MEDICAL COLLEGE HOSPITAL COVID ICU- AMBIKAPUR REPORT

15th May – 16th August, 2021

SANGWARI-People's association for Equity and Health, literally a 'partner', is a group of health professionals bringing in equity and better health for people in *Surguja* in Chhattisgarh in central India. SANGWARI is a not-for-profit organization registered under section 8 of the Companies act2013 in 2020 with a desire to workin rural and under-served parts of the country. *Surguja* division which occupies the northern part of Chhattisgarh is the region where we started our work

DFY is a pan India organization with international presence and working in various disaster hit zones for twelve years. DFY has previously worked in Assam, Mumbai, Bihar, Uttarakhand, Orissa, Kerala, Andhra Pradesh, Punjab, Kashmir, Uttar Pradesh, and now Haryana. DFY has played a major role in delivering healthcare services to the vulnerable communities and providing capacity building trainings, emergency medical aid to the people affected by natural disaster, conflicts, epidemics and pandemics.

Our work focused on 3 key objectives-

1. **ICU Care**-To Deal with this second wave of COVID, Sangwari along with Doctors for You team took up the work of providing intensive care in Medical college Ambikapur and augment the district and state capacity to respond to the crisis.

2. **Training of doctors**- Our work in the ICU made us aware of the situation at hand in the health care system where the doctors are inadequately prepared for the emergency at hand. We took it upon ourselves as part of preparation of future such waves of COVID-19 disease to support the health systems and trained the medical officers of the district in managing patients with severe COVID disease.

3. **Post COVID Clinics**- Patients discharged from the ICU and those with COVID-19 and admitted in other wards and hospitals continue to have lingering physical and psychological symptoms. As the cases in ICU began to decrease we started providing consultations to such patients at multiple places to offer clinical care and support and highlight the need of the health system to provide long term care support for those who recover from a bout of COVID-19 disease.

Content

Introduction

COVID-19 has emerged as global pandemic affecting almost the entire world. This has tested public health preparedness even in developed countries who are still struggling to deal with the situation. In India, there have been about more than 20 million cases of **COVID**-19 reported in the second wave. This second wave of **COVID**-19 has created fear, anxiety, intense suffering as we saw extreme shortage of resources such as oxygen, beds, Ventilators, essential medicines used to cure COVID and made us realize how bad this can turn out to be for the poorest, for those who will lose their livelihood or those who wouldn't know what to do to save themselves when the virus has reached someone close to them. We saw that this wave not only put additional strain on the already challenged healthcare system but also prioritized the need for a better and effective healthcare set up and required more dedicated team of doctors, nurses, para-medical staff and other front-line workers.

Chhattisgarh has been among the top 10 states worst-hit states affected by the second wave of Covid-19 and had reported over 4.56 lakh total COVID-19 cases by April 2021. Total deaths recorded were more than 5,000 by the same time period. By August 2021, the total number of cases went up to 10 Lakh and 13,000 deaths have occurred in the state. As the pandemic evolved, the requirement for COVID-19 care units increased, so was the request for beds with Oxygen and Intensive care units. To ensure timely medical aid to all COVID patients amid daily record tally of new cases, it's important to establish more quality care in the state and contribute to the health infrastructure.

Map showing Chattisgarh (labelled red in the inset map of India) **and Surguja** (labelled red in the expanded map of Chattisgarh) **in India**

MEDICAL COLLEGE HOSPITAL COVID ICU- AMBIKAPUR

Ambikapur is the division and district headquarters of Surguja. Surguja division comprises of 5 districts- Surguja, Surajpur, Balrampur, Jashpur and Korea. It is also the largest referral centre for these 5 districts apart from nearby border districts of Madhya Pradesh, Uttar Pradesh and Jharkhand. The medical college of Ambikapur operates from the district hospital premises. It is the largest tertiary care centre for COVID care for the predominant rural and tribal population of the area. The second wave of COVID-19 pandemic severely stretched the Medical college team as the cases and deaths increased. The District Collector and Medical Superintendent of Medical College Ambikapur conveyed their intentions to have all hands on the deck & Sangwari, were asked to contribute as Clinical Experts in the COVID ward and Intensive Care Unit (ICU) in the medical college. We voluntarily conducted the rounds as medical consultants in the COVID facility of Medical College here in Ambikapur, where we noted that the sickest patients were most compromised in terms of evidence based care and hence require greatest attention and effort.

A proposal of running 30 bedded ICU in the Medical College Ambikapur was accepted in collaboration with Sangwari and Doctors For You. While serving in the Medical College ICU during the peak of second wave, we noted that the sickest patients reaching the ICU or the Medical College are reaching out to the facility quite late in terms of their disease progression and have either received lesser or no care at all at crucial time of their illness. We also noted that in some cases, mild and asymptomatic patients were admitted at the tertiary COVID facility, thus affecting the intake of severe or critical cases over there. The reasons for such a phenomenon could be inadequate triaging, poor capacity building of the medical staff, poor health system support, skewed socio-economic status of community or inequity. The burden of cases on system and brunt of mortality and morbidity on the patient and family was extremely high.

Doctors and nurses receiving a patient in COVID ICU

The Centre was divided into three parts which was running 24/7:

1. Screening and triage zone for accessing patients to determine severity and further admission process (requirement of ICU, HDU or an oxygen bed)

2. 20 bed ICU beds for patients with severe disease requiring ventilator support, high flow oxygen support or critical organ support like dialysis

3. 120 Oxygen beds for those who need hospitalization for oxygen support.

Patient files being arranged by the nursing staff in the ICU.

- All patients who were admitted in the 20 bed COVID-ICU were treated with varying amount of respiratory support in the form of Non-rebreathable Masks (NRBM), non-invasive (BIPAP) or invasive ventilation depending on their clinical condition. Treatment protocol was standardized as per updated guidelines. Vitals were monitored every 2 hours for all patients.

- Patients requiring critical organ support like dialysis for kidney dysfunction or ionotropic support for hypotension and those needing specific surgical interventions like chest tube insertion were managed only in this ICU which was referral Centre for 5 districts of northern Chhattisgarh. They were monitored on an hourly basis.

A patient with critical COVID-19 on BIPAP support is being cared for by the doctor on duty.

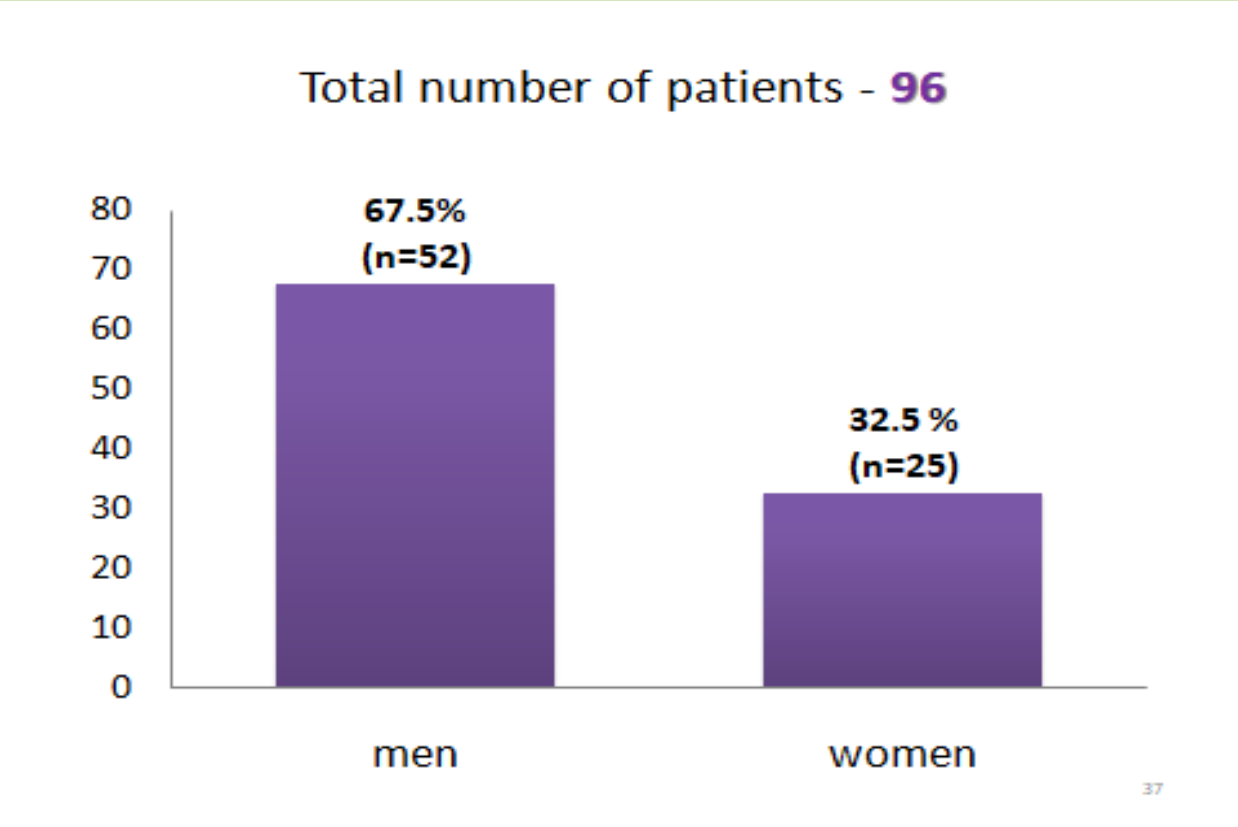
- Morning and evening rounds were conducted by a team of senior clinician/critical care expert, doctor on duty and the nursing staff. The dedicated ICU team was working round the clock.

A photo from the daily rounds by specialist doctor, medical officers and nurses.

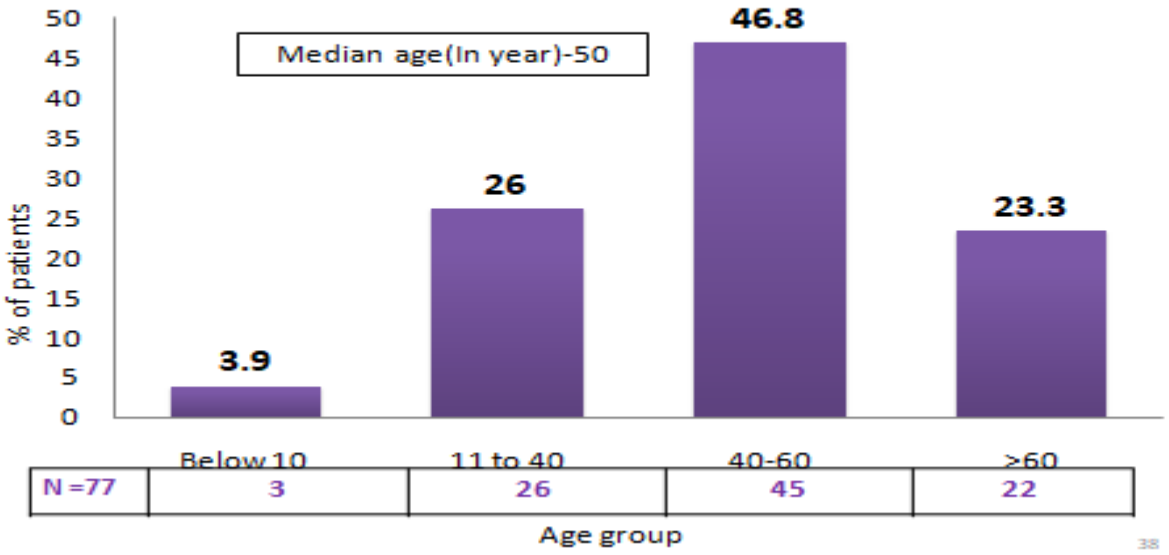
- A team of 12 doctors including 4 specialists, 17 nursing officers (trained in dealing with critical patients) were deployed in the ICU. They worked dedicatedly on shifts basis to cover the wards and the entire Centre, non-stop from May 15^{th,} 2021.

Patients Coverage (From May 15th – August 15th, 2021)

- Total number of patients admitted- 96
- No of patients who died in ICU – 38
- No of patient discharged / Referred out – 58
- Average duration of ICU stay – 10.6 days
- Co-morbidities – 54 patients had at least 1 co-morbidity.
- 30 has more than 1 co-morbidities
- No of ICU procedures – 50



Age group wise distribution of patients (%)



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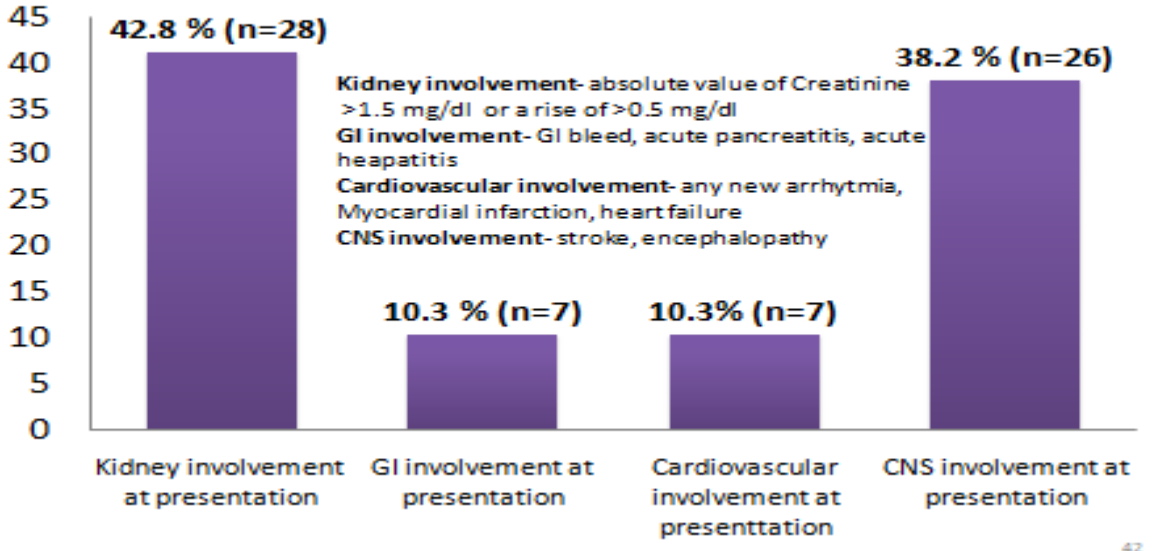
Organ involvement (apart from lung involvement)



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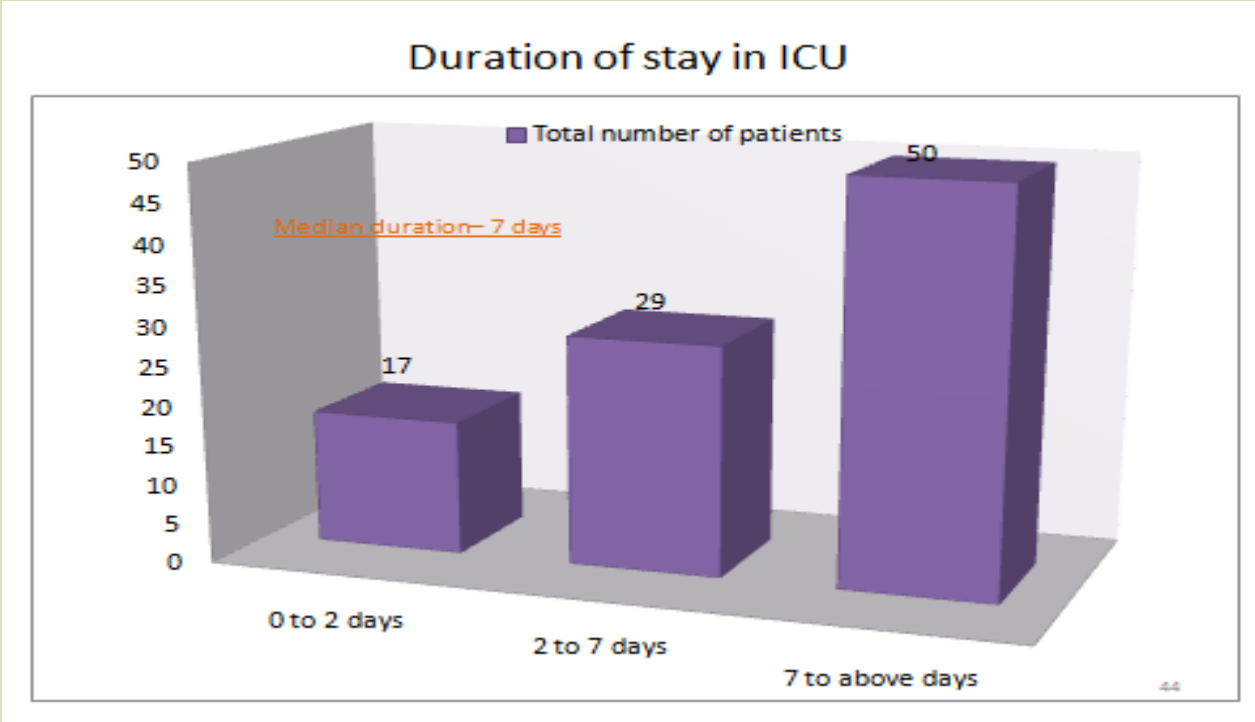
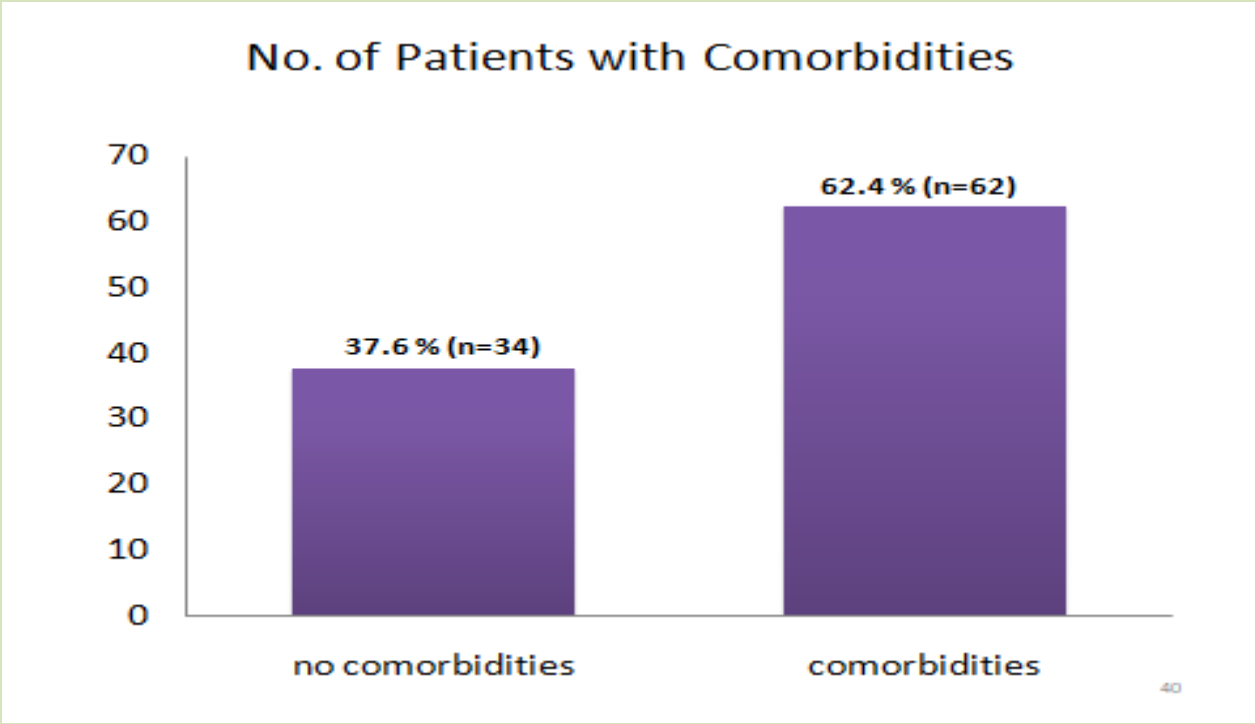
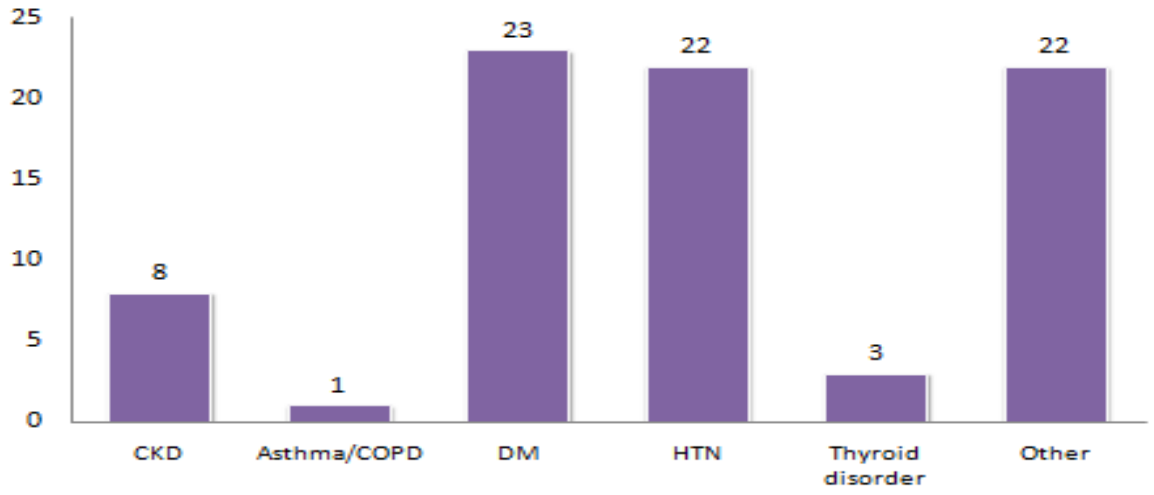

Duration of stay in ICU
Total number of patients
Median duration– 7 days
50
45
40
35
30
25
20
15
10
5
0
17
29
50
0 to 2 days
2 to 7 days
7 to above days
44


No. of Patients with Comorbidities
70
60
50
40
30
20
10
0
37.6 % (n=34)
62.4 % (n=62)
no comorbidities
comorbidities
40

Co-morbidities- 25 patients had more than 1 co-morbidity



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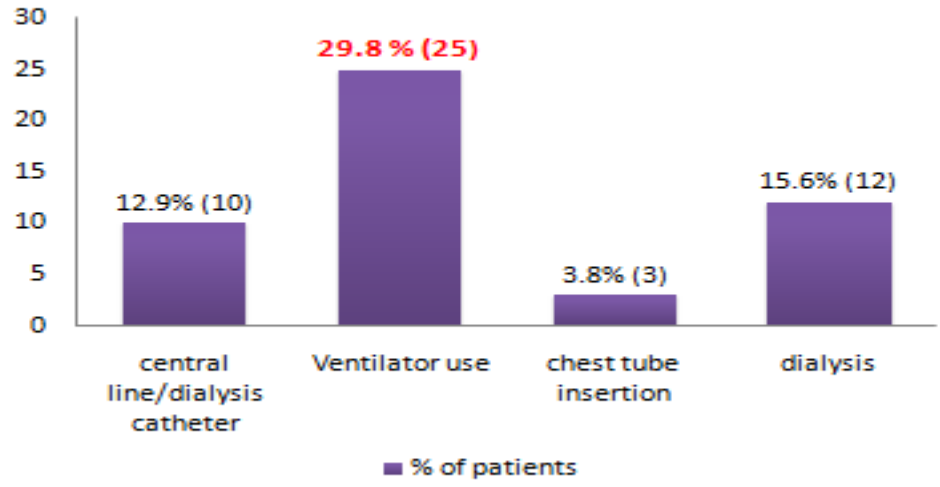
PATIENTS NEEDING ICU PROCEDURES



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Clinical Management

• **For Clinical Management, admission criterion set were according to Government Guidelines:**

1. Either patient with Positive RT-PCR report or HRCT suggestive of COVID 19.
2. Any patient showing any clinical symptom and signs of severe COVID-19 was admitted to the hospital.

• **For Clinical Management in COVID19 Care Centre,**

1. Patient were given symptomatic treatment using antipyretics, antibiotics, anti- histaminic, steroids, warm saline gargles and other drugs as and when needed.

2. Oxygen therapy via cylinders/ oxygen concentrators is given as and when needed to the patient. Target saturation to be achieved is 92-96 %.

3. Oxygen support via BiPAP given in cases whose O2 status deteriorated after admission.

4. Patient was put on Ventilator if he was unable to maintain saturation in HDU.
5. ABG analyzer to do blood gas studies and manage the patient accordingly.

6. Serial X-Rays to asses progression of disease.

7. Centralized monitoring of ICU patients.

8. Routine blood investigations and inflammatory makers managed through private lab as well as done by civil hospital.

9. Continuous/ regular monitoring depending on clinical severity.

- Pulse monitoring
- Blood Pressure monitoring
- SpO2 monitoring
- Temperature monitoring

10. Blood Dextrose charting (for diabetics on OHA)

11. Bedside ECG as and when required

12. Bedside rounds morning-evening by Doctors and Nurses

Training of Medical Officers

Community Health centres (CHC-a 30 bedded hospital located in each block of a hospital form the bedrock of inpatient clinical care in all districts. Gaps in COVID care were visible due to lack of training support for the doctors working in these hospitals. With resources of clinical expertise, patient care protocols, and patients at ICU, in an attempt to help streamline the system, we decided to work on the weakest and most doable link of the chain of poor functioning that is Capacity building of the Medical staff at CHCs. In collaboration with Chief Medical and Health Officer (CMHO) and National Health Mission (NHM) office of Surguja, Medical Officers (MOs) from 8 CHCs and a COVID Care Center (CCC) were recommended to take up this 7 day-long residential training at Medical College ICU, which we were caring for already. A second cohort of 17 doctors was trained for 3 days as a mix of classroom and practical sessions.

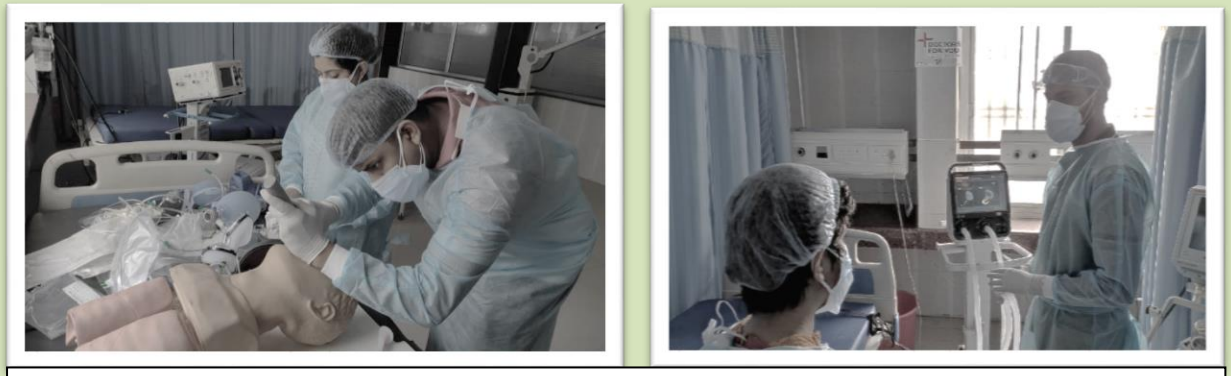
3 Project Information and Activities:

The main focus of training the MOs at CHC was to build the Clinical capacity and knowledge of these MOs not only in managing COVID patients but also understanding the approach in managing any sick patients, early identification of the complications with good clinical practice developments. This residential training was considered as an opportunity to build clinical practices of stabilizing the patients before referral, streamlining the referrals, triaging the patients, and timely monitoring the patients to pick up red herring signs.

A total of 25 MBBS medical officers were trained working in 10different health facilities and have been the first point of contact for most of our patients. We provided a total of 20 hours of classroom training sessions, 40 hours of bedside teaching and case discussions over 10 days with a focus on managing acutely sick COVID-19 patients with the resources available.

A cohort of 8 medical officers were chosen by the CMHO office to get hands on training for managing critically ill patients who need ventilator and ICU support as part of preparation of the future waves of COVID-19. This training continued for 7 days.

A second cohort of 17 participants received a 3 days training on COVID-19 Management in Acutely ill patients as part of our commitment for capacity building and system strengthening of the public health system.



Photos showing hands on training for intubation and operating a ventilator was provided by a specialist doctor to MBBS medical officers as part of health system strengthening work.

POST COVID ClINICS

COVID-19 results in debilitating physical and psychological symptoms for a large number of patients infected with the virus irrespective of severity of COVID-19 disease. Patients suffer from prolonged periods of excessive fatigue, breathing difficulty, extreme weakness, anxiety, sleep difficulties and post-traumatic stress among other symptoms long after they recover from COVID-19.

The follow up of such patients and the disability it causes has been poorly documented and understood. This is even more in underserved areas like Surguja. We conducted Post COVID OPDs for each of the block level Community Hospital center (Government run 30 bedded hospitals) in each of the 6 blocks of the district. This service was also available for patients visiting an urban Primary health center in Ambikapur 3 days of week since 1st week of July.

A photograph showing post COVID clinic done in community health centre Batoli at a distance of 50 km from Ambikapur.

Patients were given symptomatic medical therapy where indicated and counseling for their mental health complaints. Chest physiotherapy exercises were taught to the patients attending our clinic to improve their lung functions. All our patients who were discharged from our ICU visited these clinics for regular follow up.

Post COVID Clinic in Mainpat block of Surguja.

A total of 85 patients were treated in these clinics who had recovered from COVID-19 disease of varying severity. Out of them, 47 of them were men and 38 were women. COVID Fatigue and cough were the commonest symptom seen in the patients attending these clinics.

Musings of a sensitive health worker

She wakes up in anticipation, excitement of spending another day in a job she loves. She is exhilarated by how it tears her open, wounds her and heals her at the same time.

But she dreads this new environment in which it is practiced, the many barriers, seen and unseen, from her foggy glasses to the iron grills of the Covid ward. She hates its darbs, the monocolor layers that she has to put on, while internally struggling to shed the layers and be human raw.

She goes around, makes notes on charts, sometimes turns up, and at other times turns down the oxygen, helps someone sit up, bring a smile, a laugh, or strike a conversation. She calculates drug dosages, orders investigations, dons the attitude of a physician, smiling inside.

She looks at the soon to be widowed woman in front of her, no older than she is, but a mother of two. Her muffled sobs make her heart soggy, the mask hiding the distortion of pain on her face. A thousand war cries sound at once in her heart, against the world that is man's, but silence is all she can put out. She speaks at times, never satisfied with what words come out. "Thoughts are but birds in the cage of words, they can flap their wings but cannot fly", she feels Gibran's words in her throat.

Once the verdict is sounded, poor prognosis it is called, she finds it difficult to meet her patient's eye. as delirious cries fill the air, she wishes to run away and hide her face in a pillow. she walks around still, but a little faster when she nears that patient. she keeps her eye on the monitor, on the cold metallic machinery, as if sticking close to them will protect her from the roaring waves of despair and helplessness next to her.

Her patient has wrinkling soft skin, loose and baggy, with swollen feet and a childlike expression on his face. She swallowed back memories of her grandfather as she tended to him. She spoke to him, even though he hadn't woken up in days, wishing that somehow these words bring comfort to her dead grandfather who himself had laid alone and delirious in an intensive CARE unit months ago. The patient died, she hears one day, she's relieved it wasn't her duty then.

She sees many moments of joy between this darkness. She reminds herself, more people have gone home than those that left forever. She's seen much elation, the utter happiness of coming back to life from the edge of the abyss. She treasures them, their stories and rejoices with them as she would a family member. She thinks of them in pride at times, at the wonder that is modern medicine, and at humankind's strides against its detached mother that is nature. She feels one with her team that is empathetic to the core, and exemplary in its constitution. She feels inspired by its leaders who brought the team together and stood behind all the unconventional ideas every time. At the end she feels grateful that in this ocean of misery that is attempting to engulf the world, she did what she could.

At nightfall, as she puts her head to the pillow, she can still hear the monitors beep in the distance, a sound that seldom leaves her these days.

-Dr. Savithri

Thank You