

ADRIIMP

Association for Disaster Risk Management Professionals



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President's Message

As ADRIIMP moves forward, it is time for us to consolidate its position as a professional body with local and international linkages. This process requires the support, dedication and ideas of the members and the committee. Disaster Risk Management as a multi-disciplinary subject allows us to work across many development sectors in partnership with global and local initiatives. Reducing risks is even more important in the context we are in today.

As a starting organization, ADRIIMP is currently working to establish several basic requirements, including the constitution, webpage and other communication channels. We request you to help by providing information on what is happening around your own institutions and professions to include in the newsletters and also participate in the Google Survey to compile a directory of our members covering specializations and interests. While providing the details requested in the link below, please feel free to help us with ideas and initiatives. ADRIIMP would be as good as the members want it to be, therefore, let's make it innovative and exciting.

Google Survey Link: <https://forms.gle/uUq5f9tPgy6Do1tr5>

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<https://www.facebook.com/ADRIIMP.LK/>

Understanding COVID-19

COVID-19 is an acute respiratory illness caused by a novel coronavirus (SARS-CoV-2, called COVID-19 virus), which causes higher mortality in people aged ≥ 60 years and in people with underlying medical conditions such as cardiovascular disease, chronic respiratory disease, diabetes and cancer. The first identified corona virus case in China can be traced back to 17th of November 2019. WHO announced that the COVID-19 outbreak was a Public Health Emergency of International Concern on 30th January 2020.

Since then, it was considered as an urgent situation to cut transmission pathways and protect populations at risk. Population mobility was controlled through access, transportation and gathering control. In Sri Lanka, the first indigenous case was reported on 11th March 2020. To stem the spread of the virus, the country has been placed in lockdown mode; 30 hospitals were named with isolation facilities and quarantine centres have been maintained by the Sri Lankan Army. Unlike many other countries, Sri Lanka managed to maintain the health care providers over the threshold level. However, there were particular circumstances where health staff was exposed to the deadly virus because of the careless behavior of patients. This newsletter describes the experience of a secondary care hospital in Sri Lanka on the prevention of COVID-19.

Transmission: The main routes of transmission are respiratory droplets and direct contact. Any person who is in close contact with an infected individual is at risk of being exposed to potentially infective respiratory droplets. Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission.

The Importance of a Strategic Preparedness and Response System

Situational Analysis:

COVID-19 is a zoonotic RNA virus type that rapidly transmits from one person to another. As the outbreak reaches its peak, a large number of patients are overloaded to the health system exceeding the manageable capacity. To overcome the situation, infection prevention and control measures must be taken within a region, country, or territory.

Base Hospital Panadura has experienced a variety of natural and man-made disasters in the past. Those experiences have led us to develop several disaster management protocols which are to be activated when the need arises. The COVID-19 pandemic situation was different from the past experiences. Therefore, a thorough situational analysis was mandatory to develop our action plan to fight against this pandemic.

Strengths

- A dedicated staff force willing to battle against the pandemic and prepared to do the extra work.
- A multi-talented staff that can provide additional service needs when required.
- Already developed disaster management plan and a protocol that has been practiced by the staff during the past.
- Well established infection control unit, Health Education unit and public health units in the hospital.
- A well-functioning Outpatient Department (OPD) and an Emergency Treatment Unit (ETU).

Weaknesses

- Inadequate staff members.
- Overcrowded areas inside the hospital.
- Inadequate space within the hospital premises to maintain adequate spacing to limit spread.
- Inadequate Personal Protective Equipment (PPE).
- Inadequate knowledge of the staff about COVID transmission and the usage of PPEs.
- No proper mechanism to maintain social distancing inside the hospital.

Opportunities

- Good support from the public to limit the spread.
- Garments and tailors around the hospital who can produce PPEs.
- Voluntary services in the area to maintain the hygiene of the environment and to provide the public with primary sanitary services.
- Social Media and Electronic media to get the support of the society.
- Support from the Police, Tri-forces and the Postal Services to control the public services.

Threats

- Increase in the number of Covid-19 Patients and suspected patients in the area.
- Patients not revealing their contact history to the health staff which may put the entire health staff in a risk of infection and also the increase in spread.
- Failure to identify the symptoms at early stage which may cause an uncontrollable spread.
- Ethnobotanical believes among the society: Homemade remedies for primary symptoms, spread of unnecessary information among people

Sri Lankan Experience on the Prevention of COVID-19: role played by a secondary care hospital

Understanding the existing capacity of the healthcare system is important to analyze the current level of preparedness and make the modifications much more adaptive to manage the Covid-19 pandemic.

Aims of a strategic preparedness system: -

- Prevention: Slow and stop transmission of the virus within the hospital and the community
- Provide uninterrupted care for residential patients, including emergency conditions
- Continue drug distribution and consultation for clinic patients
- Minimize the impact of the epidemic on the health system

Stages of Emergency Preparedness and Response for Covid-19

Risk/vulnerability assessment: Panadura base hospital is situated in Kalutara district, which is identified as a high-risk area after detecting a few clusters of patients from nearby areas. Therefore, the assessment of the risk level for a resurgence of an unexpected number of patients is essential. The readiness for any scenario of overloading Covid-19 suspected cases and the ability to handle them was one of the main concerns. At this point, a national-level risk assessment should be supported and implemented not only through the health system but also through a community-level risk assessment.

The risk assessment was done with following indicators: -

1. Epidemiological factors: incidence of suspected COVID-19 cases reported to the hospital, percentage of positive among suspected, results of testing, Covid transmission rate, transmission scenario of Covid 19
2. Health care capacities: Available healthcare work force, level of responsiveness in an emergency like the high number of hospitalizations, availability of pharmaceutical stocks, laboratory equipment, personal protective equipment (PPE)



3. Exposure level: - Frontline healthcare staff is more exposed to patients. Asymptomatic but yet infective patients could cause the infection to transmit to frontline health care workers working in units such as ICU, PCU and OPD. (Scoring the vulnerability for exposure among staff)

Minimize the exposure

Implementation of control measures to interrupt the virus transmission between human to human in enclosed hospital premises and to the public required a customized approach starting from top administrative to minor staff level. At the beginning, it was indefinite how vast the pandemic will be in the future. But with the first case of Covid-19 reported in Sri Lanka on 27th January, a protocol was created to minimize the risk of exposure to suspected Covid-19 cases and thereby reducing the risk of transmission to the health staff.

An algorithm was developed to manage a suspected patient. This includes patient identification, testing, isolation, primary care and resuscitation, and transfer of patient to a specialized unit for Covid-19. At each step, individual measures including wearing masks for symptomatic people, proper use of PPE for isolation and treatment of ill individuals, hygiene measures including hand hygiene and respiratory etiquette should be maintained.

We ensured that systems are in place to identify and break the chain of transmission through detecting, testing, isolating, care and transfer of all cases without being exposed or transmitting to another. A multidisciplinary team and designated workforce were in place to handle all cases, test cases, and care in medical facilities.

Early detection and reduction of contact exposure

- Fever corner: to isolate and examine cases with potential symptoms while minimizing exposure to other patients
- Triage system: at PCU and OPD to identify patients with respiratory symptoms and to refer them for evaluation and treatment immediately
- Help line: to call before presenting to the hospital, a dedicated phone number for the public to obtain help from the medical staff and be prepared for arrival-PH
- On call teams: standby and prepared to attend to a suspected case and transfer to IDH - Roster-based - Medical Officer (first contact doctor), Nursing Officer (medical casualty ward), Attendant and Ambulance Driver
- Visitor passes: Limiting the number of patient visitors to the hospital through awareness programs and issuing a limited number of passes for a limited time.

Reducing exposure to the health staff

- Regular maintenance of hand hygiene, respiratory etiquette and physical distance
 - Ensure adequate supplies of alcohol-based hand rub (containing at least 70% alcohol) and availability of soap and clean water. Place them at all entrances, exits and waiting areas.
 - Practicing cough/respiratory etiquette.

- Wearing Personal Protective Equipment
 - Masks to be worn during examination of patients with symptoms of respiratory tract infections.
 - Use of PPEs when handling aerosol generating equipment and doing procedures.
 - Splash proof coveralls, Gloves, N95 mask, goggles/face shields, shoe covers and boots whenever performing aerosol generating procedures.
 - Proper donning and doffing protocols to be strictly followed by each healthcare personnel.

Protocol to admit a suspected patient

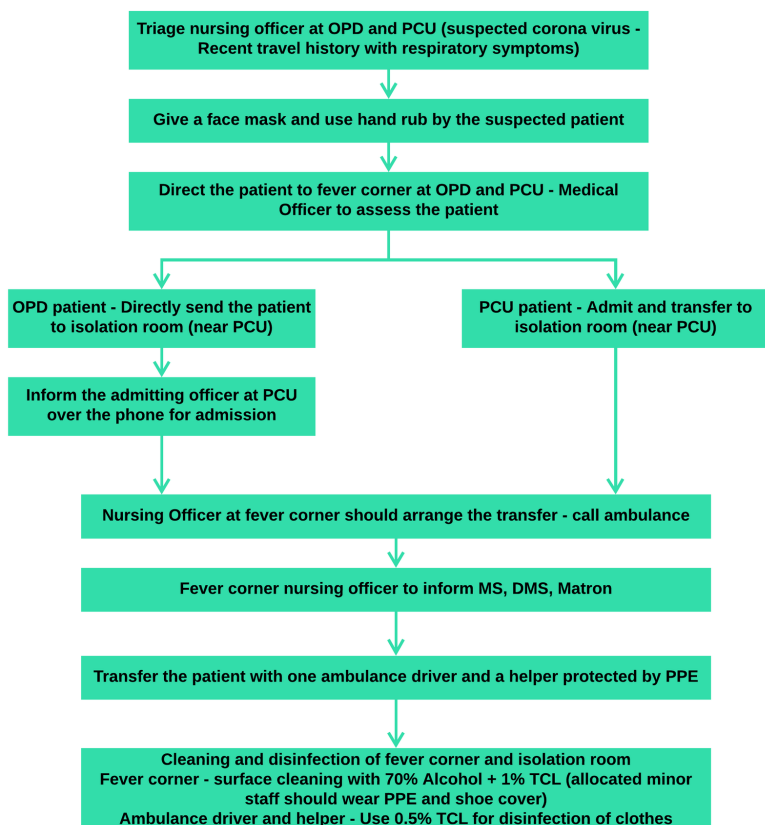
The emergency response for Covid-19 suspected case management is based on early recognition, isolation, primary care with resuscitation, and source control (prevention of forward spread from an infected person). Early recognition and identification, isolation, care and transfer for Covid-19 treatment is essential to limit the spread of the disease. Therefore, we followed a special protocol keeping to internationally recognized standards.

- Identifying the areas where a patient could present with suspected symptoms
 - PCU
 - OPD
 - Wards: rarely while being an inward patient
 - Clinic

Once a suspected patient is identified, immediate measures are taken to reduce exposure.

- A mask and hand sanitizer is provided and observed for proper application.
- Patient is given advice on maintaining proper hand hygiene, respiratory etiquette and 2 m distance from all contacts till isolated.
- Isolation of the patient - use a pre-defined pathway to transfer the patient.
- Informing the internal staff immediately. Telephone Exchange, call tree to be activated: Director/Dep. Director, On call VP, Emergency Physician, On Call Con. Anesthetist, MO Public Health/MO Microbiology/Matron, ICN Nurse, Overseer
- Inform External Staff - IDH hospital, RDHS, MOH, Regional Epidemiologist, Epid Unit.
- Pathway to be cleared to move the patient - Pathway map drawn and displayed at each unit.

SUSPECTED COVID-19 MANAGEMENT ALGORITHM



- Sampling and Transport –
 - Samples should be obtained while wearing standard PPEs or using sampling booth.
 - Viral Transport Medium – properly labeled, will be transported in ice using triple packing system in a leak proof container.

Capacity building

When a healthcare worker is exposed to a high-risk contact or COVID test positive patient, a specific protocol needs to be activated to identify, isolate and rapid testing needs to be carried out. Special locations dedicated to provide quarantine facilities for healthcare workers were established with the help of the Ministry of Health and the public.

Through developing this strategic preparedness and response system we took necessary measures to prevent exposure; detect and care for suspected patients; to ensure the hospital has the space, supplies, and necessary health staff on standby; and to develop life-saving medical interventions.

- Health care capacity: health system functions, admissions and discharges, health care workers, ICU and non-ICU bed capacity, triage at health care facilities, stocks of personal protective equipment.
- Public health capacity: rate of identification and testing of new suspected cases, isolation of new confirmed and suspected cases, identification and quarantine of contacts.
- Availability of effective pharmaceutical interventions: The clinic services were maintained to maximum extent by increasing drugs issued per patient up to 2 months. Identifying the future requirement of drugs that are necessary for managing COVID patients and obtaining adequate stocks of the relevant drugs.
- Availability of sufficient PPE: Purchasing bulks of PPEs from suppliers, giving helpful feedback for more innovative PPE production, collecting donations and identifying resource persons who are capable of locally manufacture PPEs, finding sponsors to fund for the PPE productions, maintaining a stock of PPE and ensure each and every healthcare worker got a complete PPE.
- Sufficient workforce: The essential services were provided to the public with minimal staff involvement. The number of staff required was minimized to ensure minimal exposure for a shift and also to ensure minimal usage of PPEs. The staff was delegated and timetables were prepared with the tasks required to maintain the safety and reduce the risk of spread among the health staff and patients.

- Robust information system: Real time information system is developed for assessing the risk, measure response performance, and evaluate progress.
- Reviews are done on a daily basis and information is shared through public announcements and mobile apps.

Upgrading the existing system for prevention mechanism

Staff safety measures

Increased global demand for the PPEs was identified, which could lead to a shortage of adequate PPEs was predicted during the initial discussions among the stakeholders. Staff safety is always given the highest priority. Therefore, the necessity to commence local production of PPEs using the local material was identified.

PPE production: Healthcare workers were encouraged to do multitasking by creating a PPE production line inside the hospital.

PPE were designed according to the requirement while maintaining the standard. The PPE quality was continuously improved using the feedback from the end users.

Strategic use of 5M; Man, Machine, Material, Method, Minutes

- Collect donations: through professional and personal contacts donations were collected including PPE, hygienic equipment, testing kits, sample booths etc.
- Public engagement: By publishing the progress and requirements on social media through official Facebook page, gained the public attention of several parties, organizations and facilitators who came across to support and contribute with donations.
- Prioritization of vulnerability: According to the vulnerability health workers were given prioritization and they were facilitated with required scrub kits, newly purchased washing machines to clean their scrub kits, and also provided the safe transportation facilities when required.
- Safe working environment: disinfection schedules twice a day, washing the floor and surface spraying of cleaning TCL.

Patient safety measures

Considered scaling up health and social measures to maintain the state of no transmission between patient to patient. Health measures including personal protective measures like hand hygiene, respiratory etiquette, environmental measures like disposing PPE/masks, physical distancing measures were re-introduced to patients who visit the hospital during the pandemic.

- Specific triage system is used to direct patients to relevant diagnosis/tests by assessing the symptoms and the history of patient.
- Detection and isolation: for suspected covid 19 patients, the transfer routes are defined in order to avoid contact with healthcare workers and other patients.
- Build up the capacity: to manage extra patients in health facilities, and ability to re-introduce public health and social measures through variety of electronic media.
- Patient safety modifications: new arrangements were done in order to minimize close contact and maintain the 1m distance between clinical patients. Floor arrangement and seat arrangements in the waiting areas were marked. Liquid sanitizer dispensers, hand washing facilities were established in the wards and at entrances of the hospital.

Awareness raising to infection prevention

For complete interruption of human-to-human transmission, spreading community awareness and teaching well practices is important at any scenario.

- Digital screens were used to display reminders about social health measures, and infection control measures.
- Use of a variety of media platforms to educate public.
- Empowering the patients who visit the hospital to early identify any community resurgence and informing the relevant authorities immediately.
- Screening questionnaires and posters to self-identify the symptoms, severity, and spread.

Maintaining health services in normal routine

Activate the local health and social care network to facilitate continuous care (clinic, acute-care hospital, cancer), facilitate additional support (resources, health care providers), encourage to use telemedicine services. A mechanism is developed and implemented to continue uninterrupted patient care during the Covid-19 pandemic.

Patient consultation: -

- Telemedicine: development of a centralized telephone network to get the prescriptions and direct patients to the nearest hospital/MOH for the patients to collect the drugs.
- Calling system: allocate a common telephone number and forwarding the calls.
- Contacting through specific consultation app, or WhatsApp, Viber, common calling apps and groups.

Drug distribution: -

- MOH clinics, peripheral hospitals, ex: district hospitals, central dispensaries etc.
- Use the hospital patient database and the MOH database
- Doorstep delivery of drugs using the local postal services
- Collection of clinic books of each GS-division in Panadura city through the Gramasevaka of the relevant area (Patient name, address and NIC number to be attached).
 - Drugs issued for 1 month through the dispensary.
 - Drugs Packaged into airtight bags with labeling.
 - Books marked with the Name and Address of the patient
 - Distributed through the postal services to the patient.
 - Help line introduced to contact the hospital to obtain further information and clarify issues with sending the books.



Clinical waste management during Covid-19

All those who handle health-care waste during the Covid-19 pandemic, must wear appropriate PPE (boots, long-sleeved gown, heavy-duty gloves, masks, and goggles or a face shield) and perform hand hygiene after removing each.

The volume of infectious waste during the COVID 19 outbreak is expected to increase, especially with PPE. Therefore, it is important to increase capacity to handle and treat this health-care waste.

Additional waste treatment capacity, preferably through alternative treatment technologies, such as autoclaving or high temperature burn incinerators, may need to be procured and systems may need to be put in place to ensure their sustained operation.

After handling the waste and once there is no risk of further exposure, individuals should safely remove their PPE and perform hand hygiene before entering the transport vehicle. Soiled PPE should be put in a sealed bag for later safe laundering.



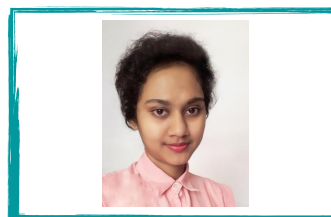
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Capacity Assessment of Tsunami Preparedness in the Indian Ocean

You may be interested in the following official Intergovernmental Oceanographic Commission status report for the Indian Ocean Tsunami and Mitigation System (IOTWMS), that Prof. Richard Haigh and Prof. Dilanthi Amaratunga co-wrote as members of the IOC UNESCO Task Team, and for which we also did much of the underpinning survey design and analysis.

In 2005, following the Boxing Day Tsunami, IOC prepared an initial baseline assessment of capacity building requirements for an effective and durable tsunami warning and mitigation system in the Indian Ocean (IOC/INF-1219). In 2018, thirteen years after the initial assessment, the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) undertook a similar assessment with a view to update the status of tsunami preparedness in Indian Ocean countries through a formal survey with national government inputs from the Indian Ocean countries (namely Australia, Comoros, Bangladesh, France, Indian Ocean Territories, India,

Indonesia, Iran, Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Myanmar, Oman, Pakistan, Singapore, Sri Lanka, Tanzania, Thailand and Timor Leste). Accordingly, the dataset underpinning this regional analysis includes timely survey responses from IOTWMS Member States.

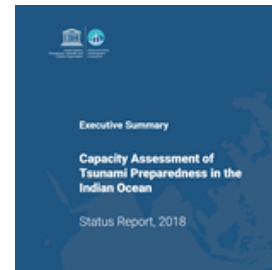
The 2018 assessment results highlighted considerable progress across all components of the IOTWMS, including the operational tsunami service framework in the Indian Ocean comprising of 3 Tsunami Service Providers (Australia, India, Indonesia) and National Tsunami Warning Centres of 25 Member States. Substantive progress has also been made in development of risk assessment guidelines, enhancing monitoring networks, organizing biennial tsunami drills and creating public awareness material. The 2018 assessment proved to be extremely valuable in providing a benchmark of the current status, identifying gaps and prioritizing future capacity development needs.

Tsunami response capacities continue to be enhanced through regional capacity development workshops focused on development of tsunami evacuation maps, plans and standard operating procedures. In this context, the 2018 assessment identified capacity gaps and future support requirements in the broad areas of a) policies, plans and guidelines; b) risk assessment and reduction; c) detection, warning and dissemination; and d) awareness preparedness and response. The detailed Capacity Assessment of Tsunami Preparedness Status Report 2018 together with responses of Member States, as well as a succinct Executive Summary have been prepared for wide communication to all stakeholders.

The links to the full report and executive summary are below:

<https://unesdoc.unesco.org/ark:/48223/pf0000373680>

<https://unesdoc.unesco.org/ark:/48223/pf0000373622>



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