Abstract

Coronavirus or COVID-19 is a plague that has been sweeping across the world in recent months. The World Health Organization (WHO) has declared this outbreak as a pandemic on March 11, 2020. This virus has infected around 14,633,020 people and spread in 183 countries. In the city of Bandung itself, the spread of the covid-19 virus continues to increase. Because vaccines and medical treatments have not been found sufficiently, the only way to reduce the number of infected cases and deaths from covid-19 is to create a system that is able to observe the growth of the covid-19 epidemic. In this study, the authors conducted a mathematical and numerical analysis to produce predictions from the 19th plague in the city of Bandung. This study used a Susceptible-Infected-Recovered (SIR) model that was time dependent by adjusting data collected from the Bandung City COVID-19 Information Center to track the movement of covid-19 cases and provide predictions for the future. In this study, the prediction results obtained are that the plague will continue to increase constantly as well as the case of recovery which continues to increase constantly. In the prediction the outbreak will end after 251 days thereafter with case confirmation on the final day of 589 people. The reproduction rate of R_0 is still around 1.0 and has not decreased, which means there is no turning point for the outbreak. So that the plague is still possible to infect even more numbers

Keywords: Covid-19, Susceptible-Infected-Recovered (SIR), R_0