

Building Resilience for Hospital Fire Safety and Disaster Management

Introduction

Resilience is to prepare for, mitigation and minimize the negative consequences of shock (a sudden and extreme change that can impact the health system), recover as quickly as possible from the lessons from the past, and perform better in the future. The categories of hazard events are different according to the status of any country, as in developed countries conditions like financial crises can be counted as a risk while in case of developing countries outbreaks of any infectious disease like the novel coronavirus or any emergencies like fire accidents, can be called a hazard events as these events can tremble the pillars of health care services in any countries and can burden the system in many ways^{1,2}.

Resilience for the health system is the key to cope up for catastrophic events like economic crises, pandemic conditions like COVID-19, and accidental conditions like in case of fire. To overcome such events or minimize catastrophic impacts of any incidence proper understanding of future risks and preparedness is very important in health care services. Sometimes despite of unavailability of appropriate resources or funding, any system can thrive in emergencies if the planning and management strategies are formed and studied appropriately³.

After the pandemic in 2020, discussion about the importance of building resilience in the health sector has come forefront again as the collapse of healthcare services, damage to the economy, and great danger to human lives worldwide made the world realize the importance of the same. In the Indian context, the threat was the same but despite the challenges, appropriate management of situations, lessons from other countries, and proper planning to mitigate the risk helped India to thrive in the situations⁴. This incident also led to learn the lesson of strengthening the capacities of healthcare facilities and hospitals are at risk to large scale despite improvement of structural measures. **Hospital Fire Safety** is one such important issue to be strengthened largely. In fact, recent cyclone 'Biparjoy' also led to damages of hospital facilities including fire safety system. Though we have improved a lot in the State of Gujarat, we need to strengthen the capacities including the contingency plans in accordance to National guidelines.

Fire breakouts are very devastating conditions for healthcare facilities as it affects many people visiting the organization, harm the workers and healthcare provider staff, affect and damage many important resources, also in case the fire comes in contact with chemicals or substances which can fuel to the fire then it can worsens the situation and can damage many lives⁵. The standard measures like generate **Alarm**, **Rescue** of the affected or victims, **Confine** the incident breakout, **Extinguish** the breakout or terminate fast are to be implemented as part of preparedness, training and capacity building programme for ground level **incident response** inside the hospital and at the premise.

Healthcare organizations are potentially more vulnerable institutes during the time of disasters as communication gets damaged which leads to hampering transportation creating a scarcity of resources and unavailability of appropriate materials for the provision of primary aid. Thus to overcome this kind of chain of events appropriate guidelines and training of workers are needed.

Importance of building resilience in the Health infrastructure for Fire Safety of Gujarat

Gujarat state has high degree of susceptibility for hospital fire incidents especially big health care facilities with large scale damages. There are multiple incidents of such events that even happened during Covid-19, for example Rajkot U. S. Covid hospital. On the other hand, if we observe major different cases of hospital fire incident happened in the State as we mentioned below.

Two devastating fires at hospitals in Gujarat, India have resulted in multiple fatalities, highlighting the critical importance of adhering to safety regulations in healthcare facilities. One fire occurred at a COVID-19 designated hospital in Bharuch, claiming the lives of at least 18 patients in May 2021, while another fire at a private COVID-19 hospital in Rajkot in November 2020 resulted in the deaths of five patients. Investigations have revealed serious violations of safety regulations, including the absence of fire safety facilities and blocked emergency gates. These failures in safety measures have not only hindered rescue efforts but also contributed to the tragic outcomes like utilization of a residential building in Ahmedabad as a hospital resulting in fire breakout at the ICU and killing eight patients. In response, the Gujarat High Court has intervened, directing the Ahmedabad Municipal Corporation to explain the conversion of a residential building into a hospital and emphasizing that paying an impact fee for regularization does not permit a change in the designated use of the building. These incidents underscore the need for proper infrastructure, including robust fire safety systems, unobstructed emergency fire exits, and well-trained staff capable of handling emergencies. It is crucial for implementation of the infrastructural development such as Fire Door, Air Handling Unit (AHU), HVAC, concealed wiring and MCBs, ELCBs, Fire Separation wall as per the National Building Code 2016. This is part of governance of the healthcare facilities for gaining the fire safety certificate (FSC).

The health sector also plays an important role in any emergency conditions as the health and lives of people affected by the emergencies are at stake and addressing the safety of the vulnerable populations is a must in case such events. Thus in recent years, the state of Gujarat has invested in preparing disaster mitigation strategies and integration of urban planning into disaster-resilient infrastructure building. Due to the geographical placement and environmental conditions, Gujarat faces events like cyclones, floods, and earthquakes in the coastal parts. The events of the Biparjoy cyclone which landed in the Jakhau of the Saurashtra-Kutch region in Gujarat also showed the need of building resilient health infrastructure and form such preparedness guidelines in the healthcare sector. The need of forming preparedness guidelines in emergencies and building resilience in the infrastructure is a must in a state like Gujarat.

Other Resilient Health Initiatives worldwide

In any disaster situation, the healthcare system's role is most important to mitigate the disasters and provide medical aid by preparing appropriate management checklists, communication, and adapting pre-planned mitigation strategies. WHO has prepared a tool for healthcare organizations to minimize the impact of disaster conditions in the hospital emergency response checklist, which talks about preparedness mechanisms during any disastrous situations⁶. The tool weighs the importance of the continuity of essential services, effective communication, coordination at each level of healthcare service, adaptation to demands, effective usage of resources in case of scarcity, and assurance of a safe environment for healthcare providers.

Objectives

1. To generate an understanding of what is resilient infrastructure in the Health sector and why it is important for fire safety.
2. To aware the participants towards potential risk of hospital fire incident and vulnerability assessment.
3. To enable the participants towards managing and minimizing the risk of hospital fire incident and other disasters through preparedness.
4. To enhance the safety audits and further discussion on Hospital Disaster Management.

Participants

Government hospital staff of Civil Hospital and SDHs at Rajpipla, Narmada district, in association with Health Department.

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