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Journal Name:	**Asian Research Journal of Mathematics**
Manuscript Number:	**Ms_ARJOM_43944**
Title of the Manuscript:	**A SPATIOTEMPORAL MODEL ON THE TRANSMISSION DYNAMICS OF ZIKA VIRUS DISEASE**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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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)*
Compulsory REVISION comments		
Minor REVISION comments	In this study, a spatiotemporal model on the transmission dynamics of ZikV disease is presented and analysed. First, the model well-posedness is proved. The basic reproduction number, R0, is computed using the next generation matrix approach. The stability results showed that the model solutions would always converge to the DFE whenever R0 < 1 which epidemiologically implies that if a few infectious individuals are introduced into a fully susceptible population, the disease would die out if there are no secondary infections produced whenever R0 < 1, otherwise the disease would spread. Further, the stability analysis revealed that the model solutions would converge to the EE, for small perturbation whenever R0 > 1. This epidemiologically implies that if a few infectious individuals are introduced in a fully susceptible population and there are new secondary infections produced whenever R0 > 1 , then the disease would persist in the population. The model is shown to exhibit travelling wave solutions. These waves propagate at a speed v that joins the two equilibria points. Sensitivity analysis is carried out on the parameters of, R0, to ascertain which parameters are most influential for the virus to invade a population. The results here suggest that the vector biting rate, c, is the most influential parameter of R0. Therefore, control measures should target reducing the biting rate of the vector. From numerical simulations, the e ect of the transmission probabilities and the vector biting rate, control strategies such as the use of insecticide, treated mosquito bed and window nets, clearing of bushes near the homesteads are deduced to be more significant in reducing the spread of ZikV disease. Furthermore, from the simulations of the di usion model, control strategies such as treatment of symptoms and quarantine of infected humans are also deduced. These proposed control strategies have also been identified by studies such as [1, 7]. The results obtained in the paper are publishable, subject to some necessary changes. The techniques used to solve the problem are standard with some novelty, and the results obtained are correct. However, there are some points need to be further clarified before its final acceptance for publication: - The example section needs to be further expanded and including some remarks to show the effectiveness and efficiency of the proposed method, compared with others. - Some remarks on Theorem 1 would be necessary and helpful.	
Optional/General comments		

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