**Mathematical Modeling of the Dynamics of Infectious Diseases with Relapse**

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In this paper, we have formulated a mathematical model based on a series of ordinary dierential equations to study the transmission dynamics of infectious diseases that exhibit relapse. The basic reproduction number of the model was computed using the next generation matrix method. The existence of the equilibrium points of the model was investigated and stability analysis carried out. The disease free equilibrium point was found to be locally asymptotically stable when $R0 < 1$ and unstable when $R0 > 1$ and globally asymptotically stable when $R0 < 1$ and unstable when $R0 > 1$. The endemic equilibrium point was found to be locally and globally asymptotically stable when $R0 > 1$. The center manifold theory was used to investigate the type of bifurcation at $R0 = 1$.

**Full text**: https://www.ikprress.org/index.php/AJOMCOR/article/view/4996