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15-30% people living in containment zones could be infected, cured: Survey

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THE first population-based serosurvey in India, conducted to assess the extent of exposure to SARS-CoV-2, the pathogen behind Covid-19, found that as many as one-third of the population in various containment zones in hotspot cities may have already been infected and quietly recovered.

The survey conducted by the Indian Council of Medical Research (ICMR), whose preliminary findings have been shared with the Union Cabinet Secretary and the Prime Minister's Office, found that in several containment areas in high-load districts, 15-30% of the population has been exposed to the infection, government sources told this newspaper.

Serosurvey involves collection of blood samples of people to test for the presence of antibodies specific to a pathogen. In this case, it was meant to test for IgG antibodies against SARS-CoV-2 that normally appear 14 days after the infection and continues to be present in the blood serum for months.

The ICMR, with help from the National Centre for Disease Control, World Health Organization's India office and state governments, had collected nearly 24,000 samples from 70 districts in the country from randomly picked individuals.

These included the 10 hotspot cities — Mumbai, Ahmedabad, Pune, Delhi, Kolkata, Indore, Thane, Jaipur, Chennai and Surat — that contribute nearly 70% to India's total case load. Five hundred samples each from 10 randomly chosen containment areas in every city were taken.

In addition, 400 samples each from other 60 districts across 21 states — categorised on the basis of low, medium and high case loads — were also collected.

"Barring the two hotspot cities of Surat and Kolkata and six other districts, we now have results from all other sites. It shows that infection size in many containment areas in the worst-hit districts is 100-fold to 200-fold higher than the cases reported at those sites," an official privy to the survey report said. Data for eight districts is still being analysed and will be added to the final report.

Another official said the 100-200 times higher infection size were mainly found in Mumbai, Pune, Delhi, Ahmedabad and Indore, among others, which have been the hardest hit by the coronavirus. CONTINUED ON: P9

Key questions

What is serosurvey?

It means testing blood samples in a population for a specific purpose. In this case, the samples were tested for presence of antibodies against SARS-CoV-2, the virus that causes Covid-19. The presence of antibodies would confirm the person was exposed to the virus and has since recovered

How was this serosurvey conducted?

Nearly 24,000 samples from 70 districts across 21 states - including 10 hotspot cities - were collected and tested. Data analysed for 62 districts or cities so far

What are the findings?

Very high exposure level in some cities and very low exposure in rural areas. In some areas, 15-30% of the population is exposed to infection. In some spots, infection size is 100-200 times higher than the cases reported there so far

What are the implications?

It gives policymakers and epidemiologists data that can be used for disease control and mitigation. In some badly-hit areas, the population is closer to herd immunity than elsewhere. Herd immunity for Covid-19 is expected when 60-70% of the population is exposed to it

INFECTION

'Widespread in cities, minimal in rural areas'

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"WHAT we have understood so far is that the infection is much more widespread than what is reflected in the reported cases in many cities and containment efforts may not have fully paid off," he said. "In tier II and tier III cities on the other hand, the spread of the virus is minimal."

In the survey, antibody tests have been carried out using a testing kit, "Covid Kavach Elisa" developed by the National Institute of Virology under the ICMR, which the agency claims has very high specificity and sensitivity.

In other words, the kit detects presence of even low levels of antibodies against novel coronavirus with high degree of accuracy.

The ICMR serosurvey gives health policy makers and epidemiologists data that can be used in disease control and mitigation measures.