Hospital fire- A preventable disaster

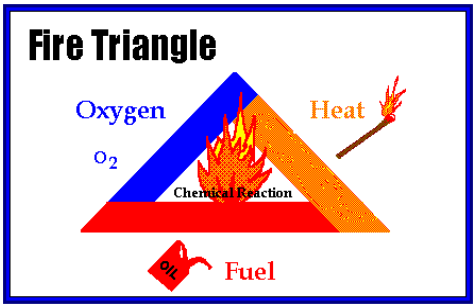
Why in news - At least four newborns died when a fire broke out in the Neonatal Ward of the Kamla Nehru Children's Hospital in Bhopal, **Madhya Pradesh**.

Key points:

- Over the past year there have been deadly fires in hospital building including that meeting covid-19 patient.
- Several minor and major fires have been started in hospitals, the former causing damage to property and anxiety for patients, and their loved ones, while the latter proved to be deadly for patients but also for some hospital staff.
- Electric faults are cited as the leading cause of fires but state governments are widely criticized for being lax with building safety laws and for failing to equip building with modern technologies.
- Hospitals ICUs are a great fire risk because they are oxygen confused.

Minor and major fire as disaster:

- Fire is one such hazard which often has its origins in faulty/inappropriate human actions. History has shown how the discovery of fire gave momentum to the human civilization to explore and grow. However, fires have often proved to be the cause of destruction and devastation of human achievements.
- India has seen many devastating fire disasters in various settings viz. temples, hospitals, schools, markets, factories, cinema halls etc resulting in preventable deaths and disability. Essential services and places of large congregation have been hit by fires, causing huge losses.



Relationship between rising hospital fires and burden of covid-19

- With the number of cases rising in the first and second waves of the pandemic, demand far exceeded capacity. Hospitals tried to expand their facilities to accommodate as many patients as possible, while there was scarcely any time for infrastructure expansion.
- While beds and mattresses could be marshaled at short notice, and oxygen cylinders, sometimes, with herculean effort, hospitals could not add extra power lines, or distribute the load with additional transformers or power units.
- Ventilators were also pushed into use 24 by 7, certainly not the norm before COVID-19, and with high power requirement for this, it naturally pressed existing infrastructure into overdrive. Single air conditioner units were also operating full time.
- These resulted in electrical short circuits, and possibly aided by the presence of flammable substances — alcohol-based sanitizers', high oxygen and PPE kits — sparks grew into full-scale fires.

Preparedness measures to prevent hospital fire

- The design and architecture can prove as a turning point in case of a fire breakout. A hospital's architecture planner must make sure that there is ample of open space in the building to minimize the possibilities of spreading fire in the entire building. Pressurized exclusion of smoke must be a priority while planning the architecture of a hospital.
- Fire detection is the first step towards preventing fire hazards. Hospitals must have fire detection equipment such as heat detector, smoke detector, fire gas detector, flame detector, etc installed at important locations. Not only the installation of fire detection equipment is essential, it must also be ensured that these devices are working properly by checking them on a timely basis.
- Every member of the hospital must be aware of a well-charted and detailed action plan which everyone needs to follow in case of a fire breakout.
- Fire drills must be carried out on a regular basis to make sure that hospital staff including doctors must know how to respond during emergency situations.
- Hospital authorities must ban smoking inside the premises of the hospital, especially near oxygen cylinders. This will significantly reduce the chances of fire outbreak
- Hospitals can seek help from professional bodies for conducting fire safety audits to make sure that the adequate fire prevention measures are observed in the hospital.
- Faulty wiring systems can be a cause of fire outbreak. To prevent fires from electrical equipment, maintenance must be carried out at least once in a month and other electrical equipment that can lead to fire hazard must also be properly maintained.

Measures taken during hospital fire to reduce the impact of hospital fire

- Activate the fire alarm procedures.
- Turn off oxygen, lights, and any electrical equipment in the vicinity of the fire.
- Remove the patients who are in immediate danger.
- Notify the hospital "switchboard" of the location of the fire.
- Close windows and doors to reduce ventilation.
- Using the fire extinguisher, attempt to extinguish the fire.
- Return patients who are not endangered to their rooms.

Role of central, state and local government in prevention of hospital fire

- Last year, the Supreme Court directed all States to carry out fire safety audits of dedicated COVID-19 hospitals.
- The National Building Code (NBC) of India is the central standard for fire safety and part 4 of the Code deals with Fire and Life Safety.
- States are asked to incorporate it into their local building bylaws, making the recommendations a mandatory requirement.
- In case of hospital fire local authorities should arrange ambulance, facilities which can reduce the impact.

Conclusion

It is essential for hospitals that pulled more than their share of the weight during COVID-19 to not only do fire safety audits but also electrical audits, to ensure operational fitness, and specifically to ensure there are no fires. States may mandate it, or incentivize such a procedure in order to draw it up the priority list of smaller and medium-sized hospitals.

Hospitals, after all, must remain healing zones, and to ensure that fire accidents are avoided must be a non-negotiable requirement

Source: The Hindu, Indian Express, nidm.gov.in