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The Prediction of Number of Deaths by COVID-19 in Gujarat, India

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ABSTRACT

We have used analytical model to describe the fast increase of deaths occurred due to the corona virus (COVID-19) infection in Gujarat, the western state of India which is among top 3 states with most number of total deaths as well as highest mortality rate due to COVID-19. The model used here comes from a simplified version of the SIR (susceptible-infected-recovered) model known as SI model. It assumes that, there is no recovery assuming that all recovered are again susceptible to infection. In that case the dynamical equations can be solved analytically and the result is extended to describe the function that depends on three parameters that we can fit to the data. This allows us to make predictions for the development of the disease and number of deaths under different conditions of lockdown in Gujarat.

Key word: COVID-19, SIR model, Gujarat