Covid Pandemic and MGIMS

In April 2020, the state health authorities invoked the Epidemic Diseases Act, 1987 and Disaster Management Act, 2005. Kasturba Hospital Sevagram was identified as one of the two dedicated COVID Hospitals for the district. The hospital put up a well-designed response to the COVID-19 pandemic: it leveraged pre-existing infrastructure to adopt collective combat to the outbreak; repurposed and upgraded its existing 300- bedded inpatient block exclusively for the care of Covid inpatients and equipped its 30-bed intensive care unit (ICU). The hospital used its resources— healthcare professionals, labs, equipment and support services— to care for patients with Covid19.

A team of dedicated doctors, nurses, and paramedics offered round the clock care to the patients admitted in the Covid block.

Beginning 10 May 2021, and till 31 April 2021, the hospital admitted 3822 Covid patients. These patients represent an entire spectrum of Covid- mildly symptomatic patients admitted to the general wards, and moderately severe and severely ill patients admitted to the ICUs.

The nodal officers, on a two-month-rota helped the hospital to manage the dedicated COVID hospital facility and connect with the government: Drs Sumedh Jajoo, Samir Yelwatkar, Benhur Premendran, Amrish Saxena, DG Dambhare, Sachin Pawar, Nikhil Yadav, Vinod Shende, Pradeep Bokaria, and Prutha Jawlekar.

Fast adoption to the changing health needs

Hospital admissions fell dramatically with the onset of the coronavirus disease 2019 (COVID-19) pandemic, because of lockdowns. Many people feared accessing healthcare facilities due to fear of acquiring the virus. Some hospital services were compromised in order to meet the demands of caring for COVID-19 patients.Early in the pandemic, the hospital determined which essential services will continue and which need to be paused due to the burden of COVID-19 patients. Resources and staff were diverted to test and provide treatment for people with presumed or diagnosed COVID-19. All along the hospital ensured that non-Covid illnesses are not given short shrift— it kept on offering care to all patients with cancers, heart diseases, strokes, those requiring dialysis, fractures, surgical problems and accidents and ran services 24/7 for all non-Covid illnesses. The hospital focused on efforts to ensure that patients with acute medical illnesses can obtain hospital care as needed during the pandemic to avoid adverse outcomes.

It altered and repurposed outpatient and ward spaces and designed facilities for COVID-19 care while others were designated for essential non-COVID-19 services.

The hospital also handled unanticipated challenges such as problems with hazardous waste removal, transporting infected patients to departments for services such as scanning, and dealing with a deluge of journalists and media. The hospital ensured that the patient transfers, staff redeployments, and space reassignments were brought about by frequent communications.

The hospital gave personal protective equipment (PPE), and N95 masks to HCWs with a guidance plan on reuse; it also designed a plan for rationing of HCWs engaged in COVID-19 care (stand-by staff, staff rotation). It also followed MOHFW released guidelines on dead body management and educated relatives and crematoria staff involved in final rites.

The hospital also ensured that all patients admitted to the Covid wards have access to oxygen, should they need it, by laying down piped lines that fetch oxygen from the oxygen bank. As of now, the hospital has 400 oxygen beds dedicated for Covid work including 50 bed fully equipped ICUs.

The hospital was generously supported by the district administration. The administration helped the hospital equip itself with ventilators, multipara monitors, PPEs, masks, the laboratory with RTPCR machines and automated RNA extraction and the health professionals.

Screening and Monitoring

- A screening OPD in the hospital was started in which 21765 patients were screened for symptoms of Covid-19. The OPD also facilitated sample collection of outpatients in the hospital.
- The department of community medicine played a key role in setting a system for contact tracing & monitoring during home isolation of KHS staff testing positive with help of Kasturba Nursing College and Kasturba Nursing School, a system of monitoring during home isolation for all KHS staff-testing positive was developed.
- SOPs for quarantine and mask policy were developed for health care providers of the Institute. The department of Community Medicine coordinated biomedical waste management, sanitation.
- The department of Community Medicine continued to operate Kiran Clinics in 25 villages during the lockdown.

Testing and Laboratory Support

The Microbiology Department started the lab doing an RTPCR test for Covid 19 from 27 April 2020. The lab tested 48761 samples, 6200of whom tested positive.In May 2020, the hospital upgraded the existing facilities. Sample collection kiosk was set up in the hospital.

The Biochemistry and the haematology labs offered 24/7 tests for the inflammatory markers (CRP, ferritin, LDH, D Dimer and Troponin T) in addition to the usual chemistries and blood counts.

The Radiology department ensured that patients suspected to have Covid pneumonia or those with Covid related chest complications in the ICUs and wards were offered x-rays and CT scans in a timely manner.

Scientific and Rationale Treatment at Dedicated COVID Hospital

At a time public and media were complaining of the high costs charged by private hospitals for covid-19 treatment, the hospital not only treated all inpatients free but more importantly showed that a large teaching not-for-profit hospital can offer efficient and high-quality treatment at par with that offered by the top tertiary hospitals. MGIMS showed that hospitals should have a moral compass and must refrain from exploiting human desperation and how they could play a major role in combating the COVID-19 pandemic in a resource-constrained setting.

Given the rapidly evolving treatment protocols and evidence base since March 2020, the hospital developed guidelines for COVID-19 management. The hospital devised a set of protocols that emphasized evidence-based clinical management of COVID-19 and supported the staff to consistently follow them.

As early as May 2020, when authorities detected the first COVID-19 case in Wardha district, the hospital circulated a set of formal guidance that emphasized:

- *Non-usage of therapeutics*whose effectiveness and efficacy had not yet been scientifically and clinically proven for COVID-19 prevention and treatment.

- *Rational administration of therapeutics*with proven clinical effectiveness for severe and hypoxic cases of COVID-19

Updated guidance issued in October 2020 and February 2021 incorporated the latest evidence on management of COVID-19. The protocols were developed with a commitment to keeping patient costs down as well as to evidence-based decision making. Informal internal meetings, webinars, seminars, and inpatient ward rounds reinforced the messaging**.** The hospital administration also engaged in discourse with the global scientific community to review global evidence and re-evaluate national and state-level guidelines.

The hospital showed that when evidence-based medicine drives clinical-management practices, patients receive the safest and most effective treatments available, and healthcare providers can be confident in the care they are providing. In quickly evolving health emergencies such as the COVID-19 pandemic, evidence-based approaches must be frequently revisited and revised to account for emerging research findings.

COVID and Antenatal Care

The hospital also delivered a little over 150 babies, born to mothers infected with, and admitted to, the Covid ward. The hospital is also conducting surveillance of COVID in Pregnancy, a research funded by the WHO India Country Office.

Vaccination

MGIMS launched a COVID vaccination programme on 16th January 2021- in the first phase, all healthcare workers and medical students of the hospital got themselves vaccinated. The department of community medicine collected and uploaded information of all eligible candidates on Co-Win software. Beneficiaries were informed for scheduled date and time prior through Co-Win system generated SMS. From 16 January to 31 March, 7565 individuals (median 100 per day) received the Covishield vaccine.

In Phase 2, from 1 March 2021, the vaccination covered citizens aged 60 years of age and older and those 45-60 years old with medically important co- morbid diseases.

A vaccination centre was also started at Urban Health Centre, Wardha.

The department of community medicine is a part of the ongoing multicentric COVID Vaccine trial and randomized 177 volunteers for the trial. Also, the department shall enrol participants forthe phase 2/3 trial for COVOVAX trial, which shall start in May 2021.

Seroprevalence at District Level

The seroprevalence studies at Wardha district were supported by district administration and it showed that the seroprevalence of Covid in Wardha district was 1.5% in August 2020 and 29.5% in December 2020.

Community Preparedness

The department of community medicine also developed a community preparedness checklist after extensive consultations with the local stakeholders (PRIs, ASHA, AWW, villagers, community leaders, and health officials) for rural as well as urban areas. The community preparedness checklist for rural areas was acknowledged at the highest level and the Hon. Chief Secretary, Ministry of Panchayati Raj, Government of India advocated the use of the checklist throughout India on 15 May 2020. In February 2021, the district collector decided to implement this checklist in all villages as well as wards in urban areas.

The department developed IEC materials such as posters, videos, slogans etc. and disseminated it on WhatsApp groups to village-level frontline workers and volunteers. It constituted a vigilance committee taking members from each department/ section of the institute to spread messages for adequate protection during the pandemic. The team strengthened the system of contact tracing in the institute.

The department of community medicine worked with other departments to conduct COVID related training for health care providers across the district. It trained four batches (40-50 health care providers, each) from the district health system. It also conducted sensitization training of Zilla Parishad and PRI representatives across the district for Community preparedness in 3 batches for approximately 600 Zilla Parishad (Dy CEOs, Chairman, Nagar Sewak) and PRI representatives from the district for community preparedness. Also, the department joined hands with Anandwan Warora and Maharashtra Village Social Transformation Foundation to conduct online training for approximately 800 NGOs representatives across Maharashtra for community preparedness.

The department assessed the RMNCH services in the district during COVID pandemic and lockdown, a study supported by WHO SEARO office. It is collaborating with the department of Obstetrics and Gynaecology to plan a SCOPE - Surveillance of COVID in Pregnancy, a WHO India Country Office funded study.

It developed a COVID-19 deterministic modified SEIRM model, to predict the second wave of the pandemic in Vidarbha. The study findings were presented to the Divisional Commissioner, Nagpur Division on 15 Jan 2021 and to the District Collector, Wardha on 15 Feb 2021.