

Summary:

Scientists and epidemiologists from Savitribai Phule Pune University (SPPU); Indian Institute of Science Education and Research (IISER) Pune; Translational Health Science and Technology Institute (THSTI) and Christian Medical College (CMC), Vellore have conducted a carefully designed study to estimate the prevalence of COVID-19 in the Pune Municipal Corporation (PMC) limits with PMC's support and prior approval. Generous funding support was provided by the Persistent Foundation.

Considering the number of confirmed cases in the administrative zones of the PMC (known as *prabhags*) as on 1st June 2020, the study randomly selected 5 high-incidence *prabhags* to estimate the seroprevalence of antibodies against SARS-CoV-2. Blood samples from 1664 consenting individuals, chosen as per the study design, were collected (from 20th July to 5th August) and processed to detect the presence of IgG antibodies against the receptor-binding domain (RBD) of the viral spike protein using the highly specific (100%) and sensitive (84.7%) THSTI-RBD-ELISA assay.

The study indicates that there has been an extensive spread of infection in the five *prabhags* studied: seroprevalence ranging from 36.1% to 65.4% and it is substantive across all types of dwellings. Seropositivity of 43.9% was observed among people residing in bungalows, while it was 56-62% among those who live in tenement or hutment dwellings. People who live in apartments have somewhat lower prevalence (33%). The prevalence is 45.3% among the people who have access to independent toilets as against 62.2% among those who share toilets. There was no difference between men (52.8%) and women (50.1%), while people of older age (above 66) have a lower prevalence (39.8%).