

SHORT COMMUNICATION

Waiting Times For Covid-19 Patients In The Emergency Department During The Pandemic: Experience From A Single Center In Malaysia.

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ABSTRACT

Patients presenting to the emergency departments who turn out to be COVID-19 positive long length of stay is associated with more exposure to health care staff and other patients. The objective of this study was to use routinely collected daily data of patients to add to the literature on long waiting times of COVID-19 positive patients in the emergency department. An observational study and case series study was performed for a period of time observing patients presenting to the ED who turn out to be COVID-19 positive, time of exposure and waiting time for admission. The results showed that mean time of a COVID-19 patient's stay in the emergency department is 13.88 hours. These results show that the patients waiting time for the results of COVID-19 test and waiting time for admission to the wards is long and thus poses high risk of exposure to the health care workers in the emergency department and neighboring patients in the ED.

INTRODUCTION

The world has been hit by the Covid-19 virus and the WHO had declared a pandemic on the 11th of march 2020. Since then, Malaysia like many other countries around the world has initiated movement control orders to control the spread of the virus. Malaysia has had 2 episodes of lockdown named MCO 1.0 and currently now MCO 2.0. The two phases of MCO have had many different effects to many sectors and the healthcare sector is one of them¹. In response to the pandemic, some of the Malaysian hospital have been converted to hybrid COVID-19 hospitals. This had been done to improve the services of hospitals while at the same time catering for COVID-19 patients who are ill and needing hospital admissions².

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Emergency departments cater for all patients of many different diseases who are critical and semi critical. The emergency departments have created respiratory zones and non-respiratory zones to reduce the risk of covid-19 infection and transmission within the ED. Being the safety net of the hospital, the emergency department has to screen patients for COVID-19 before admission to the wards based on local hospital protocols³.

Long waiting times in the emergency department is not something new. However, with the emergence of the pandemic of COVID-19, long awaiting times of patients stranded and boarding in the ED increases the risk of exposure to health care workers and other patients in the ED to the virus. The conveyor belt approach and fast deposition of patients into the COVID-19 wards once tested positive will reduce the risk of transmission of the virus in the emergency setting⁴.

METHODS

Data

The data for this study was collected from daily reports, hospital statistics and electronic records. The data was collected for each day from the 16th of February 2021 until the 22nd of February 2021. The Emergency department is a tertiary hospital with an active call specialist in the ED daily, full lab facilities for 24 hours and 24-hour emergency medicine services.

RESULTS

Patient number	Arrival time	PCR/RTK taken	PCR results	Admit time	Time from arrival to PCR/RTK	Time from testing to results	Time from results to admission	Total duration of covid+ patient in the ED
1	- 15/02/2021	8am 16/02/2021	3pm 16/02/2021	12.15am (burn unit) 17/02/21	480 minutes	420 minutes	555 minutes	24.25 hours
2	5pm 16/02/2021	15/02/21 KK batu arang	7pm 16/02/2021	12.30am pkkn sungai buloh 17/2/21	-	-	330 minutes	7.5 hours
3	3.40am 17/02/2021	3.56am(rt k) 17/02/2021	5am 17/02/2021	10.15am(10 C) 17/02/21	16 minutes	64 minutes	315 minutes	6.58 hours
4	1.11pm 19/2/2021	4.49pm(r tk) 19/2/2021	12.55am 20/2/2021	10am (Hsgb) 20/2/21	218 minutes	486 minutes	545 minutes	20.82 hours
5	2.47pm 19/2/21	5.30pm(r tk) 19/2/21	12.55am 20/2/21	12.40am (LO) 20/2/21	223 minutes	445 minutes	-	11.13 hours
6	11pm 20/2/21	1am(rtk) 21/2/21	8am 21/2/21	12pm(10c) 21/2/21	120 minutes	420 minutes	240 minutes	13 hours
Mean					211 minutes	367 minutes	397 minutes	13.88 hours

DISCUSSION

The proportion of patients who turned out to be covid-19 positive in the ED was considered to be relatively low during the time of the study. However, the time that was taken to trace the Covid-19 test results, and subsequent admission was long. It is shown from the results that the average waiting time is 13.88 hours.

The long waiting time for the Covid-19 test which was done will delay the time for definitive treatment for the patients and also delay the admission because the decision has to be made to either admit these patients to the respiratory wards/COVID-19 wards or general wards⁵.

The long admission time of the patient who turn out to be COVID-19 positive is also evident. The long admission time will increase the risk of transmission of the COVID-19 virus within the emergency departments among the health care staff and also other patients in a busy and crowded ED where the optimal care for an infectious disease is a challenge⁶.

STRENGTHS AND LIMITATIONS

The data for this audit/short communication article was collected in a 24-hour emergency medicine service facility with a high turnover of patients and working staffs with multiple shifts. Thus, some patients may have been missed during the duration of the study.

During the period of study, only a small number of patients presented with positive results in the ED and thus a small number of sample size collected could have led to a variable result.

CONCLUSION AND IMPLICATIONS

The pandemic has been a difficult time for hospitals all around the world. Almost all departments have had their struggles with the virus and the emergency department is a field that has been greatly affected. There has to be a high quality of care for the critically and semi critically ill COVID-19 patients together with a high efficacy for admissions without increasing the risk of transmission to the staffs and other patients Long waiting times in the ED in the pandemic could lead to higher exposure of healthcare staff and other patients to COVID-19 positive patients. By identifying the long waiting times, we can get an idea about the exposure risks that the ED faces daily during the pandemic. Our findings point to the importance of reducing waiting time for patient's in the ED and also identifying the COVID-19 positive patients early by prioritizing the COVID-19 test for ED patients and also prioritizing admission of COVID-19 positive patients in the ED.

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REFERENCES

1. Nadzir, M.S.M., Ooi, M.C.G., Alhasa, K.M., Bakar, M.A.A., Mohtar, A.A.A., Nor, M.F.F.M., Latif, M.T., Abd Hamid, H.H., Ali, S.H.M., Ariff, N.M. and Anuar, J., 2020. The impact of movement control order (MCO) during pandemic COVID-19 on local air quality in an urban area of Klang valley, Malaysia. *Aerosol and Air Quality Research*, 20(6), pp.1237-1248.
2. Ilenghoven, D., Hisham, A., Ibrahim, S. and Yussof, S.J.M., 2020. Restructuring burns management during the COVID-19 pandemic: A Malaysian experience. *Burns*.
3. Quah, L.J.J., Tan, B.K.K., Fua, T.P., Wee, C.P.J., Lim, C.S., Nadarajan, G., Zakaria, N.D., Chan, S.E.J., Wan, P.W., Teo, L.T. and Chua, Y.Y., 2020. Reorganising the emergency department to manage the COVID-19 outbreak. *International journal of emergency medicine*, 13(1), pp.1-1
4. McCarthy, M.L., 2011. Overcrowding in emergency departments and adverse outcomes.
5. Chalfin, D.B., Trzeciak, S., Likourezos, A., Baumann, B.M., Dellinger, R.P. and DELAY-ED study group, 2007. Impact of delayed transfer of critically ill patients from the emergency department to the intensive care unit. *Critical care medicine*, 35(6), pp.1477-1483.
6. Donnelly, C.A., Ghani, A.C., Leung, G.M., Hedley, A.J., Fraser, C., Riley, S., Abu-Raddad, L.J., Ho, L.M., Thach, T.Q., Chau, P. and Chan, K.P., 2003. Epidemiological determinants of spread of causal agent of severe acute respiratory syndrome in Hong Kong. *The Lancet*, 361(9371), pp.1761-1766.