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Letter to Editor

Asian Pacific Journal of Tropical Medicine

doi: 10.4103/apjtm.apjtm_88_24

Mitigating fire risks in hospitals: Are we primed and geared up?

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The recent incidents have confirmed that fires in COVID-19 hospitals have become a gruelling and nerve-testing challenge[1–3]. The increased volumes of oxygen flow, abundance of inflammable alcohol sanitizers, wearing of inflammable kits, and abundance of equipment make it more acquiescent for such incidents and even difficult to control. The density of equipment (especially ventilators) “enriches” air with oxygen, thereby increasing the “combustion risk”. Due to the COVID-19 panic and stigma, the proactive and readiness of healthcare staff is often compromised. Furthermore, periodic maintenance, inspection of gadgets and firefighting installation is also compromised, putting it comparatively at more risk. The continuous training and fire drills, better coordination among stakeholders minimize the possibility of such potentially fatal problems, thereby making healthcare settings a safer environment for patients as well as healthcare providers[4,5]. In response to this, preparedness for fire safety was assessed in one of the fully functioning dedicated COVID-19 hospital of North India in reference to NBC 2016, Part IV standards and strategies outlined by the WHO[6,7].

The hospital complies to laid standards, having Passive Fire Protection measures as one of the integral component of three vital components *viz.* structural, fire protection and fire safety in a building. Passive Fire Protection measures are aimed to contain or slowdown the spread through fire resistant walls, fire doors, fire resistant glasses, dampeners and fire proofing claddings. The facility has designated assembly point outside hospital building, fire control room, motorable pathway around the building as well as defined width of the corridors and staircase. The basement is equipped with fire pump house with jockey pump, main electrical driven pump, diesel pump and sprinkler pump.

Fire suppression is critical to circumvent and minimize losses. Fire

alarm system, smoke and heat sensors, fire suppression measures (fire extinguishers, water hose reels, mist sprinkler systems, water sprinkler systems, smoke extractors) have been installed at appropriate places and distance to extinguish fire and minimize damages during evacuations. Each block of the building has separate fire escape route, fire curtain for compartmentation, smoke sensors and sprinklers below and above the false ceilings, wet risers, manual call points, public address system, signages and facility of emergency lighting system in case of power failures for corridors and escape routes. All these Active Fire Protection installations are checked/inspected on regular basis to mitigate the losses in case of any unprecedented exigency.

A comprehensive evacuation plan is crucial to save lives in emergency situations and all staff members shall be well versed and experienced in carrying out the process. The hospital’s incident commander is entrusted to determine the time frames for evacuation (depending on the nature of the threat), movement (horizontal/vertical), evacuation routes, level of evacuation (complete or partial evacuation) in the crisis situation to perform the necessary evacuation duties. Patient prioritization evacuation models (dependent on patient acuity, type of event prompting evacuation),

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How to cite this article: Sharma R, Sharma S. Mitigating fire risks in hospitals: Are we primed and geared up? Asian Pac J Trop Med 2024; 17(3): 141-142.

Article history: Received 4 February 2024
Accepted 21 March 2024

Revision 20 March 2024
Available online 29 March 2024

evacuation transport equipment (blankets, wheelchairs, beds), patient special needs, prioritizing patients are most logistically and ethically challenging tasks involved.

Regular scheduled training and fire drill(s) are conducted to ensure that staff members are well versed of fire safety strategies and they can act proactively, safely, swiftly and systematically to meet out any sort of exigency.

The laid down building codes/guidelines are the basis of accreditation systems and shall be made mandatory and enforced in true letter and spirit to regulate safety of hospitals.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Funding

The authors received no extramural funding for the study.

Authors' contributions

RS, SS: Theoretical formalism, final version of the manuscript; RS: Supervised the project. All authors approved the final version of the manuscript.

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Edited by Pan Y, Lei Y, Zhang Q