

## Measures to determine the outreach of COVID-19 coronavirus

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When the World Health Organisation (WHO) declared COVID-19 as a pandemic on 11th March 2020, many countries took immediate action in terms of prevention, detection, reduction of transmission and treatment. In relation to this, the data is being gathered and maintained at <http://www.covid19india.org/> which is validated, updated periodically and published. The average number of secondary infections caused by a primary case is defined as the reproductive number of a virus. Basic reproduction number ( $R_0$ ) is used to estimate the propagation during the initial days of an epidemic when the entire population is fully susceptible, i.e. when the population exhibits zero immunity against the infectious agent. Once some proportion of the population gets infected, the effective reproductive number ( $R$ ) is used to characterise transmissibility. Since the coronavirus is a novel virus for which no individual has been exposed before, the entire population of the world does not possess immunity against it. As long as  $R > 1$ , the pandemic will continue expanding. To mitigate the pandemic,  $R$  has to be brought down below 1. According to the statistics related to COVID-19 in India, there was a significant fall in the  $R$ -value from a towering value in March, 2020, to a smaller value in May, 2020. A stabilised value of  $R$  was established in April, 2020. Extensive measures including lockdown, frequent tracing and testing and containment and treatment of the infected zones have contributed to a huge reduction in the  $R$ -value over the months. The measures taken so far to outreach the COVID-19 pandemic are proving to be effective in reducing the transmission parameters.

*Keywords: Coronavirus, Transmission, Measures, Reproductive Number, COVID-19*

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Citation:

Srishti Chakraborty. Measures to determine the outreach of COVID-19 coronavirus. The Torch. 2021. 2(1). Available from:

<https://www.styvalley.com/pub/magazines/torch/read/measures-to-determine-the-outreach-of-covid-19-coronavirus>.