

# Preparing And Mitigating A Fire Drill During The Covid19 Pandemic

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## ABSTRACT

As the world continues its battle with Covid-19, with some countries going into recoveries and some in resurgence of cases, we should not forget that different types of hazards still are a threat to our hospitals and emergency departments. A well-known hazard to the hospitals in Malaysia is fires and we should be prepared for it even with the ongoing pandemic. To conduct a fire drill in the hospital during the Covid-19 pandemic to ensure awareness of fires as a threat and a type of hazard in the hospitals, and also to modify the evacuation pathways taking into count the presence of Covid positive and Severe acute respiratory illness (SARI) within the hospitals. A fire drill was conducted in the emergency department of a single tertiary center hospital observing Standard Operating Procedure (SOP) as set by the Ministry of Health (MOH). The alertness, activation, evacuation pathways and disposition of the patients and staff were observed. Referees consisting of all levels including support staff, doctors, specialist and invites from the fire unit, administration RADICARE services, security forces, PBSM were present to provide a feedback. The results showed that the alertness of a fire was still present among the staffs amidst the pandemic and new routes of evacuation pathways for COVID-19 and Covid-19 suspected patients were implemented and was an important part of the drill to ensure adequate distancing and prevention of spread of the covid-19 virus. These results show that even though we are in a pandemic, the other forms of disasters with its types and hazards cannot be ignored. An awareness of fire as a hazard must still be present during this time of crisis and new evacuation pathways separating the covid-19 positive and suspected patients is important to prevent its spread during a fire without compromising the care of the patients.

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## INTRODUCTION

After the world had been hit with the Covid-19 pandemic, the focus has been on handling the current disaster. The role of disaster training must include all types of disasters especially those that are prone to occur even in the midst of a pandemic such as a fire. Increased alertness to other disasters would also help the hospital prepare for hazards that may affect us in the midst of a pandemic. Proper planning and education are important to impart resilience within the hospital community to face any hazards in the current working environment<sup>1</sup>.

Malaysia similar to other countries have had history of fires within the hospitals. Therefore, fire must be recognized as a threat and hazard within the hospital fraternity in our country. The front lines have been busy fighting the covid -19 pandemic with new areas developed in the emergency department separating suspected covid patients, covid positive patients and the low risk covid patients. This covid-19 development must be followed up with a proper fire evacuation plan as well to accommodate the changes within our emergency departments<sup>2</sup>.

Evacuation pathways that were previously created was to cater for emergency departments flow of different category patients depending on their severity. The current plan would have failed in the midst of a pandemic because the segregation of covid patients is important even in a fire to prevent formation of a cluster during the time of evacuation. The spread can occur from covid patients to covid suspected patients pending results to low risk covid patients and not forgetting health care staff<sup>3</sup>.

Education and planning of the covid-19 person's evacuation process is an important mitigation plan and should not be taken lightly. Early recognition of evacuation pathway in the emergency department during the fire drill can prevent spread of covid-19 within the department and also provide a safe pathway for staff and patients to evacuate during a fire<sup>4</sup>.

## METHODS

The method for this fire drill was done using previous reports from the Emergency Department Fire Drills that had been done at the hospital in the previous years. The data was collected for staff involvement and evacuation pathways.

Pre fire drill planning and preparation was done by following the SOP that had been set by the government of Malaysia to host courses and programs during the movement control order that had been placed.

The planning and education stage had involved multiple agencies from different departments within the hospital. This included RADICARE, safety and security, fire

department, engineering, nurses, medical assistants, fire Marshal and the fire drill coordinators.

Emphasis on wearing of personal protective equipment (PPE), maintaining social distancing, separation of covid and non-covid patients via distance and shield was enforced.

Zones that were involved were respiratory and non-respiratory zones and evacuation plans for respiratory/covid and non-respiratory zones were laid out and the referees and observers were given their tasks and check list to monitor during the drill.

A total of 6 patients were simulated

- Patient 1 (resus respi) – COVID-19 +. intubated, ventilated.
- Patient 2(yellow respi) – severe acute respiratory illness (SARI) to rule out Covid-19 on nasal prong oxygen
- Patient 3,4,5 (MDSU) – ACS, breakthrough seizure, fracture femur
- Patient 6 (chair MDSU) – AGE with lethargy

*Each patient had tagged as simulated patient to avoid removing real patients*

#### **Parameters that were monitored**

- Time of setting up smoke
- Time of recognition of fire
- Time to activate fire alarm
- Time to inform medical emergency coordinating centre (MECC)
- Time to find the fire extinguisher
- Time to put out the fire
- Safe packaging to patients in each zone
- Time to exit the zones
- Safe transportation of patients to the evacuation site
- COVID-19 precautions –PPE/Social distancing, separation of COVID-19/sari and non-sari patients
- continuous treatment of patients at evac site until standdown

## **DISCUSSION**

Recognition of fire was quick and fast because of awareness of fire as a hazard in the ED as there have been fire drills yearly. Yearly fire drills are important aspect in emergency departments because it helps in awareness and alertness of the staffs to a fire hazard and builds resilience among the healthcare team. Time to activate the fire alarm also was smooth because the fire alarm is placed in many locations throughout the emergency departments. A fire alarm placed in all the common areas in the emergency departments with good signage helps with quick activation of the fire alarm. Role of the MECC is in communication. It communicates and relays the information of a fire to the hospital fire department and also regular announcements to facilitate the interloop communication of a fire. Fire extinguisher which is regularly serviced helps with fast action to put out a fire to contain the damage and facilitate evacuation of patients<sup>5</sup>.

Safe packaging of patients is also an important factor during the times of covid. A simulated patient who was intubated, needs to be transported out using the ISOPOD. The isopod team needs to be activated as the covid positive intubated patient can be safely packaged by a specialized team to ensure safety and prevention of spread of covid during evacuation.

Evacuation routes which as specialized for covid and non-covid patients is important. This is to ensure that the patients do not use the same route which can cause cross infection of covid-19. Evacuation areas are also important. The covid patients were evacuated to the covid tents in mass screening areas which has already been guarded and with the personnel's working there already in full PPE whereas the non-covid patients were evacuated to the common fire escape site far from the covid tents. This ensures covid precautions such as PPE and social distancing is preserved and reduces the risk of transmission.

## **STRENGTHS AND LIMITATIONS**

The fire drill was carried out in the time of movement control order. Following the rules of the movement control order set by the Malaysian Government, only minimal personnel were allowed to take part in an event or course with limited number of patients and staffs involved. In a larger scale, this drill could have yielded different results.

No personnel who took part in this drill were infected with Covid-19.

## CONCLUSION AND IMPLICATIONS

The preparedness and mitigation of a fire is important and relevant in the times of Covid-19 pandemic. Malaysia like most other countries have had hospital fires before and being in a pandemic, we need to be just as vigilant in the types of hazards that can affect out hospitals. We had done a fire drill during the times of the pandemic following the SOP that has been set by the government of Malaysia so that the situational awareness and alertness of hospital staff to a fire hazard is still present. Emergency response and preparedness during a fire must be exercised and in the pandemic the evacuation routes, safety of evacuation of covid and non-covid patients while preventing the transmission of covid-19 is of utmost importance. This commentary on a fire drill during the covid-19 pandemic has showed that hospitals evacuation routes, safety and packaging of patients must be modified and rearranged to enhance the safety of staff and patients not only from a fire but from covid-19 transmission as well. Thus, an early implication of mitigation and preparedness to a fire during the pandemic times be encouraged to enhance situational awareness.

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