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MODELING AND FORECASTING NOVEL CORONA CASES IN INDIA USING TRUNCATED INFORMATION: A MATHEMATICAL APPROACH

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ABSTRACT

Background: *Novel corona virus is declared as pandemic and India is struggling to control this from a massive attack of death and destruction, similar to the other countries like China, Europe, and the United States of America. The first case of novel corona is reported in India on January 30, 2020.*

Methods: *The growth in the initial phase is following exponential. In this study an attempt has been made to model the spread of novel corona infection. For this purpose logistic growth model with minor modification is used and the model is applied on truncated information on novel corona confirmed cases in India.*

Results: *The result is very exiting that till date predicted number of confirmed corona positive cases is very close to observed on. This provides the carrying capacity is about 20 lakh cases and time of point of inflexion is July 15th, 2020 with a maximum number of new cases on a day is about 15000. Also the various lockdowns plays important role to reduce the progression of corona positive cases significantly.*

Conclusions: *India is in the comfortable zone with a lower growth rate than other countries studied. Our mathematical model shows that, the epidemic is likely to stabilize with 20 lakh cases by the end of January, 2021. If several protective measures such as social distancing, lockdown will be taken effectively, then country will be successful to reduce the rate of this pandemic.*

KEYWORDS: *Novel Corona Virus, Growth Rate, Logistic Curve, Lockdown*

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