



## Commentary Article

## Curbing COVID-19: the quest continues in time

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## Abstract

The menace of Coronavirus Disease-19 (COVID-19) has made life more and more challenging throughout the world. Amidst these difficult times, doctors have proved their exceptional worth. They have performed their duties with notable dedication, diligence, resilience, and compassion. Here we share our experiences from the State of Rajasthan in Northern India. We were benefitted by very early lockdown by the government, preventive strategies of containment, and the most effective contact tracing program. The creation of hundreds of surveillance teams and rapid response teams (RRT) was instrumental for the containment program. This was coupled with outstanding medical care exemplified by Sawai Man Singh Medical College Hospital (SMSMCH) at Jaipur, the capital city of Rajasthan. The mortality rate-limiting to 1.98% in Rajasthan has been an outcome of the amalgamation of brisk administrative action, government support, and visionary action and the best of health care facilities. Our COVID-19 management program strategy was based on the advanced treatment guidelines from the Indian Council of Medical Research, New Delhi, India, and the Ministry of Health and Family Welfare, Government of India.

**Keywords:** Containment strategies, COVID-19, Treatment guidelines, India.

## Background

The specter of Coronavirus Disease-19 (COVID-19) defying and flouting all time and geographic locale precepts have bemused humanity across the globe. An onerous challenge that specialists in Medical Science took spearheading the mission with evident dedication, diligence, resilience, and compassion to break into the esoteric code of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). It would be worthwhile to add that the State of Rajasthan in Northern India was very ably supported by timely and meticulous Government preventive containment strategies of early lockdown with timely effective contract tracing program inclusive of the genesis of adequate surveillance rapid response teams (RRT) along with exemplary medical care, an essential feature of policy-making the edifice of which was drafted by Sawai Man Singh Medical College Hospitals (SMSMCH) at Jaipur, a premier Tertiary Care Medical Institute of Asia.

To achieve the best results in treatment outcome, it is prudent to address the disease process in its infancy with the premise to nip through a proactive investigative armamentarium with

customized management protocol to be initiated in the prescient early stage of the disease. An aggressive protocol was designed for mild to the moderately severe disease process of COVID-19, wherein the reported axes of the disease were assessed namely, coagulopathy through D-dimers and fibrinogen degradation products (FDPs) levels in serum, cytokine storm, and inflammatory overdrive through varied markers of Neutrophilic/Lymphocytic ratio (N/L ratio), C-Reactive Protein (CRP), Interleukin-6 (IL-6), Tumor Necrosis Factor (TNF) and Interleukin-1 (IL-1) assay, the cardiac evaluation was done through color Doppler, and the lungs were assessed through HRCCT, Pulmonary CT Angiography and Point of Care Ultrasonography (POCUS) in those patients who could not be mobilized to High-resolution chest computed tomography (HRCCT) [1]. A need-based utility management approach was strategized in the initial stages of the disease that included SARS-CoV-2 portal of entry blocker namely hydroxychloroquine (HCQ), anti-viral drugs of lopinavir, ritonavir and remdesivir, steroids in acute respiratory distress syndrome (ARDS), low-molecular-weight heparin in Pulmonary thromboembolic phenomenon and tocilizumab in the documented picture of cytokine storm along with administration of convalescent plasma when endogenous antibody response to the virus is still in nascence in the wide-spectral COVID-19.

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Such a proactive, aggressive clinical approach was instrumental in keeping the case and case fatality rates low along with decreased chances of mortality in patients with existing comorbid conditions.

The stratagem so conscripted acted as a fountainhead for the State with the creation of dedicated COVID-19 Center of 300 bedded ICU and thousand bedded IPD along with separate COVID-19 OPD and observation ward for suspected patients. For critically ill patients, Infectious Diseases Hospital (IDH) was fully equipped with highbred ICU facilities. During the pandemic's peak, average 500 plus patients were admitted to the Institute from asymptomatic category to severe category. The extraordinary cure rate of 73.27% and mortality rate-limiting to 1.98% in Rajasthan was an outcome of the amalgamation of brisk administrative action, outstanding government support, and advanced visionary action with state-of-art medical facilities [2]. The COVID-19 management program was developed on extensive logistic deliberations based on evolving treatment guidelines from Indian Council of Medical Research, New Delhi, India and Ministry of Health and Family Welfare, Government of India [3] inclusive of early proactive work up with aggressive treatment at Sawai Man Singh Medical College Hospitals (SMSMCH), Jaipur. The COVID-19 management protocol was designed according to the severity scale, managing aggressively mild to moderate disease, and addressing cytokine storm in COVID-19 patients that gave appreciable outcomes. SMSMCH is one of the pioneers in COVID-19 plasma therapy and is part of the WHO solidarity trial, [4, 5] with an emphasis on bringing down the mortality rate and increasing recovery rate as part of various measures to contain COVID-19.

## Conclusion

The measures inclusive of Government, Societal and Medical, so outlined, were able to curtail the COVID-19 pandemic to some extent in our State. There are ongoing efforts to address knowledge gaps and accelerate the development of new therapeutics.

## Abbreviation

ARDS: Acute Respiratory Distress Syndrome; COVID-19: Coronavirus Disease-19; CRP: C-Reactive Protein; FDPs: Fibrinogen Degradation Products; HCQ: Hydroxychloroquine; HRCCT: High-Resolution Chest Computed Tomography; ICMR: Indian Council of Medical Research, New Delhi, India; IDH: Infectious Diseases Hospital; IL-1: Interleukin-1; IL-6: Interleukin-6; N/L ratio: Neutrophilic/Lymphocytic Ratio; POCUS: Point of Care Ultrasonography; RRT: Rapid Response Teams; SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2; SMSMCH: Sawai Man Singh Medical College Hospitals, Jaipur, India; TNF: Tumor Necrosis Factor

## Declarations

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## Availability of data and materials

Data will be available by emailing drshivankan@gmail.com

## Authors' contributions

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## Ethics approval and consent to participate

We conducted the research following the Declaration of Helsinki. However, Viewpoint Articles need no ethics committee approval.

## Consent for publication

Not applicable

## Competing interest

The author declares that he has no competing interests.

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