments		

PART 2:

	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)
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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