



Transformation of Emergency & Trauma Department in Response to Covid-19 Pandemic



*Nurul Nasibah Mohd Zaini, Azmir Anuar, Chung Wai Mun
Emergency & Trauma Department, Hospital Taiping, Perak*

INTRODUCTION

COVID-19 pandemic has caused tremendous impact on ETD worldwide including Emergency & Trauma Department (ETD) Hospital Taiping (HTPG). ETD HTPG is a large department with approximately 200 staff and daily admission load achieves an average of 250-300 patients per day, with an expected load increment during festivals and weekends. This article illustrates on reorganizing and transformation strategies of ETD HTPG in setting up system and rules implementation in response to COVID 19 pandemic since year 2020.

METHOD

This is a descriptive report on the transformation of dedicated facilities to cope with COVID-19 pandemic since year 2020. Plan-DO-Check-Act (PDCA) has been implemented to improve the systems. The report is written based on the actual clinical needs, development and advancement of emergency medical services in ETD HTPG.

RESULT

Triage counter:

Triage counter is the place to sort all ETD patients. They are subjected to a simple and yet significant screening series ranging from demographic details, symptoms, contact to travel history. Risks are stratified here. All patients are provided with surgical masks. Friends and relatives are limited to reduce congestion and hence transmission. The creation of Triage Isolation Booth (TIB) has reduced transmission risks while allowing staff to carry out their usual triage process.

Respiratory zone, ILI & COVID tent

Three emergent clinical areas were formed in an ad-hoc manner to cater the pandemic, namely Respiratory Zone, Influenza-Like Illness (ILI) & COVID Zone. All staff working in this highly contaminant clinical zones; respiratory zone, ILI/ COVID tent and asthma bay are required to gown with full PPE.

The existing Critical Zone (Red) has been transformed to Respiratory Zone, which manages unstable respiratory patients. It is an isolated area in the ETD building separated from non-respiratory zones by transparent plastics, to manage unstable suspected cases. It is equipped with separate air-conditioning system and portable air purifiers with HEPA filters. While dealing with aerosol generating procedures (AGP) like intubation, staff are advised to wear PAPR and used tools such as glidescope or video laryngoscope rather than direct laryngoscope to minimize transmission risk via direct exposure to patients.

The ILI & COVID Zones were made up of several tents with basic medical equipment at the pre-existing carpark. The area is large. The open space allows better ventilation, reduces congestion and minimizes cross-contamination among stable potential or confirmed COVID-19 patients. This zone comes with swab sampling service.

Asthma bay

Asthma bay is developed near to respiratory zone. Stable asthmatic patients receive treatment here. Mild to moderate asthmatic patients are given MDI via aero chamber rather than nebulizer to reduce risk of transmission since nebulization are high risk of aerosol generating procedure.

New norms, rules & regulations adapted to ETD staff:

- Doctors, including medical officers and house officers, are divided into several teams, working with same team members in every shift. If one of the team members is down with the illness, screening is contained to the team members, while the other teams are not affected. It is essential to maintain enough manpower to keep the service running during an outbreak.
- All staff are required to change to hospital scrub attire to begin their clinical shift. Basic attire for all staff working in non-respiratory area includes apron, mask, gloves and face shield/ goggles.
- All staff are required to bathe and change clothes at the end of the shift
- All AGP are done in isolated area where managing staff are donned with full PPE
- All gathering including continuous medical education (CME) and meetings are withheld
- Not more than 2 persons at any time in pantry, changing room and prayer room (surau).
- Reinforcement and regular audit & spot-check on compliance of PPE & SOP
- All patients are compulsory to wear surgical mask. Surgical mask is applied on top of the supplemental oxygen device to whom required supplemental oxygen are put on.
- Relatives are not allowed to accompany patients in any zone except pediatric patients.

CONCLUSION

This article is meant to share our Initiative and strategies in handling and managing Covid 19 cases with multiple challenges and limitation of resources in Emergency & Trauma Department Hospital Taiping. As a point of successfulness of these strategies, we have recorded only 3 isolated positive cases among ETD staff as a start in year 2020. To date, the system is being practice and revised from time to time to achieve better performance for patients' needs.

REFERENCES:

COVID-19 Epidemic in Malaysia: Epidemic Progression, Challenges, and Response. <https://doi.org/10.3389/fpubh.2021.560592>



Figure 1: Triage Isolation Booth (TIB).



Figure 2: entrance pathway to ILI & COVID tent located outside main ETD building



Figure 3: Asthma bay is developed separately out from the building.



Figure 4 : Respiratory zone. This zone is separated from other zones with transparent plastic.