

ABSTRAK

Pada penelitian ini dikonstruksi model penyebaran virus Omicron, yaitu model SS_vIR (Susceptible without vaccine, Susceptible with vaccine, Infected, Recovery). Model SS_vIR ditujukan untuk menganalisa pengaruh laju vaksinasi dan laju penularan virus Omicron. Analisis model SS_vIR di sekitar titik ekuilibrium menggunakan nilai eigen dari matriks Jacobian dan menentukan bilangan reproduksi dasar. Dari hasil simulasi yang diperoleh bahwa virus Omicron menyebar pada populasi dan titik ekuilibrium endemik stabil asimtotik. Hasil penelitian ini dapat menjadi pedoman bagi pemerintah Indonesia dalam upaya pemberantasan Omicron.

Kata kunci: *Bilangan reproduksi dasar, Model SS_vIR , Omicron, simulasi model, vaksinasi*

ABSTRACT

In this study, a model for the spread of the Omicron virus was constructed, namely the SS_vIR model (Susceptible without vaccine, Susceptible with vaccine, Infected, Recovery). The SS_vIR model is intended to analyze the effect of vaccination rate and transmission rate of Omicron virus. Analysis of the SS_vIR model around the equilibrium point uses the eigenvalues of the Jacobian matrix and determines the basic reproduction number. From the simulation results obtained that the Omicron virus spreads in the population and the endemic equilibrium point is asymptotically stable. The results of this study can serve as a guide for the Indonesian government in its efforts to eradicate Omicron.

Keywords: *basic reproduction number, SS_vIR model, Omicron, simulation model, vaccination*