EPIDEMIOLOGY OF COVID-19 IN KERALA, INDIA, 2020

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Background: Kerala, a southern state of India, reported its first COVID-19 case in India on January 30, 2020 at Thrissur district. Since then, cases had been widely reported across all the state. In order to understand the epidemiology and characterization of various public health intervention, we analyzed the various COVID-19 data collected till December 2020. **Methods**: We conducted a cross sectional study to describe the epidemiology of COVID -19 in Kerala between January to December 2020. A case-patient was defined as a person with laboratory confirmation of COVID - 19 irrespective of clinical signs and symptoms. We analyzed the distribution of time, place, and person of confirmed COVID-19 cases. We estimated other COVID-19 indicators such as test positivity, case fatality ratio, doubling time, cases per million and distribution of possible source of infection. **Results:** During Jan 30, 2020 to December 31, 2020 760,933 cases were reported. The overall incidence of COVID-19 for Kerala during this period was 21,783 per million. Cases peaked between September and October 2020 and the test positivity peaked during October month 2020. More cases were reported among males (57%) and in the age group 21-40 years (39%). There were 3072 deaths reported during this period with cumulative CFR of 0.4%. Most deaths were reported among males (67%) and in the age group >80 years (4.2%). The estimated doubling time on 31 December 2020 was 105 days. Of the reported cases, 656,616 (86.3%) were reported among traced contacts. Pathanamthitta district had the highest incidence (28,982 per million). **Conclusion**: Public health interventions such wider testing, contact tracing, surveillance and coordinated clinical care may have influenced the lesser CFR. Contacts were the commonest source of infection. We recommended targeted testing, contact tracing and intensified surveillance as sustained measures for the pandemic. We also recommend intensifying surveillance among elderly and persons with comorbidities. **Keywords**: COVID-19, Epidemiology, Indicators, India