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Mathematical models on *Ebola* virus

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*E*bola virus disease was first found in 1976 and thereafter it had emerged in different countries in different times, especially in 2014 in Liberia of West Africa and is now highly epidemic and is a great threat to human population. In this paper, we try to understand the spreading behavior of Ebola virus disease (EVD) in the human population. We have used the very close real parametric values as per the data released by 'WHO'. To minimize the spread of EVD, critical analysis is performed both in the presence and absence of control measures. From the sensitivity analysis performed on the real data, we are able to say that the susceptible populations have a strong relation with the threshold number. Effect of quarantine is critically analyzed on the infectious population and it is observed that quarantining the infectious population may play a vital role in controlling the spread of EVD. Results are established both analytically and numerically. We hope that the results will definitely give a managerial insight for control of the spread of EVD.

Biography

Bimal Kumar Mishra is a full Professor in the Department of Mathematics at Birla Institute of Technology, India. Presently he is working in the area of non-linear dynamics, very specifically on Mathematical Models on infectious disease and has published more than 125 research journals of high repute. He has produced several PhDs' and he is a Member of the Editorial Board of several international journals.

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