

Abstract

Within this research, we create and explore a new mathematical model for the monkeypox virus to get grip on dynamics and spread of monkeypox disease. We have shown that the solution of our model is positive and bounded. Local and global stability at both disease free equilibrium point (DFE) and endemic equilibrium point (EE) are calculated for the understanding of dynamics of disease. The model's reproduction number R_0 at DFE is enumerated using the next generation procedure. Involved parameters of R_0 are also scaled using sensitivity index approach. To regulate the disease we used a couple of different control approaches by minimizing cost functional. In the end, numerical results are given with the assistance of graphical illustrations. representations.