
Technical paper
COVID 19
ICMR – Serological Surveillance Report
Round 4



Department of Health & Family Welfare
Government of Kerala

Results of ICMR Seroprevalence studies reflects Kerala’s success in containment of COVID-19

ICMR is doing population based sero epidemiological studies to measure the extent of spread of infection in an area and recommend containment measures accordingly.

- Strategy for population based surveillance adopted is repeated cross-sectional investigation in the same geographic area to establish trends in an evolving pandemic.
- Four rounds of such studies have been completed – one in May, second in August and third in December 2020.
- The survey was conducted in 70 districts. 4th round enrolled 28,975 individuals all over the country including children more than 6 years.
- Samples were collected from three districts of Kerala (Ernakulam, Palakkad and Thrissur).
- ICMR has communicated the summary results of fourth round of sero-survey.
- The current paper discusses the results of the sero-surveillance and its implications for Kerala

Table 1: Comparison of Sero prevalence of IgG antibodies

	May 2020	August 2020	December 2020	May 2021
Kerala	0.33%	0.88%	11.6%	42.7%*
India	0.73%	6.6%	21%	67.6%*

*anti S1-RBD antibodies

Kerala's sero prevalence was much less than that of the national average. This shows the effectiveness of robust containment measures in Kerala including quarantine, contact tracing, rapid detection of cases through improved access to tests and isolation of COVID positive cases, picking up clusters' formation at the beginning through surveillance and containment measures within clusters and the 'break the chain' measures that were adopted in the state.

This also implies that 50% of citizens in Kerala still remain susceptible to COVID-19. As number of susceptible individuals are higher, ironically which is due to good containment measures adopted by the state, cases will continue to occur in Kerala. In other places where already a good proportion of citizens have got the disease, the susceptible population to new infections are less. This answers why cases are still occurring in Kerala.

With a huge population remains susceptible in the state, as evidenced by the sero-survey, the state may be considered as a priority state for a rapid implementation of COVID-19 vaccine.

All credits for lower prevalence of COVID in the state goes to the responsible citizens of the state who followed all COVID protocols rigorously and co-operated with all containment measures. It also implies that, till a significant proportion of citizens are vaccinated, all citizens shall strictly follow physical distancing by reducing the number of primary contacts, use masks, practice hand hygiene and all shops/establishments/markets shall follow 'COVID compliance'. We need to continue to follow covid appropriate behaviour even after vaccination.

Discussion

In case of COVID pandemic Sero surveillance report, we received state specific reports. It will be very valuable study report if ICMR publishes all rounds reports of all the States and Union Territories and National Report for posterity to understand the pandemic dynamics.

Kerala is doing sero surveillance in August – September 2021 in all 14 districts with the following objectives

Primary

- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among ≥ 18 year old population of Kerala.
- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among the Antenatal women attending Antenatal care clinics in Kerala.
- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among the children aged 5 to 17 yrs in Kerala.
- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among the tribal population aged ≥ 18 yrs in rural parts of districts in Kerala.
- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among people ≥ 18 yrs in coastal areas of Kerala.
- To estimate the seroprevalence of SARS CoV-2 IgG antibodies among people ≥ 18 yrs in slums areas in corporations of Kerala.

Secondary

- To study the determinants of seropositivity among the various study populations
- To study the seropositivity among the categories of vaccination status in the study populations
- To estimate the case to infection ratio and infection fatality ratio in the general population.

We solicit the suggestions from all.