

# Long term changes in pulmonary function test in recovered moderate to severe covid patients

**Bhagwan Mantri**

National Institute of Tuberculosis and Respiratory Disease, New Delhi

## Abstract

Coronavirus disease 2019 (COVID-19) is a recently emerged infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)<sup>1</sup>. As of 9th May 2022 517,301,451 accumulative confirmed cases and 6,276,522 confirmed deaths were reported globally. Among patients with COVID-19, about 14% cases were severe and 5% cases were critical. Severe patients had a higher incidence of diffusion capacity of the lung for carbon monoxide (DLCO) impairment and encountered more total lung capacity (TLC) decrease and these lung function gradually improved over time. Thus, we collected and analyzed the clinical data Post discharge to investigate the long-term impact of severe COVID-19 on pulmonary function. Method: This is prospective cohort study conducted at Moolchand hospital New Delhi from december 2020 to november 2021. Patients 15 years and above who have survived an episode of moderate or severe COVID-19, have reverse transcriptase-polymerase chain reaction (RT-PCR) positive for COVID 19 (nasopharyngeal or oropharyngeal) included. Pulmonary function assessed using spirometry and diffusion lung capacity for carbon monoxide (DLCO) at 1 month 3 month and 6-months interval from the time of discharge from the hospital. Study aims to determine long term impact of covid 19 on lung function capacity. Results: 96 patients were included in study, 64 were admitted in HDU and 32 in ICU. Lung function measures showed significant improvement between 30 days and 6 months, both in WARD and ICU groups in VC, FVC, FEV1, total lung capacity, 6MW distance measures. The improvement in the proportions of the altered functional parameters was significant in the ICU group. Conclusion: Six months follow-up of patients with the severe forms of COVID-19 showed significant improvement in the lung function measures compared to 30 days post hospital discharge. The difference was more evident in those requiring ICU admission.

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## Biography

Bhagwan Mantri has completed his Post Graduation in Respiratory medicine in 2014. He has been trained at the prestigious National Institute of Tuberculosis and Respiratory Disease, New Delhi. Currently he is working as Consultant Pulmonologist and Critical care specialist in Moolchand Hospital, New Delhi. He has been Covid Incharge of tertiary

Center throughout pandemic. He has published more than 10 papers in reputed journals and also written many chapters in national and international books. He also has been serving as faculty and guide of Diplomats of the National board in India.