

Impact of Tourists on HIV (Human Immunodeficiency Virus) Incidence

Authors : Ofosuhene O. Apenteng, Noor Azina Ismail

Abstract : Recently tourism is a major foreign exchange earner in the World. In this paper, we propose the mathematical model to study the impact of tourists on the spread of HIV incidences using compartmental differential equation models. Simulation studies of reproduction number are used to demonstrate new insights on the spread of HIV disease. The periodogram analysis of a time series was used to determine the speed at which the disease is spread. The results indicate that with the persistent flow of tourism into a country, the disease status has increased the epidemic rate. The result suggests that the government must put more control on illegal prostitution, unprotected sexual activity as well as to emphasis on prevention policies that include the safe sexual activity through the campaign by the tourism board.

Keywords : HIV/AIDS, mathematical transmission modeling, tourists, stability, simulation

Conference Title : ICMCSSE 2015 : International Conference on Mathematical, Computational and Statistical Sciences and Engineering

Conference Location : Kyoto, Japan

Conference Dates : November 12-13, 2015