

**THE PATTERN OF NON-COVID PAEDIATRIC ADMISSIONS IN
TWO UNIVERSITY HOSPITALS IN MALAYSIA: BEFORE AND
DURING THE COVID-19 PANDEMIC WITH MOVEMENT
CONTROL ORDER**

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**DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF
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CHAPTER I:

THE PRELIMINARIES

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ABBREVIATIONS

USM	: Universiti Sains Malaysia
HUSM	: Hospital Universiti Sains Malaysia
SASMEC@IIUM	: Sultan Ahmad Shah Medical Centre @IIUM
MCO	: Movement Control Order
PKP	: Perintah Kawalan Pergerakan
SARS	: Severe Acute Respiratory Syndrome
SPSS	: Statistical Package for the Social Science

ABSTRAK

Latar belakang – Koronavirus atau dikenali sebagai SARS-COV-2 telah ditemui pada Disember 2019 di Wuhan, sebuah bandaraya terbesar di China yang telah menyebabkan penyakit Koronavirus (COVID-19). Wabak ini telah merebak dan menyebabkan implikasi yang besar kepada masyarakat di seluruh dunia. Di Malaysia, kerajaan telah melaksanakan Perintah Kawalan Pergerakan 2020 mulai 18 Mac 2020 sehingga 14 April 2020, dan seterusnya telah dilanjutkan kepada 1 Ogos 2021 kepada beberapa fasa. Tujuan perlaksanaan perintah tersebut adalah bagi mengurangkan kadar jangkitan dan seterusnya melandaikan lengkungan epidemiologi kepada keadaan yang lebih terkawal. Secara tidak langsung, ketika perlaksanaan perintah tersebut, kanak-kanak tidak dibenarkan ke sekolah dan berinteraksi dengan sesama sendiri. Secara teori, ini dapat mengurangkan kadar jangkitan penyakit selain Koronavirus dan menurunkan kadar kemasukan pesakit ke hospital.

Objektif – Tujuan Kajian adalah untuk mengkaji ciri-ciri demografi pesakit yang dimasukkan ke hospital bukan COVID iaitu Hospital Universiti Sains Malaysia (USM) dan Pusat Perubatan Sultan Ahmad Shah (SASMEC@IIUM). Kajian juga bertujuan untuk membandingkan jumlah kemasukan pesakit sebelum dan ketika perintah kawalan pergerakan dilaksanakan dan membandingkan ciri-ciri kes yang dimasukkan di antara dua tempoh tersebut.

Metodologi- Kajian retrospektif ini melibatkan Hospital USM dan SASMEC@IIUM yang telah dijalankan di dalam dua fasa. Fasa pertama dijalankan dari 19 Februari 2020 sehingga 17 Mac 2020 dimana ini adalah tempoh 4 minggu sebelum Perintah Kawalan Pergerakan dilaksanakan. Fasa kedua melibatkan tempoh 4 minggu ketika ‘Perintah Kawalan Pergerakan’ dilaksanakan iaitu dari 18 Mac 2020 sehingga 14 April 2020. Kajian ini melibatkan semua kanak-kanak dan remaja yang berumur 18 tahun ke bawah yang dimasukkan ke wad general kanak-kanak termasuk ward pembedahan kanak-kanak dan unit rawatan rapi. Analisa deskriptif digunakan untuk meringkaskan pembolehubah socio-demografi. Analisa T Sampel tidak bersandar (Independent t-test) diaplikasi untuk membandingkan kadar kemasukkan setiap hari di antara sebelum dan ketika Perintah Kawalan Pergerakan ke Hospital USM dan SASMEC@IIUM. Ujian Khi Kuasa Dua (Chi Square test) dan ujian Mann-Whitney di aplikasi untuk membandingkan ciri-ciri kes yang dimasukkan di antara dua tempoh tersebut.

Keputusan – Sebanyak 496 dan 191 kemasukan masing-masing ke Hospital USM dan SASMEC@IIUM dalam kedua-dua tempoh sebelum dan ketika tempoh Perintah Kawalan Pergerakan. Terdapat penurunan ketara kemasukkan ke kedua-dua hospital selepas pelaksanaan Perintah Kawalan Pergerakan. Untuk Hospital USM, kemasukan hospital pada tiap-tiap hari menunjukkan penurunan ketara selepas pelaksanaan Perintah Kawalan Pergerakan dengan purata 10 kemasukan setiap hari (sebelum PKP) kepada 7 kemasukan setiap hari (ketika PKP) (95% CI 1.54,7.54, $p=0.001$). Serupa, kemasukan setiap hari ke SASMEC@IIUM juga menunjukkan penurunan jumlah kemasukan di mana purata kemasukan setiap hari sebanyak 5 sebelum PKP telah menurun kepada 3 kemasukan setiap hari ketika tempoh PKP (95% CI 0.61, 3.15, $p=0.005$). Selain itu, dilihat terdapat

penurunan kemasukan pesakit ke hospital disebabkan oleh penyakit respiratori di mana 196 (45.6%) pesakit dimasukkan sebelum PKP dan terdapat sedikit penurunan kes kepada 112 (43.6%) ketika PKP. Begitu juga dengan penyakit berjangkit menunjukkan penurunan dimana 29 (6.7%) pesakit dimasukkan sebelum PKP telah menurun kepada 15 (5.8%) pesakit ketika PKP. Walaubagaimanapun, dilihat terdapat penurunan ketara kes neurologi ($p=0.029$) di antara dua tempoh tersebut.

Kesimpulan – Langkah penjarakkan sosial yang diambil oleh kesihatan awam telah dapat memberhentikan penularan wabak COVID-19 dan secara tidak langsung menurunkan kes bukan COVID. Terdapat penurunan ketara kemasukan kes bukan COVID kanak-kanak ke hospital dilihat di dalam kajian kami, dimana ini berpotensi sebagai akibat langkah tersebut. Oleh itu, penjarakan sosial dan kebersihan diri yang baik patut diteruskan walaupun COVID-19 era telah mencapai tahap endemik.

Kata kunci: COVID-19, PKP, Kes bukan COVID, kemasukan kanak-kanak

ABSTRACT

Introduction: A novel coronavirus called SARS-CoV-2 was discovered in December 2019, in Wuhan, Hubei Province, China which led to coronavirus disease 2019 (COVID-19). The outbreak of this disease has caused major impact to the society worldwide. In Malaysia, government had implemented the *Perintah Kawalan Pergerakan 2020* (*Movement Control Order 2020, MCO*) from March 18 until April 14 2020 then subsequently had been extended to August 1 2021 in few phases. The aim of this measure was to reduce new infections and thus flattening the epidemiological curve into a more manageable scenario. The indirect effect of this directive also lead to children not attending school and intermingling with their peers and thus theoretically also leading to reduction of non-COVID infective illnesses and hospital admission.

Objective: The goal of the study was to describe the demographic characteristics of patients admitted to non-COVID hospitals which were Hospital USM and Sultan Ahmad Shah Medical Centre (SASMEC@IIUM). Study also aimed to compare the rate of hospital admissions between pre and during MCO periods and to differentiate the characteristics of cases admitted between these two periods.

Materials and Methods: This was a retrospective study involving Hospital USM and SASMEC@IIUM that was conducted in two phases. Phase I was the period between February 19 2020 until March 17 2020 which was the 4 weeks period prior to MCO lockdown. Phase II was the 4 weeks during MCO lockdown (March 18th 2020 until April

14th 2020). It involves all children under 18 years of age who were hospitalised in the general paediatric wards including paediatric surgical ward and Intensive care unit (ICU). Descriptive statistics were used to summarize the socio-demographic variables. Independent t-test analysis was applied to compare the rate of admissions per day between pre and during MCO to Hospital USM and SASMEC@IIUM. Chi square test and Mann-Whitney test were applied to compare the characteristics of cases admitted during these two periods.

Results: There is a total 496 and 191 admissions to Hospital USM and SASMEC@IIUM respectively during both pre- MCO and MCO period. There were 283 (57.1%) boys and 213 (42.9%) girls admitted to Hospital USM and 105 (55%) boys and 86 (45%) girls admitted to SASMEC@IIUM with Malays as the predominant ethnic. Most admissions to both centres were between the ages of 1-7 years old. There were significant reduction in hospital admissions to both centres after implementation of *Perintah Kawalan Pergerakan 2020 (Movement Control Order 2020, MCO)* on March 18, 2020. For Hospital USM, the daily hospital admissions has significantly decreased after the implementation of MCO with mean of 10 admissions per day (pre MCO) to 7 admissions per day (during MCO) (95% CI 1.54,7.54, $p=0.001$). Similarly, daily hospital admissions rate to SASMEC@IIUM also has shown a significant reduction of admission number whereby the average daily admissions of 5 pre MCO has decreased to 3 admissions during MCO period (95% CI 0.61, 3.15, $p=0.005$). Besides, there were reduction of patients admitted to hospital due to respiratory illnesses observed whereby 196 (45.6%) patients admitted pre MCO and there was a slight reduction of the cases to 112 (43.6%) patients during MCO. Similarly, infectious disease cases also have shown reduction where 29 (6.7%) patients were admitted

pre MCO and this has reduced to 15 (5.8%) patients during MCO. Nevertheless, there was a significant reduction of neurological cases ($p=0.029$) was observed between the two periods.

Conclusion: Public health measures social distancing stop the outbreak of COVID-19 cases, and indirectly reducing the non COVID-19 cases. There was a significant reduction of non-COVID paediatric hospital admissions observed in our study, which could potentially be as a consequences of these measures. Thus, the social distancing and good personal hygiene should be continued even though the COVID-19 era has reached endemic status.

Key words: COVID 19, MCO, Non-Covid Cases, Paediatric Admission

CHAPTER II:

THE TEXT

2.1 SECTION A:

INTRODUCTION

INTRODUCTION

A novel coronavirus was discovered in December 2019, in the Wuhan, a city in the province of Hubei, China.^(1,2) The coronavirus, since termed SARS-CoV-2 causes the coronavirus disease 2019 (COVID-19). This disease has caused massive economic, financial, social and medical challenges around the globe. The World Health Organization has categorised the COVID-19 outbreak initially as Public Health Emergency of International Concern and later declared as Pandemic, as it has infected more than 270 million people worldwide and caused more than 5 million deaths by December 2021.^(2,3) In Malaysia, the confirmed cases of COVID-19 have been significant and increasing in number. The government has implemented the *Perintah Kawalan Pergerakan 2020* (*Movement Control Order 2020, MCO*) from March 18 until the April 14 2020 then subsequently has been extended to August 1 2021 in few phases.⁽⁴⁾

The MCO is a cordon sanitaire to curb the spread of the disease during which mass gatherings were prohibited, movement of people were severely restricted, closure of all governmental and private institutions and offices except for essential services along with closure of all religious, social, cultural and sports activities among others.⁽⁵⁾ The restrictions imposed have broad consequences on the lives of population as well as children. The purpose of this measure is to reduce new infections and thus flattening the epidemiological curve into a more manageable scenario.^(4,5) The indirect effect of this directive also leads to children not attending school and intermingling with their peers. Theoretically, social distancing should reduce non COVID infective illnesses and hospital admission. However, many other factors need to be considered in the pre- or during the MCO intervention in this pandemic.

Movement Control Order (MCO) has been executed based on few measures that has been practiced similar to past influenza pandemics such as school closure, reducing workplace attendance, lessening social and community contact and enforcing home isolation of symptomatic individuals.^(6,7,8,9) The implementation of these measures has shown significant reduction of influenza cases to combat the epidemic development of influenza.^(11,12,13) Furthermore, these measures have reduced the incidence of other viral respiratory diseases as well.^(9,10) During the COVID-19 pandemic, MCO limits children movement and interaction with other children. Hypothetically, good compliance to the requirements of MCO should reduce the rate of cross infection and transmission of seasonal viruses within the community.

To the best of our knowledge, there are very few local studies to explore the effect of MCO on non-COVID-19 paediatric admissions in the hospital setting. Therefore, the aim of this study is to investigate the pattern of hospital admissions for paediatric patients during the pandemic period.

2.2 SECTION B:

STUDY PROTOCOL

2.2.1 DOCUMENTS SUBMITTED FOR ETHICAL APPROVAL

DISSERTATION PROPOSAL



School of Medical Science
University Science Malaysia
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The Pattern of Non-Covid Paediatric Admission in Two University Hospitals in Malaysia: Before and During the COVID-19 Pandemic with Movement Control Order

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Introduction

A novel coronavirus was discovered in December 2019, in the Wuhan, a city in the province of Hubei, China. The coronavirus, since termed SARS-CoV-2 causes the coronavirus disease 2019 (COVID-19). This disease has caused massive economic, financial, social and medical challenges around the globe. The World Health Organization has categorised the COVID-19 outbreak initially as Public Health Emergency of International Concern and later declared as Pandemic, and has infected more than 500,000 people worldwide and caused more than 28000 deaths by end of March 2020. In Malaysia, the confirmed cases of COVID-19 have been significant and increasing in number. The government has implemented the *Perintah Kawalan Pergerakan 2020 (Movement Control Order 2020, MCO)* from March 18 until the April 14 2020 then subsequently has been

extended to April 28 2020. The MCO is a cordon sanitaire to curb the spread of the disease, during which, mass gatherings were prohibited, movement of people were severely restricted, closure of all governmental and private institutions and offices except for essential services and closure of all religious, social, cultural and sports activities among others. The restriction imposed has broad consequences on the lives of population as well as the children. The purpose of this measure is to reduce new infections and thus flattening the epidemiological curve into a more manageable scenario. The indirect effect of this directive also leads to children not attending school and intermingling and thus theoretically also leading to reduction of non COVID infective illnesses. However, many other factors need to be considered pre, during and post the intervention event of this pandemic.

The purpose of the study is to investigate the pattern of hospital admission for paediatric patients during the pandemic period. The study was conducted in two different university hospitals located in the East Coast of peninsular Malaysia. Hospital USM is a tertiary hospital and teaching hospital with 723 bed. The hospital is considered as COVID free hospital but actively screening for severe acute respiratory disease patient and preparing to receive any confirmed COVID-19 cases. Sultan Ahmad Shah Medical Centre SASMEC@IIUM is also a tertiary hospital in the East Coast of Peninsular Malaysia, and a teaching hospital with 350 beds. SASMEC@IIUM is not a COVID-designated hospital, prepared to receive efflux of non-COVID patients from COVID-designated hospital and is preparing to also receive and look after COVID-patients.

Problem statement & Study rationale

COVID-19 is a novel virus that affect humankind globally. Malaysian government has taken drastic measure such as MCO for nearly 6 weeks to ensure flattening the epidemiological cases of COVID-19. MCO limits children movement and interaction with other children. Theoretically, with good compliant of population to MCO, this should reduce the rate of cross infection and transmission of seasonal viruses in the community. There has been minimal study to explore the effect of MCO to the non-COVID-19 infectious and non-infectious cases for paediatric admission in the hospital.

Research Question(s)

Does MCO period affect the pattern of non-COVID admissions (infectious and non-infectious cases) to the tertiary university hospitals?

Objective**General Objective:**

To study the pattern of general paediatric admission during the MCO of COVID-19 pandemic.

Specific Objective:

- A) To describe the demographic characteristics of patients admitted to non-COVID hospitals.
- B) To compare the rate of admission per day between pre and during MCO to non-COVID hospitals.
- C) To compare the characteristics of admitted paediatric cases between pre and during MCO periods to non-COVID hospitals.

Literature review

George J. Milne, Joel K. Kelso, Heath A. Kelly, Simon T. Huband and Jodie McVernon conducted a study regarding *A Small Community Model for the Transmission of Infectious Diseases: Comparison of School Closure as an Intervention in Individual-Based Models of an Influenza Pandemic*. It was published in PLOS one Journal in 2008. The study aimed to demonstrate the development of the model and its application to a human pandemic, with a pandemic virus spreading into community from other parts of the state. The model included four social distancing measures which were school closure, reduced workplace attendance, reduced social and community contact and increase home isolation of symptomatic individuals. Results showed final attack rate was about 33% to 65% with no interventions whereas the final attack rate significantly reduce with four different non-pharmaceutical interventions applied. Case isolation, school closure, workplace non-attendance or community contact reduction that has been applied showed significant reductions from baseline of 33% to 6%, 13%, 24% and 16% respectively.

Joel K Kelso, George J Milne and Heath Kelly conducted a study entitled *Simulation suggests that rapid activation of social distancing can arrest epidemic development due to a novel strain of influenza*. It was published in 2009 in BMC Public Health Journal. The study was conducted in the south west of Western Australia (Albany) with a population of approximately 30,000. Four social distancing interventions were simulated consisting of school closure, increased isolation of symptomatic individuals in their household, workplace non-attendance and reduction of contact. Results showed for an epidemic with R_0 value of 1.5, a combination of all four social distancing measures could reduce the final attack rate from 33% to below 10% if introduced within 6 weeks from the

introduction of the first case. In contrast, for an R_0 of 2.5 these measures must be introduced within 2 weeks of the first case to achieve a similar reduction; delays of 2, 3 and 4 weeks resulted in final attack rate of 7%, 21% and 45% respectively. For an R_0 of 3.5, the combination of all four measures could reduce the final attack rate from 73% to 16%, but only if introduced without delay. Delays of 1, 2 and 3 weeks resulted in final attack rate of 19%, 35% and 63%.

Robert J. Glass, Laura M. Glass, Walter E. Beyeler and H. Jason Min conducted a study regarding *Targeted Social Distancing Design for Pandemic Influenza* and was published in 2006. The study was done in a community of 10,000 persons in a small US town. Total infected persons were 4908. Results showed closing schools the day after 10 symptomatic cases (with 90% compliance) reduces the attack rate by 22%. Closing schools with children kept at home (with compliance 90%) reduces the attack rate by 47%. On the other hand, closing schools with children and teenagers kept at home (with 90% compliance) showed significant reduction of attack rate by 93%. However, closing schools with children and teenagers kept at home (with compliance 50%) reduces the attack rate by 68%.

Another study regarding social distancing measures was done by Anthony Heyman, Gabriel Chodick, Brian Reichman, Ehud Kokia and Joseph Laufer. The research was published in 2004 in *Pediatric Infectious Disease Journal*. They conducted a study regarding *Influence of School Closure on the Incidence of Viral Respiratory Diseases Among Children and on Health Care Utilization*. The study was carried out in Maccabi Healthcare Services in Israel which provides health care services for 1.6 million members

representing every socioeconomic group. They assembled a retrospective cohort of all 6- to 12-year-old children comprising 186,094 children. The data was collected for three 2-week periods in which before school closure, during closure and after closure. Results revealed total diagnoses with infectious respiratory tract disease decreased from 22,088 during the period before closure to 12,860 during the closure period (relative risk, 0.58: 95% confidence interval (CI 0.57-0.59) and increased to 16,205 (relative risk, 0.79: 95% CI 0.78-0.81) after the closure ended. There was a significant ($P < 0.001$) drop in the rate of diagnoses of respiratory tract infections during the school closure period where it declined from 44.0/1000 children during the 2-week period before school closure to 24.7/1000 children during the period of school closure, subsequently increasing to 30.8/1000 children during the 2-week period after the school closure. Significant ($P < 0.001$) reductions occurred in the rate of visits to physicians, visits to emergency departments and medication purchases during the closure period compared with the periods before and after. There was 28% reduction in physician visits during the closure period with subsequent increase of 13% after the closure. Visits to emergency departments decreased by 28% during the closure period, subsequently returning to preclosure levels. Similarly, a decrease of 35% and 12% occurred in medication purchases during and after the closure, respectively.

Research design

Retrospective record review of cases admitted to general paediatric ward including paediatric surgical ward and intensive care unit (ICU) pre and during MCO periods.

Study area

Two University hospitals will be used as the site of study, namely the Hospital USM and Sultan Ahmad Shah Medical centre (SASMEC@IIUM).

Study population

Reference population	All non-COVID-19 paediatric admission to paediatric wards
Source population	Paediatric cases admitted to paediatric ward
Sampling frame	Admission list / register from paediatric ward. Case notes will be retrieved to gather all the data

Subject criteria

Inclusion criteria:

1. All children under 18 admitted for acute general cases either infection or non infection causes
2. Paediatric surgical cases
3. General paediatric and paediatric surgical cases admitted to Intensive care unit (ICU)

Exclusion Criteria:

1. Co-existing or delayed diagnosis of COVID positive cases
2. Admission to oncology ward
3. Elective cases for investigations or surgical intervention

Sample size estimation

$$\sqrt{N} = \frac{(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}) \sqrt{2(\mu_1 + \mu_0)}}{\mu_0 - \mu_1} \quad (11)$$

```
> # calculate sample size Poisson
> # Ref: Cundill and Alexander. Sample size calculations for skewed distributions.
  BMC Medical Research Methodology (2015) 15:28
> a = .05
> b = 1 - .8
> z_a = qnorm(1-a/2)
> z_b = qnorm(1-b)
> data_pre = c(7,10,7,9,14,6,15)
> data_mco = c(12,7,10,13,5,10,8,12,4,8,4,1,3,5,14)
> mu0 = mean(data_pre)
> mu1 = mean(data_mco)
> n_poisson = (((z_a + z_b) * sqrt(2*(mu1+mu0))) / (mu0 - mu1))^2
> ceiling(n_poisson)
[1] 70
> sum(data_mco)
[1] 116
> sum(data_pre)
[1] 68
```

We use generalized linear models (GLMs) theory to derive sample size formula for poisson distribution.

Total sample sizes required are at least 70 patients per period ($n = 70/\text{period}$).

For this study, all patients admitted to general paediatric ward that fulfilled inclusion criteria will be included in the study.

Sampling method and subject recruitment

Universal sampling method

Research tool

Not required. Only clinical data needed.

Operational definition

1. Movement Control Order

- A cordon sanitaire to curb the spread of the disease, during which, mass gatherings were prohibited, movement of people were severely restricted, closure of all governmental and private institutions and offices except for essential services and closure of all religious, social, cultural and sports activities among others. It was implemented by government from March 18th 2020, but no definite period of ending yet.

2. Non-COVID cases

- Infection and non-infection general cases admitted to paediatric wards

3. Hospital admission rate

- Number (and mean) of hospital admissions per person per day

4. Urban/Suburban area

- Gazette areas with their adjoining built-up areas, which had a combined population of 10,000 or more at the time of the Census 2010 or the special development area that can be identified, which at least had a population of 10,000 with at least 60 % of population (aged 15 years and above) were involved in non-agricultural activities.

5. Rural area

- Areas outside urban including settlements with population less than 10,000 people having agriculture and natural resources in which its population either clustered, linear or scattered.

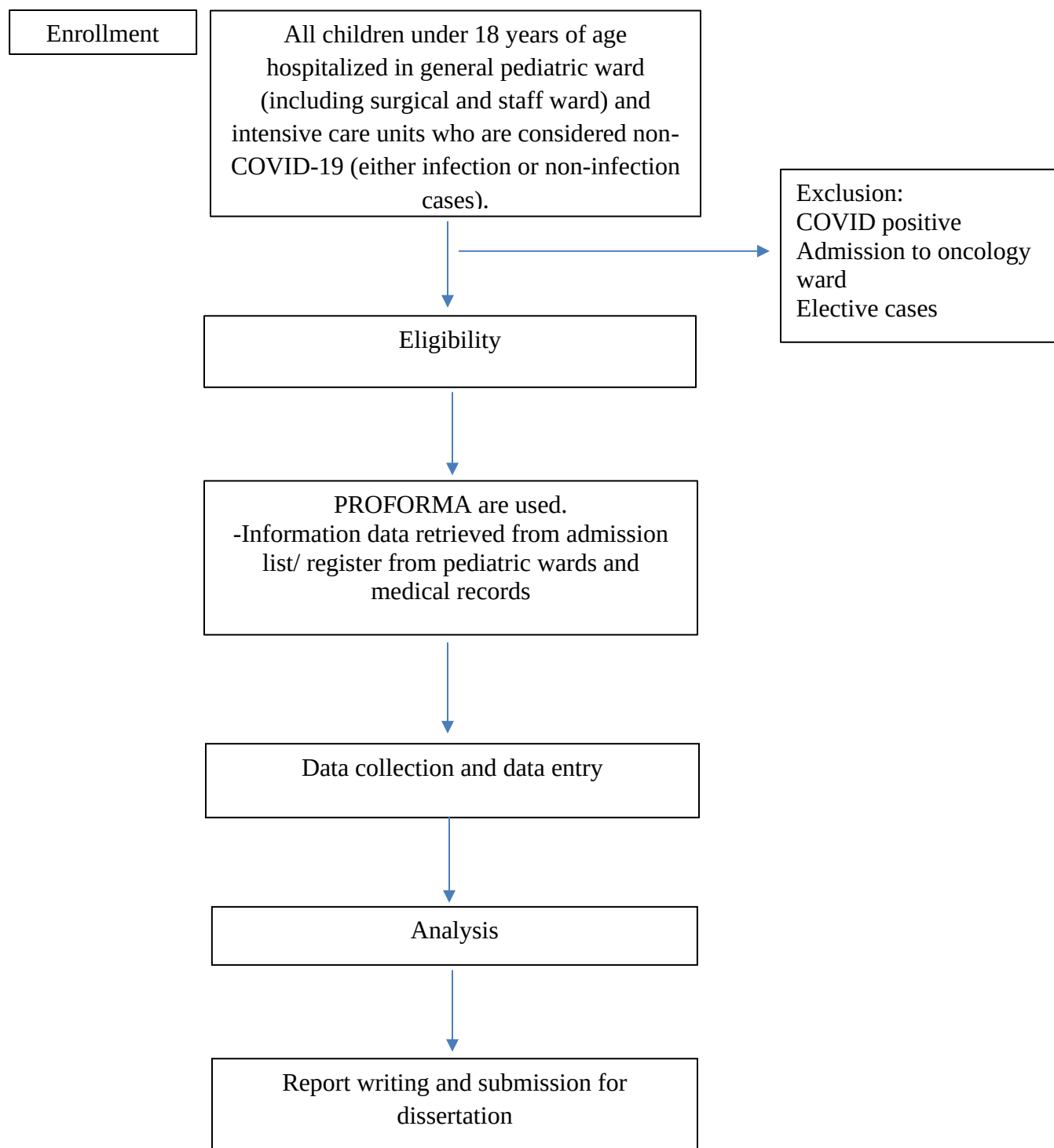
Data collection method

Duration of the study

- 4 weeks before the MCO (19th February 2020 until 17th March 2020)
- 4 weeks during the MCO (18th March 2020 until 14th April 2020)

Study design

- Retrospective record review. List of admission will be taken from the admission book. Cases will be divided into pre and during MCO. Demographic data collected according to proforma.

Study flowchart

Data analysis

Data will be entered and analysed using SPSS version 27. Descriptive statistics will be used to summarise the socio-demographic characteristics of subjects. Numerical data will be presented as mean (SD) or median (IQR) based on their normality distribution.

Categorical data will be presented as frequency (percentage). Results will be presented as mean and standard deviation (SD) for normally distributed numerical data, or median and inter-quartile range for skewed numerical data. For categorical data, the results will be presented as frequency and percentage (%).

Independent t-test will be used to compare rate of admission per day between pre and during MCO to Hospital USM and SASMEC@IIUM.

Chi-square test and Mann-Whitney test will be used to compare the characteristic of cases admitted between pre and during MCO. A significance level of $\alpha = 0.05$ is set for the threshold of statistical significance.

Result(s)**Demographic Data****Objective 1****Table 1: Sociodemographic characteristics of patients admitted to Hospital USM and SASMEC@IIUM**

	No (%)	
	Total, n=	
	Hospital USM, n=	SASMEC@IIUM, n=
Sex		
Male		
Female		
Age (years)		
<1		
1-7		
7-12		
>12		
Age on admission		
Race		
Malay		
Chinese		
Indian		
Others		

Family income ⁽¹⁴⁾ B40 M40 T20		
Area of living ⁽¹⁵⁾ Urban/ suburban Rural		
Number of household		
CO-MORBIDITY None Neurology Respiratory Cardiology Genetic Others		
Length of stay		
EDUCATION OF PATIENT Not schooling Kindergarten Primary school Secondary school		

*Median (IQR)

Objective 2

Hospital admission rate

Table 2: Comparison of hospital admission rate per day between 4 weeks pre MCO and 4 weeks during MCO period

Hospital	Admission rate/day, Mean (SD)		Mean difference (95% CI)	p-value
	4 weeks Pre-MCO	4 weeks During MCO		
Both Centre				
Hospital USM				
SASMEC @IIUM				

#Independent t-test

Objective 3

Table 3: Comparison Characteristics of cases admitted between 4 weeks pre MCO and 4 weeks during MCO period.

Variables	Pre MCO n (%)	During MCO n (%)	X ² (df)	p-value
Total no of admission	n=	n=		
Age				
Area of living				
Urban				
Rural				

Length of stay				
Presentation upon admission Fever Yes No Respiratory symptoms Yes No Seizure Yes No Diarrhoea Yes No				
Underlying Illness Respiratory Yes No Cardiology Yes No				

Neurology Yes No Genetic Yes No Others Yes No				
ICU Yes No				
ICU admission due to respiratory illness Yes No				
Diagnosis upon discharge Respiratory Yes No				