

Healthcare Fire Disasters: Readiness, Response and Resilience Strategies: A Real-Time Experience of a Healthcare Organization of North India

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Abstract : Healthcare facilities are always seen as places of haven and protection for managing the external incidents, but the situation becomes more difficult and challenging when such facilities themselves are affected from internal hazards. Such internal hazards are arguably more disruptive than external incidents affecting vulnerable ones, as patients are always dependent on supportive measures and are neither in a position to respond to such crisis situation nor do they know how to respond. The situation becomes more arduous and exigent to manage if, in case critical care areas like Intensive Care Units (ICUs) and Operating Rooms (OR) are convoluted. And, due to these complexities of patients' in-housed there, it becomes difficult to move such critically ill patients on immediate basis. Healthcare organisations use different types of electrical equipment, inflammable liquids, and medical gases often at a single point of use, hence, any sort of error can spark the fire. Even though healthcare facilities face many fire hazards, damage caused by smoke rather than flames is often more severe. Besides burns, smoke inhalation is primary cause of fatality in fire-related incidents. The greatest cause of illness and mortality in fire victims, particularly in enclosed places, appears to be the inhalation of fire smoke, which contains a complex mixture of gases in addition to carbon monoxide. Therefore, healthcare organizations are required to have a well-planned disaster mitigation strategy, proactive and well prepared manpower to cater all types of exigencies resulting from internal as well as external hazards. This case report delineates a true OR fire incident in Emergency Operation Theatre (OT) of a tertiary care multispecialty hospital and details the real life evidence of the challenges encountered by OR staff in preserving both life and property. No adverse event was reported during or after this fire commotion, yet, this case report aimed to congregate the lessons identified of the incident in a sequential and logical manner. Also, timely smoke evacuation and preventing the spread of smoke to adjoining patient care areas by opting appropriate measures, viz. compartmentation, pressurisation, dilution, ventilation, buoyancy, and airflow, helped to reduce smoke-related fatalities. Henceforth, precautionary measures may be implemented to mitigate such incidents. Careful coordination, continuous training, and fire drill exercises can improve the overall outcomes and minimize the possibility of these potentially fatal problems, thereby making a safer healthcare environment for every worker and patient.

Keywords : healthcare, fires, smoke, management, strategies

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