



DHULIKHEL HOSPITAL KATHMANDU UNIVERSITY HOSPITAL COVID-19 RESPONSE

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SITUATION SUMMARY

The first COVID-19 positive case, a returnee from Wuhan was diagnosed in Nepal on January 13, 2020. The Government of Nepal subsequently announced a nationwide lockdown on 24th of March for the next three months. Currently, lockdown is still in effect in different parts of the country. So far, 55,329 people have tested positive for COVID -19 out of which 39,576 have recovered and 360 have died.

Dhulikhel Hospital organized a press conference on February 11, 2020 about the preparations that were being made in response to the COVID-19 pandemic. Triage was set up at the hospital gate from the 17th of March. The fever clinic and acute respiratory illness (ARI) zone were also set up at the gate. Necessary training were provided to all staff. The real-time reverse transcription polymerase chain reaction (RT-PCR) testing for COVID-19 was started from February 23, 2020 as well as the production of various necessary items such as face shield, Personal Protective Equipment (PPE), gown, hand sanitizer, soap and disinfectants. After the government recognized Dhulikhel Hospital as a level 3 COVID Care Hospital, a COVID care center was established within the hospital with a 50 bed isolation facility, 10 bed Pre-COVID ward, 8 bed COVID Intensive Care Unit (ICU), 8 bed COVID post-operative ward, 4 bed COVID Post Intensive Care Unit (PICU) and a 3 bed COVID Neo-natal Intensive Care Unit (NICU) on July 25, 2020.

*Statistics till September 15, 2020

1,09,369
Total Cases
in Triage

18,734
PCR Samples
Tested

579
Cases in
Fever Clinic

1,246
Positive Samples
for COVID-19

118
Cases in
Pre-COVID Ward

99
Cases in
COVID Ward

10
Cases in
Pre-COVID ICU

10
Cases in
COVID ICU

285
Staff in
Quarantine

40
Staff in
Isolation



Sample collection for RT-PCR test of the baby of Nepal's first COVID related mortality.

DHULIKHEL HOSPITAL, KATHMANDU UNIVERSITY HOSPITAL RESPONSE TO COVID-19

Triage at the gate

(from March 17, 2020)

Triage tents were set up at the gate and outside the Emergency Department and all individuals entering the hospital were screened for fever and provided with hand sanitizer. Only patients and relevant people were allowed in the hospital. The contact addresses of all individuals who returned from abroad were noted and were further advised to adhere to strict home quarantine rules. More than 1,00,000 individuals have been triaged at the gate so far.



Triage set up at the gate.



Suspected case in the process of entering the Isolation unit.

Isolation Center

(from March 29, 2020)

The existing Ear, Nose and Throat (ENT) ward was initially turned into a 10 bed isolation center with x-ray and laboratory facility. A quarantine facility for staffs was also created and this whole area was sealed off. A total of 99 patients have been admitted for isolation and 118 cases have been admitted for quarantine in Pre-COVID ward till now.

Fever Clinic and ARI Zone

(from April 29, 2020)

Fever Clinic and ARI Zone was set up at the entrance of the hospital in order to prevent COVID suspected cases to interact with others in the hospital. A total of 579 cases have been treated in Fever Clinic and 22 cases have been treated in ARI Zone till now.



Patients in the Fever clinic.



RICU set up in DH.

Respiratory ICU

(from April 15, 2020)

Respiratory Intensive Care Unit (RICU) was set up in the hospital with ventilator support for COVID-19 positive cases. It is a 5 bedded ICU with adequate staffing. A total of 7 cases have been admitted in RICU and 2 among them are currently under treatment.

COVID Care Center

(from August 6th, 2020)

After receiving the directive from the Government of Nepal, the Birthing Center, Dhulikhel Hospital (a separate building situated on the lower area of the Hospital) was converted to a COVID Care Center with 50 bedded isolation facility, 10 Pre-COVID wards, 8 COVID ICUs, 8 COVID post-operative wards, 4 COVID PICUs and 3 COVID NICUs. Currently there are 18 cases receiving treatment in the COVID Care Center.



Covid Care Center, Dhulikhel Hospital.



Receiving the first suspected case in Isolation Ward



COVID dead body management, wrapping the body in plastic bag.

RISK COMMUNICATION AND COMMUNITY ENGAGEMENT

Dhulikhel staff started discussing the potential risk of COVID and required preventive measures from January of 2020. On February 11, 2020, a basic triage was set-up at the reception. Key messages for awareness and prevention methods to public and case detection and management methods to staff were and are continually being developed, revised and disseminated. Screening campaigns targeting the general and vulnerable populations have also been launched in co-ordination with local government and non-government bodies.



Stakeholder meeting led by Administrative Director of the hospital to report and plan further

RAPID RESPONSE, CASE INVESTIGATION AND CONTACT TRACING



Risk assessment of staff in contact with the COVID cases.

A Rapid Response Team (RRT) was formed to work exclusively on case based COVID-19 surveillance at the hospital and local communities. This team conducts case-based reporting to the local government within 24 hours of case detection, conducts periodic risk assessment to inform strategic and operational aspects of the response interventions and creates and disseminates epidemiological reports. Effective evidence based surveillance and follow-up of asymptomatic travelers and contacts of positive cases are being done. More than 148 staffs involved in treatment of COVID positive cases have been quarantined.



Maintenance staff producing a faceshield.



Regular intensive care of the ICU patient.

LABORATORY INVESTIGATIONS

Dhulikhel Hospital started conducting COVID RT-PCR tests from March 23, 2020. Since then we have been routinely conducting RT-PCR tests for swabs collected in the hospital and local communities as well as for samples that are sent to us from hospitals and clinics all across Nepal. The hospital has activated a stand-by laboratory support to meet the surge in demand for testing. We have tested a total of 19,737 samples so far, out of which, 1,497 samples tested positive for COVID-19.



RT-PCR test in microbiology laboratory.

INFECTION PREVENTION AND CONTROL



Disinfection of the hospital peripheries.

We have been promoting intensive hygiene, respiratory etiquette and overall water, sanitation and hygiene (WASH) at the hospital for containment and protection in priority locations. Masks, gloves, sanitizers as well as face shields, PPEs are being provided to all relevant staff. Regular technical guidance on reinforcing infection control measures within facilities, including triage flow and segregation of suspected, possible and confirmed cases has been provided to all staff. The quarantine and isolation facilities have been established following a strict hygiene and sanitation protocol. The surveillance and follow-up for acquired infection by health care workers exposed to probable and confirmed COVID-19 cases are immediately done.



Infected clothes being disinfected before the regular laundry.



X-ray set up in the Isolation ward.

CASE MANAGEMENT

A case management protocol has been developed by the Dhulikhel Hospital. Isolation even in mild cases of exposure is being strictly advised. Referral and safe case transport mechanisms to higher level health facilities are activated in case of need. The treatments of severe and critical cases are done at designated ICUs. The mechanisms for safe cremation of dead bodies are in effect with strict IPC protocols including use of body bags. Psychological care services are provided to positive cases and their families. Stress management interventions for health care workers and their families are also being provided. Similarly, protocols and mechanisms for collection and storage of convalescent plasma from recovered confirmed cases for use in pre-established criteria for the management of critical cases have also been developed.



Nursing and medical care to COVID case in RICU

SERVICES IN OUTREACH CENTERS AND COMMUNITIES



Triage in Kirnetar Outreach Center

Basic triage facilities have been set up in each outreach centers of Dhulikhel Hospital and personal protective equipment (PPE) have been provided to all staff for safety. Isolation facilities have also been set-up in three of our outreach centers. A 10 bed Isolation Center was set up in Bahunepati and a 5 bed Isolation Centers are set up in Dolakha and Kirnetar Outreach Centers. More than 20 cases have been quarantined and isolated in these Isolation Centers so far.



School awareness sessions on COVID-19 before lockdown started in Nepal.



Triaging of the patient in Triage 2.

TRAINING AND SIMULATION EXERCISES

Training on effective use of PPE, use of social distancing and safety procedures has been provided to all staff. Hygienic staff and laundry staff were taught to follow the new safety procedures at the very beginning of the pandemic. All the staffs working in the front-line including Triage 1, Triage 2, Fever Clinic, ARI Zone, Emergency Department, RICU and Isolation Ward are given simulation classes before their respective duties. More than 1,000 staffs have been trained so far.



Simulation training on caring of ICU/Ventilator case

COLLABORATIVE GOVERNANCE WITH GOVERNMENT TO COMBAT COVID-19



Case investigation and contact tracing (CICT) training to the health professionals.

Dhulikhel Hospital collaborated with Ministry of Health and Population (MOHP), Epidemiology and Disease Control Division (EDCD), Nepal Academy of Science and Technology (NAST) and Dhulikhel Municipality to develop a contingency approach for combating the pandemic by increasing provincial surveillance capacity. A standardized data, contact tracing and intervening tools and resources that support community health across the province has also been created.



Dental services using faceshields prepared by the students of dental department.



COVID positive patients in COVID Care Center.

SAFETY PROCEDURES

Strict safety procedures are followed in the hospital. In addition to triage, maintaining safe physical distance in crowded areas is encouraged. All staffs working in every department including those working in the front-lines are provided with adequate personal protective equipment (PPE). Disinfection and cleaning is done after each procedure in OPD and Emergency departments.



Patients queuing up by maintaining physical distance for the hospital registration followed by outpatient check up.



Ongoing online classes of KUSMS students

All academic classes of Kathmandu University School of Medical Sciences (KUSMS) are being conducted online. Although e-learning is challenging to both the teachers and the students, KUSMS has been continuously providing video lectures (live or recorded) and assignments for all the programs such as for medicine, nursing, public health, physiotherapy, A-levels. The institute is uploading lectures to Canvas and Moodle to remove access to barriers related to internet. The institute has adopted Zoom app and Google meet for lectures and interactive sessions. The institute is using trial and error and regular feedback collection methods to improve the sessions.



Hygienic staff disinfect Emergency department after detection of a positive case.



Registration of patients with possible precautions.

VISIT OF GOVERNMENT OFFICIALS TO DH



Honorable social development minister of Province 3- Mr. Yubraj Dulal observing the isolation unit of Dhulikhel Hospital.



Officials from MoHP visit COVID Care Center of Dhulikhel Hospital.

SUCCESS STORIES OF COVID-19

Story 1

On July 10, 2020, a 47 year old man from Sunkoshi Municipality, Sindhuli, who had been working in India as a security guard, was brought to Dhulikhel Hospital with acute respiratory disorder syndrome (ARDS). He was immediately taken to the COVID isolation unit. His PCR report came out as positive on July 12, 2020. After 37 days in the hospital, including 8 days of intensive care in ventilator, he was finally discharged on August 15, 2020.



Nursing care of the recovered COVID case in medical ward.



A covid positive case in RICU of DH.

Story 2

On August 14, 2020 a young girl aged 17 years from Kanpur, Namo Buddha Municipality, was referred to the hospital ICU from Scheer Memorial Hospital, Banepa, after she was identified as a COVID-19 positive case. She was treated in Respiratory ICU and later shifted to COVID Ward. She was discharged on August 27, 2020 after she had fully recovered from the infection.

Story 3

Three successful deliveries of COVID positive cases including one Caesarian Section on September 15, 2020 have been conducted in the COVID Care Center of Dhulikhel Hospital. A COVID positive mother gave birth to 2.6 kg female baby after surgery. One of our outreach centers Gaurisankar Hospital, Dolakha has started functioning, even during the time of crisis. Several deliveries have been conducted there, including a Caesarian Section on August 22nd, 2020.



Caesarian Section delivery of of a confirmed COVID pregnant lady in COVID Care Center.

OUR IMMEDIATE AND FUTURE PLANS

- Continually upgrade all COVID-19 related services currently being provided by the hospital.
- Further extend our community awareness programs, screening and contact tracing of potentially infected individuals and COVID-19 treatments in local communities across Nepal.
- Train more front line workers in different aspects of COVID related healthcare and prevention activities.
- Upgrade and extend in-house production of sanitary products, PPE, masks, cleansers and disinfectants.
- Gradually open all the healthcare services provided by Dhulikhel Hospital in the safest way possible for the patients, visitors as well as healthcare workers and other hospital employees.



Hand sanitizer and disinfectant production.



Mask production in the tailoring department.



Close contact staff of COVID cases queuing up for RT-PCR tests.



COVID positive staff in Isolation.



Monitoring of COVID cases through CCTV surveillance in COVID care center.

OUR CHALLENGES AMIDST THE PANDEMIC

As the whole world is struggling to come to terms with the devastating effect of this pandemic, the economic fallout from lockdown has also severely affected our hospital. As we strive to rise up to the challenge of crippling financial crunch which threatens to affect all aspects of our service, we are still committed to ensuring that our patients continue to receive the best healthcare service.

A CALL FOR PARTNERSHIP AND SUPPORT

We would like to thank all our partners, friends and well-wishers, who over the years, have supported us to achieve our mission. Dhulikhel Hospital was established with the idea of providing quality care to the needy and with your help, in the last two decades, we have been doing just that and more. With your help we have provided critical healthcare to millions of Nepalis in need at an affordable cost. We have provided free healthcare to hundreds of thousands of people. And our livelihoods and community development activities have directly or indirectly affected thousands of families in communities throughout Nepal. In this very challenging time, we need our partners and friends more than ever before for support and partnership. We know that our services are precisely what is needed at the moment as we continue to save lives. If you would like to be a part of our journey to make a difference in the lives of vulnerable people who need us the most at this critical juncture, please do contact us.



A COVID case heading home after 37 days of admission in Isolation unit including 7 days in ventilator.



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