*Original Research Article*

# Analysis of the Challenges to Healthcare Access among the Economically Disadvantaged Population during the Movement Control Order for Covid-19 Pandemic in Selangor - Malaysia


## ABSTRACT

**Background & Aim:** The Healthcare systems all over the world were severely affected by the COVID-19 pandemic. Most of the burden is affecting the economically disadvantaged population (B40). This study aims to determine the challenges to healthcare access among B40 populations during the movement control order (MCO) for COVID-19 pandemic in Selangor, Malaysia.

**Methodology**: A cross-sectional study was done using a remote data collection method by distribution of questionnaires to 381 participants among the B40 populations in Selangor.

**Results**: The response rate was 80%. The participants agreed that it was very easy (16.3%), easy (29.1%) and moderate (28.3%) to access healthcare services during the pandemic. The challenges faced by the participants in accessing the healthcare service include transportation (35.4%), distance to obtain health care service (19.4%), delay in getting the service (38.1%), E-health service (18.6%), financial support for travel (18.6%) and financial support for healthcare service (35.7%). Participants who reduced spending on essential needs during the pandemic were 45.9%. More than half of the participants (61.4%) do not have a health financial protection plan as the government is subsidizing almost 98% of the healthcare cost. During the MCO period, 50.9% of the participants utilized the outpatient services which comprises 70.1% of public facilities and 29.9% of private facilities. In contrast, only 13.9% of participants utilized inpatient services from which public and private facilities were 75.5% and 24.5% respectively. The result shows the response of the study participants according to the satisfactory/dissatisfactory level regarding the quality of service being effective (45.8%/ 2.5%), safe (48.3%/ 2.0%), people centered (51.7%/ 2.0%), timely (37.4%/ 13.8%), equitable (47.8%/ 2.0%) and integrated (40.4%/ 3.0%).

**Conclusion**: It is concluded that healthcare services were accessible among the B40 population during the COVID-19 in Selangor and the biggest challenge was the delay in medical services.



*Keywords: Urban poor, COVID-19 pandemic, Healthcare access, Movement Control Order, disadvantaged population*


## 1. INTRODUCTION

Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2) is the seventh human coronavirus that was responsible for the Coronavirus-19 Disease (COVID-19) pandemic [1]. As of 30th September 2021, Malaysia has reported a total of 2,245,695 cases and 12,736 daily cases according to the Ministry of Health Malaysia (MOH) which puts Malaysia at rank 20 globally for the cumulative total number of COVID-19 cases worldwide. Selangor state is recorded the highest daily cases in Peninsula Malaysia which is 1,940 new cases [2]. In response to the surge of cases of COVID-19, The Malaysian government implemented a countrywide lockdown known as the Movement Control Order (MCO). The initial MCO,

named MCO 1.0 was first announced on 18th March 2020 and lasted until 31st March 2020. Since then, Malaysia has been under varying degrees of lockdowns according to rates of positive cases. On 15th June 2021 Malaysia entered a national recovery state to balance the control of infectivity while maintaining the country's economic health. As of 30th September 2021, Selangor is in Phase 3 of the National recovery Plan [3].

According to Department of Statistics Malaysia (DOSM), the estimated population in Malaysia in 2021 is 32.7 million. B40 represents the Bottom 40%, M40 represents the middle 40%, whereas T20 represents the top 20% of Malaysian household income. B40 group of Malaysian citizens in the bottom 40% household income range which is less than 4,850 Malaysian Ringette (MR) [4]. The highest number of B40 groups in urban areas is in the State of Selangor which is 16.6% [5]. There is an increasing trend of undiagnosed non-communicable disease (NCD) among the B40 population aged 40 and above [6].

In Malaysia, the healthcare system is divided into 2 sectors: public (universal care) and private sector. For the public healthcare system in Selangor as of 2019, it was reported that there are 12 government hospitals available, with at least one in each district of Selangor. There are also 80 health clinics, 4 maternal and child health clinics, 40 "1Malaysia" clinics and 115 community clinics available in Selangor. On the other hand, there are a total of 57 private hospitals available in almost all districts of Selangor. There are 9 maternity hospitals, and 2903 private clinics scattered all over the state. The private sector comprises 37 ambulatory care centers and 109 private hemodialysis centers [7].

Healthcare access is typically described as the ability to obtain adequate healthcare services according to individual requirements. The ease with which people receive essential healthcare is referred to as healthcare access [8]. Healthcare covers a broad group of services such as prophylactic treatment, long term disease management, emergency medical services, psychological health services, dental treatment and other public services that improve health and general wellbeing [9].

The right to health is an essential part of our human rights. The access to health care remains a complex matter as demonstrated by the differing interpretations of different authors and organizations [10]. The European Patient Forum (EPF) identified the dimensions of access to healthcare as availability, accessibility, affordability, adequacy, and appropriateness [11]. The healthcare services have three aspects; (1) Access: availability, affordability, accessibility, appropriateness, and adequacy, (2) patient experience, and (3) continuity of care [12]. It is evident that healthcare access is especially important in lower socioeconomic communities as the burden of non-communicable diseases is impartially greater in such communities [13]. Moreover, the prevalence of comorbidities increases the risk of severity of COVID-19 [14]. Besides, the movement control order (MCO) during Covid-19, there is a decrease in utilization of the healthcare services [15] that may be due to challenges in accessing the healthcare services. This study aims to assess the healthcare access among the B40 population in Selangor state, Malaysia during the COVID-19 pandemic and to determine the challenges that may affect their access to the healthcare services.



## 2. METHODOLOGY

This is a quantitative-based cross-sectional study that was conducted among the B40 income group in Selangor state - Malaysia in September 2021 after having ethical approval. The study participants were from the B40 income group, residing in Selangor and above the age of 18 years old. The participants must be reachable via phone or over the internet and willing to participate in the survey.

This study was conducted in Selangor, Malaysia. Selangor is one of the states in Malaysia with an area of 8,104 km2, it is situated on the West coast of Peninsular Malaysia appointing Shah Alam as its state capital. Selangor is the most populous state in Malaysia with a

population of 6.56 million [16]. In 2020, the Ministry of Health Malaysia (MOHM) and National Security Policy (MKN) has decided to announce Zone Classification areas based on the number of population and rising cases onto particular region such as Red zones (>40 cases), Orange zone (21-40 cases), Yellow (1-20 cases), and Green zone (Zero case). Many districts in Selangor have been declared as red zone areas since 15th January 2021. Selangor is owning the highest COVID-19 cases compared to other states in Malaysia. As of the 16th of September 2021, Selangor alone has recorded a total of 651,642 (32%) out of 2 million confirmed cases. Consequently, Selangor has always been put under stricter and longer period of MCO. Currently "September 2021", Selangor remains in Phase 1 of the National Recovery Plan (NRP). The MCO has led to devastating impacts on all aspects of life especially among the vulnerable communities. As such, Selangor is selected to be the study area to explore the challenges to healthcare access among the urban poor in Selangor during the COVID-19 MCO.

Convenience sampling technique was used to select the study population for data collection. An Infinite single population proportion calculation (Cochran's Formula) was used to determine the sample size for this research. 20% non-response rate was included, resulting in a total sample size of n= 452. After a pilot study was taken, 30 participants were added. (Actual participants = 381)

A standard questionnaire was prepared and accessible in English and Malay language. Back-to-back, translations content, face validity and reliability rest were done before it was distributed to target participants. This questionnaire has 16 questions arranged in two sections: Section A (sociodemographic data), Section B (healthcare access). The domains of healthcare access that are studied in this study are availability, accessibility, affordability, utilization and adequacy. First subsection was on availability and the question describes the participants choice regarding how difficult or easy it was to obtain healthcare services from the following options: 'Very difficult', 'difficult', 'moderate', 'easy', and 'very easy'. The second subsection was regarding challenges faced with regards to accessibility of healthcare and participants were instructed to choose all that applies to them from the following options: Transportation, distance to obtain healthcare services, delay in medical check-up, follow-up appointments, walk-in services, financial support for travel and financial support for healthcare services. The third subsection was regarding affordability of healthcare and contains two questions (question three and question four) where participants choose either 'yes' or 'no'. The fourth subsection which was regarding utilization of healthcare also contains two questions (question five and question six). For question number five and six, participants have to state how many times they have utilized outpatient services and inpatient services respectively and for each question tick whether it was from a private or public healthcare facility. The fifth subsection contains six statements regarding adequacy of healthcare and uses a five-point Likert scale with five options: 1 (very satisfied), 2 (satisfied), 3 (neutral), 4 (dissatisfied), 5 (very dissatisfied).

Remote data collection (RCD) method was conducted to gather data. Questionnaire distribution was divided into interviewer-rated questionnaires - distributed via phone calls and online video conferencing, and self-administered questionnaires – distributed via google form. Descriptive statistics in the form of percentage, mean and average was used to describe the socio demographic data. Along with the sociodemographic data (sex, age, marital status, education, employment status and family income), the five domains of healthcare (availability, accessibility, affordability, utilization and adequacy) were described using descriptive statistics. Data was analyzed by Statistical Package for Social Sciences (SPSS) version 26.0.

Quality assurance of the data was maintained by the supervision of supervisors. The project leader was supervised the work of the supervisors in-charge. Integrity of data was maintained as questionnaire was validated and tested for reliability prior to data collection. Participants had to provide a valid phone number during the participation to ensure valid responses. Google form responses were controlled by the principal investigator and were

disabled for resubmission to prevent multiple responses from the same participant. The collected data was stored carefully in Excel and was only accessible by the investigators conducting the study.
A formal ethical approval letter was obtained from the ethics committees of Management and Science University prior to data collection. Ethical consideration has been maintained during obtaining data with the informed consent of the participants (Code ethics: MSU-RMC-02/FR01/09/L1/085).

## 3. RESULTS

Table 1 shows the sociodemographic profile of all the study participants. Out of 381 participants 26.2% were youth, 36% were young adults, 35.4% were in their middle adulthood and 2.4% were in their older adulthood. From all the study participants, 59.3% were females and 40.7% were males. Regarding the marital status of the study participants, 36.4% were single (never married), 55.4% were married, 7% were divorced, 4.5% were widowed and 2.9% were single parents. Regarding level of education, 10.2% primary level, 39.4% secondary level, 32.3% post-diploma and 8.1% tertiary education. While all the participants were of the B40 income group 59.3% was B1 (monthly income < RM2,500), 22.3% was B2 (monthly income is RM2,501 – RM3,169), 8.9% was B3 (monthly income is RM3,170 – RM3,969) and 9.4% belonged to the B4 subgroup (monthly income is RM3,970 – RM4,849). 56.2% of participants were employed while 25.5% being unemployed and 18.4% being students.

Figure (1) shows the availability of healthcare services during COVID-19 pandemic. Out of 381 participants, 111 (29.1%) participants recognized the healthcare service as easily available while 77 (20.2%) and 23 (6%) participants responded that it was difficult and very difficult respectively. Only 62 (16.3%) of participants responded that it is very easy to get healthcare services while the rest of the participants, 108 (28.3%) responded that it is moderate.
Table 2 shows the issues faced when seeking healthcare services during COVID-19 pandemic in Selangor among the economically disadvantaged population. Out of 381 participants, 135 (35.4%) responded that they had transportation issues but 247 (64.6%) of the participants stated that they have no transportation issue when seeking healthcare services.
Data shows that the issue of having a problem due to far distance to obtain healthcare service was experienced by 74 (19.4%) of the participants while 308 (80.6%) did not experience any issues regarding distance to obtain healthcare services. On the other hand, 145 out of 381 participants which means 38.1% of the participants said that there was delay in medical check-up, follow-up appointments, walk in services during covid-19 pandemic and 287 (61.9%) of the participants said that there was no any delay in medical check-up, follow-up appointments, walk in services during covid-19 pandemic. Moreover, 71 (18.6%) of the participants answered that the E-health services helped them to access healthcare remotely and they also needed financial support for travel in order to access healthcare however, 311 (81.4%) of the participants answered that the E-health service did not help them to access health care remotely and they didn't need any financial support during the COVID-19 pandemic. Finally, out of 381 participants, 136 (35.7%) of them said that they needed financial support for healthcare services while 246 (64.3%) of them did not need any sort of financial support for health care services.

**Table 1: Sociodemographic profile**

| Characteristic | *N (%)* |
|---|---|
| **Age groups** | |
| 18-24 (youth) | 100(26.2) |
| 25-44(young adulthood) | 137(36.0) |
| 45-64 (middle adulthood) | 135(35.4) |
| ≥65 (older adulthood) | 9(2.4) |
| **Gender** | |
| Female | 226(59.3) |
| Male | 155(40.7) |
| **Marital status** | |
| Single | 135(36.4) |
| Married | 211(55.4) |
| Divorced | 7(1.8) |
| Widowed | 17(4.5) |
| Single parent | 11(2.9) |
| **Education level** | |
| Primary | 39(10.2) |
| Secondary | 150(39.4) |
| Post-secondary (pre-university diploma) | 123(32.3) |
| Tertiary education (degree/master) | 69(18.1) |
| **Family Income (B40):** | |
| < RM2,500 (B1) | 226(59.3) |
| RM2,501 – RM3,169 (B2) | 85(22.3) |
| RM3,170 – RM3,969 (B3) | 34(8.9) |
| RM3,970 – RM4,849 (B4) | 36(9.4) |
| **Employment status:** | |
| Employed | 214(56.2) |
| Not employed | 97(25.5) |
| Student | 70(18.4) |

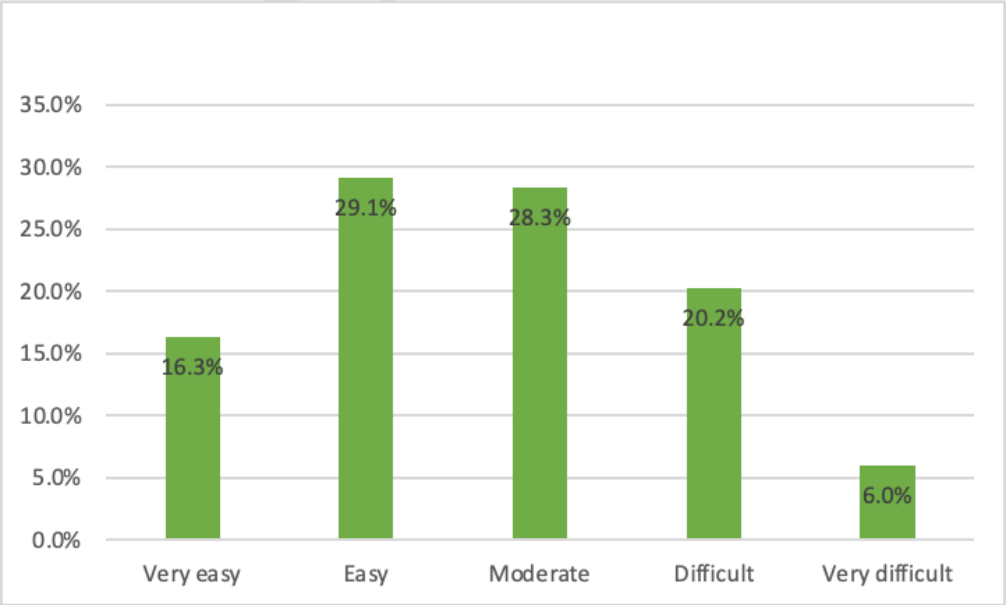


**Figure 1: Availability of healthcare service during MCO**

**Table 2: Issues faced when seeking healthcare services**

| | *N (%)* | |
|---|---|---|
| **Issues faced when seeking healthcare services** | **Yes** | **No** |
| Transportation | 135 (35.4%) | 247 (64.6%) |
| Distance to obtain health care services | 74 (19.4%) | 308 (80.6%) |
| Delay in medical check-up, follow-up appointments, walk-in services | 145 (38.1%) | 237 (61.9%) |
| E-health service to help you access health care remotely | 71 (18.6%) | 311 (81.4%) |
| Financial support for travel | 71 (18.6%) | 311 (81.4%) |
| Financial support for health care services | 136 (35.7% ) | 246 (64.3%) |

Table 3 shows that among the 381 participants in the questionnaires, 206 (54.1%) of total study population said that they did not have to reduce their spending on essential needs to cover the cost of healthcare while the balance of 175 (45.9%) said that they need to reduce their spending on essential needs in order to be able to cover the health care cost
As for the availability of financial protection plans, 230 (60.4%) participants out of 381 of the study population reported to not have any sort of health financial protection plan while 151(39.6%) stated they have some kind of financial protection plan.

Table 4 is showing the utilization of outpatient and inpatient healthcare services during the MCO among the study participants. It is noted that 194(50.9%) people utilized outpatient services while 187 (49.1%) did not utilize outpatient services during the MCO
As for inpatient services, 53(13.9%) utilized it while 328(86.1%) did not utilize it.

Table 4 shows the extent of utilization of outpatient services during the MCO. From the 194 participants that utilized the outpatient healthcare services, 167(86.1%) utilized it between 1-5 times, 21 (10.8%) utilized it 6-10 times and 6 (3.1%) utilized it more than 11 times. Out of the 194 participants who did utilize outpatient services, 136(70.1%) used public healthcare services while 58 (29.9%) sought services from a private healthcare sector.
Table 4 shows the extent of utilization of inpatient services during the MCO. From the 53 participants that utilized the inpatient healthcare services, 49 (192.5%) utilized it between 1-5 times, 1 (1.9%) utilized it 6-10 times and 3 (5.7%) utilized it more than 11 times. Out of the 53 participants who did utilize outpatient services, 40(75.5) used public healthcare services while 13 (24.5%) seek services from a private healthcare sector.

**Table 3: Affordability of healthcare service during COVID-19 pandemic among B-40 income group**

| | *N (%)* | |
|---|---|---|
| | **Yes** | **No** |
| The effect of pandemic on reduction of spending on essential needs | 175 (45.9%) | 206 (54.1%) |
| Do you have a health financial protection plan in order to cover your healthcare cost during the COVID-19 pandemic? (e.g.: government guarantee letter, pension card, government specific health funds, employer-sponsored health insurance, Social Security Organization (SOCSO) funds, personal health insurance) | 151 (39.6%) | 230 (60.4%) |

**Table 4: Utilization of healthcare service during COVID-19 pandemic among B-40 income group**

| | | *Outpatient services utilization N* (%) | *Inpatient services utilization N* (%) |
|---|---|---|---|
| The number of times for service utilization by the study participants | 1-5 | 167 (86.1) | 49 (92.5) |
| | 6-10 | 21 (10.8) | 1 (1.9) |
| | >11 | 6 (3.1) | 3 (5.7) |
| Type of the service utilised | Public | 136 (70.1) | 40 (75.5) |
| | Private | 58 (29.9%) | 13 (24.5) |
| Total number (%) of service utilization | | 194 (50.9%) | 53 (13.9%) |
| Non utilization of the service | | 187 (49.1%) | *328 (86.1)* |

**Table 5: The relationship between healthcare service utilization and the demographic characteristics of the study participants.**

| **Variables** | **Outpatient Services** | | | | **Inpatient Services** | | | |
|---|---|---|---|---|---|---|---|---|
| | **Yes (n = 194)** | **No (n = 187)** | **$\chi^2$** | ***p*-value** | **Yes (n = 53)** | **No (n = 328)** | **$\chi^2$** | ***p*-value** |
| **Age groups** | | | | | | | | |
| **18-24** | 62 | 38 | 8.478 | 0.014 | 5 | 95 | 17.386 | <0.001 |
| **25-44** | 70 | 67 | | | 15 | 122 | | |
| **≥45** | 62 | 82 | | | 33 | 111 | | |
| **Gender** | | | | | | | | |
| **Male** | 57 | 98 | 20.918 | <0.001 | 23 | 132 | 0.188 | 0.665 |
| **Female** | 137 | 89 | | | 30 | 196 | | |
| **Marital status** | | | | | | | | |
| **Single** | 74 | 61 | | | 5 | 130 | | |
| **Married** | 105 | 106 | 1.843 | 0.398 | 36 | 175 | 25.627 | <0.001 |
| **Others** | 15 | 20 | | | 12 | 23 | | |
| **Education level** | | | | | | | | |
| **Primary** | 18 | 21 | | | 10 | 29 | | |
| **econdary** | 65 | 85 | 8.829 | 0.032 | 27 | 123 | 14.219 | 0.003 |
| **Post-secondary** | 75 | 48 | | | 14 | 109 | | |
| **Tertiary** | 36 | 33 | | | 2 | 67 | | |
| **Household income group** | | | | | | | | |
| **B1** | 116 | 110 | | | 35 | 191 | | |
| **B2** | 40 | 45 | 2.221 | 0.528 | 11 | 74 | 1.601 | 0.659 |
| **B3** | 16 | 18 | | | 4 | 30 | | |
| **B4** | 22 | 14 | | | 3 | 33 | | |
| **Employment status** | | | | | | | | |
| **Employed** | 115 | 99 | | | 34 | 180 | | |
| **Not-employed** | 38 | 59 | 7.674 | 0.022 | 17 | 80 | 8.899 | 0.012 |
| **Student** | 41 | 29 | | | 2 | 68 | | |

Table 5 shows the relationship between healthcare service utilization and the demographic characteristics of the study participants. There a significant relationship between utilizing the outpatient service and the age (P 0.014), gender (P0.001), education level (P 0.032) and employment status (P 0.022). There a significant relationship between utilizing the inpatient service and the age (P 0.001), marital status (P 0.001), education level (P 0.003) and employment status (P 0.012).

Table 6 shows the overall satisfaction regarding the quality of healthcare care received during the COVID-19 pandemic for B40 group in Selangor. The quality of healthcare was assessed using six elements, and most patients appeared satisfied with the overall service given. Out of 381 participants of the questionnaire, 178 (46.7%) participants were non applicable, 93 (45.8%) of the participants were satisfied with the healthcare service being effective, followed by 98 (48.3%) being safe, 105 (51.7%) people-centred, 76 (37.4%) for timely, 97 (47.8%) for equitable and 82 (40.4%) for being integrated. Meanwhile, 5 (2.5%) of participants were dissatisfied with the healthcare being effective, 4 (2.0%) for being safe, 4 (2.0%) for people-centered, followed by 28 (13.8%) for timely, 4 (2.0%) for equitable and 6 (3.0%) were dissatisfied with being integrated.

**Table 6: The evaluation of the Quality of healthcare access among the study participants from B40 group who utilized the service during COVID-19 pandemic (203 participants)**

| | Very satisfied | Satisfied | Neutral | Dissatisfied | Very Dissatisfied |
|---|---|---|---|---|---|
| **Effective**: I received good and effective quality care. | | | | | |
| | 62 (30.5%) | 93 (45.8%) | 41 (20.2%) | 5 (2.5%) | 2 (1.0%) |
| **Safe:** I am satisfied with the safety of care provided to me. | | | | | |
| | 61 (30.0%) | 98 (48.3%) | 38 (18.7%) | 4 (2.0%) | 2 (1.0%) |
| **People centred:** I received care that corresponds to my health condition and needs. | | | | | |
| | 56 (27.6%) | **105 (51.7%)** | 35 (17.2%) | 4 (2.0%) | 3 (1.5%) |
| **Timely:** I did not encounter any delay or long waiting time. | | | | | |
| | 32 (15.8%) | **76 (37.4%)** | 55 (27.1%) | 28 (13.8%) | 12 (5.9%**)** |
| **Equitable:** I received care that does not vary in quality on account of gender, ethnicity, geographic location, and socio-economic status. | | | | | |
| | 62 (30.5%) | **97 (47.8%)** | 39 (19.2%) | 4 (2.0%) | 1 (0.5%) |
| **Integrated:** I received care that provides comprehensive lifelong health services. | | | | | |
| | 61 (30.0%) | **82 (40.4%)** | 52 (25.6%) | 6 (3.0%) | 2 (1.0%) |

## 4. DISCUSSION

This study was able to determine that out of 381 participants only 100 (26.2%) found it either difficult or very difficult to obtain healthcare services. Majority of the participants found it easy (29.1%), very easy (16.3%) or moderate ease (28.3%) in obtaining healthcare services. Although the availability of healthcare services was affected during the COVID-19 pandemic in regard to the number of hospital beds, ICU beds, medical equipment and healthcare workers [17]. These results can reflect the efforts done by the Malaysian government for the B-40 income group in regard to healthcare availability. The Malaysian government had increased the number of hospitals to cater to COVID-19 patients, set up provisional hospitals and converted stadiums and public halls into quarantine centers to make sure that the availability of healthcare services during the COVID-19 was minimally affected [18].

Furthermore, this research also concluded that 23 (6.0%) out of 381 participants, found it very difficult to get healthcare services during the COVID-19 pandemic. This result coincides with a study done in India which concluded that a severe scarcity of hospital beds, crippled emergency services, lack of healthcare equipment such as PPE, testing kits, masks, ventilators) has overwhelmed India's healthcare system resulting in lack of availability of healthcare services during the COVID-19 pandemic [19]. Another study done in Italy [20], also correlates with this finding as it reported that while Italy has a usually adequate healthcare system, Italy lacked ICU beds, hospital overcrowding, and has insufficient medical workers. This resulted in healthcare services being unavailable during the COVID-19 pandemic. However, this finding contradicts the Strategic Framework of the Medical programme report by the MOH 2021 [21] and a study done by Shah et al., 2020 [18] which concluded that healthcare services were constantly available during the pandemic even though hospitals were converted into either full or hybrid COVID-19 hospitals as public buildings, stadiums and extra spaces within the hospital were repurposed to accommodate patients. Provisional hospitals were also set up and healthcare workers who were retired were encouraged to volunteer during the pandemic. Adequate medical equipment like PPE, x-ray machines, hospital beds, ventilators were bought, and the capacity of hospital laboratories were increased to ensure the availability of healthcare is not affected by the COVID-19 pandemic.

Among the challenges to accessibility of healthcare, 38.1% of the participants faced delay in medical check-up, follow up appointments and walk in services when seeking healthcare services during COVID-19 pandemic while 61.9% did not. This result coincides with an Australian study of women and their experiences with delayed health care access during COVID-19 due to various factors such as postponing routine screening to avoid COVID-19 exposure, not being able to access specialist healthcare that was far away due to state border closure, not wanting to increase the workload of healthcare workers, and having their appointments rescheduled [22]. Also, another study supports these results as a study case showed that Malaysians experienced transportation and distance along with the waiting time as an issue to access healthcare during COVID-19 pandemic [23].

This research determined that among this study population, the majority of them (54.1%) did not have to reduce their spending on essential needs in order to be able to cover the health care cost whereas 45.9% needed to cut down their expenses in order to fund their health care. The reason for the majority not needing to reduce their spending are correlated by the expenditure of the government to Malaysia's healthcare system where 2.2% of total GDP in 2021 was allocated on healthcare. The affordability of healthcare in Malaysia is considered excellent as Malaysians only need to pay RM1 to receive required treatment in government hospitals and clinics [24].

Other than that, this research also found that 60.4% of the participants reported to not have any kind of health financial protection plan while 39.6% have one or more than one financial protection plan. Thus, this further proves that with the government subsidizing 98% of healthcare cost, and Malaysians only needing to pay as low as RM1 at the government

sector health facilities, healthcare is affordable among Malaysians especially among the B40 population even without having any financial protection plan. This study also correlates directly with the data Asean Briefing where according to them, Malaysia is one of the countries with lowest medical fees in the world [25]. In terms of affordability, it is safe to conclude that healthcare in Malaysia is affordable even among the low socioeconomic income group.

The research conducted reveals that 50.9% of the study group utilized the outpatient during the MCO while 86.1% utilized it at least once. Out of the 50.9% that utilized outpatient services 70.1% used public healthcare facilities while the rest of 29.9% opted for private healthcare establishments.

As for inpatient services, only 13.3% of the study group utilized it while the majority, 86.1% did not require inpatient services during the MCO period. Out of the 13.3% of people that did utilize the inpatient services, 92.5% only required it 1-5 times. From those who did use inpatient services at this time, the majority (75.5%) used public healthcare institutions.

Overall, both outpatients, and especially inpatient service utilization is low according to this study. This can be explained by the ongoing COVID-19 pandemic and its effect on healthcare access leading people to deter away from seeking healthcare, lack of availability due to saturation of COVID-19 cases in hospitals, because people are not able to afford health services due to the economic impact or due to increased use of telemedicine that allows patients to seek healthcare without going to hospitals. A peer-reviewed study backs up the findings of reduced healthcare use, concluding that healthcare utilization for non-COVID-19 diseases has dropped globally [26].

A similar study done among B-40 income groups in Klang Valley, Malaysia revealed that between the period of March to May 2020 since the MCO 1.0 was implemented that only 19.5% of the low-income population have utilized healthcare services. This was 13.6% less than the healthcare utilized in the period after the MCO. From this study it is evident that healthcare utilization is much better among the B-40 income group in Selangor during the MCO [15].

A peer-reviewed study backs up the findings of reduced healthcare use, concluding that healthcare utilization for non-COVID-19 diseases has dropped globally [26].

Findings from this show that the study population were able to afford healthcare services without needing to cut back on their essential spending due to the affordable healthcare system already in place by the government. In Malaysia, the Gleneagles and Pantai hospitals provide e-health services that enable patients to speak with their doctor through video chat and have their medicine delivered to their door if they want to continue with the recommended therapy [27]. However, in our research, 18.6% of participants identified a lack of e-health services as a barrier to accessing healthcare.

It's also worth noting that outpatient treatments have been used more often than inpatient ones. This may be because COVID-19 patients are given priority for inpatient treatments such as ICU beds and ventilators. According to WHO, on July 25, 2021 [28], the use of ICU/ventilators rose by 6.7 percent compared to the previous week, and COVID-19 tests increased by 1.6 percent compared to the previous week, indicating that Malaysia has used its healthcare to manage and treat COVID-19.

According to the findings of this study, 45.8% were satisfied along with 30.5% of participants that were very satisfied with the effective aspect of quality care suggesting that they had received good and effective healthcare during MCO. Only a minority of the study population were dissatisfied and very dissatisfied respectively (2.5% and 1.0%).

If the community is to gain access to good health outcomes, the services offered must be relevant and effective [29] because acquiring effective personal health care can significantly improve many health outcomes and prevent early death. Even with the Malaysian healthcare system being overburdened by the COVID-19 pandemic with ineffective management and administration [17], the current study shows that the study population was satisfied with the effective aspect of adequate healthcare. The effectiveness could have been preserved by

usage of mobile pharmacies, and e-health services. The drive-thru pharmacies being utilized to supply healthcare needs increased during the COVID-19 pandemic in Malaysia has been highlighted by recent literature [30].

In addition to that, 30% and 48.3% of participants were very satisfied and satisfied with the safe aspect of healthcare access indicating that safety of care provided was adequate even during the MCO. Meanwhile, 2.0 % and 1.0% of participants were dissatisfied and very dissatisfied respectively. Many regulations were set in place during COVID-19 pandemic to ensure the safety of both healthcare workers and also the community. MOH released strict guidelines for hospitals for everyday operations. These included adequate training of staff, wearing of appropriate PPE and adherence to standard operating practices within hospitals [31]. Identifying suspected or confirmed patients by swiftly assessing verbally if a patient has epidemiological risk of contracting COVID-19 is important in order to stop the transmission of disease. If a patient appears to have respiratory symptoms, facemasks and hand sanitizers should be offered. Healthcare facilities should put up various eye-catching visual signage's in all common languages encouraging patients to inform relevant authorities if they have any symptoms, travel with or have contact with a confirmed case [32]. In addition to these, a new medication distribution system was modified to reduce the patient-to-healthcare provider interaction, and a remote medication tracking system was established during the pandemic to provide inpatients with pharmaceutical treatment [33]. This would also explain why the majority is satisfied with the safety aspect of adequacy.

In addition, 51.7% of participants expressed satisfaction in the people-centered domain of healthcare access quality, with 27.6% reporting that they were very satisfied. Only a minority reported being dissatisfied and very dissatisfied (2% and 1.5% respectively). It is reported that doctors' communication skills and availability significantly influenced patients' satisfaction levels [34]. Results from the people-centered domain of adequacy in this study supports the facts that this has been maintained even in the B-40 income group during the MCO.

In terms of healthcare services being timely, 15.8% and 37.4% reported being highly satisfied and satisfied respectively with 13.8% and 5.9% reporting dissatisfied and very dissatisfied respectively. The waiting times for non-COVID related health conditions are stalling when facilities are restructured to treat COVID patients. According to studies, patients are less happy with healthcare services when they have to wait longer [35]. This corresponds with the finding in this study where 38.1% of the study group reported Delay in medical checkups, follow ups and walk-in services was an issue faced in obtaining healthcare. According to the Malaysian Ministry of Health's patient charter, outpatients should not have to wait more than 30 minutes to be seen by the first clinician in hospitals and public health clinics, with an 80 % aim of achievement. It further said that drug dispensing should not take longer than 30 minutes from the time the pharmacy receives the patient's prescription, with a typical aim of 95% [36]. This frustration is compounded by the fact that, according to SOPs for movement control orders, all important patients are handled as scheduled, while all non-essential or routine medical care is rescheduled for months later. While this delay is inconvenient, it is necessary as face-to-face consultations could result in a higher exposure of staff and patients to the virus and increase the risk of transmission [37].

According to the findings of the research, 47.8% were satisfied and 30.5% were highly satisfied with the health care which does not vary in quality on account of gender, ethnicity, geographic location, and socio-economic status. Meanwhile, 2% and 0.5% were dissatisfied and very dissatisfied with the equitable domain. More importantly, the study's findings highlighted that this connection is critical in terms of patient satisfaction, since the majority of participants who agreed with these elements were more satisfied with the existent healthcare services [35].

Last of all, 30% and 40.4% of the 381 participants were highly satisfied and satisfied respectively with the integrated aspect of healthcare quality showing that they received comprehensive lifelong health services, in the meantime 3% and 1% were dissatisfied and

very dissatisfied respectively. To provide continuity of treatment and quick access to drugs, the hospital's outpatient pharmacy is available 24 hours a day, seven days a week. The patients' waiting area has been modified to meet the physical distancing criteria (1-m distance), and pharmacists stationed at the counter must wear a face shield over a surgical mask and keep an appropriate distance from patients [33]. During pandemics, the usage of unbiased and standardized informative material is essential. However, minimum interaction with people at drive thru pharmacies may cause difficulty in providing standardized information to patients. Several approaches can also be used to integrate accessibility and virus prevention with the acquisition of accurate guidance and counselling. These include the distribution of standard instructional materials, such as leaflets, remote consultations and coaching [30].

## 5. CONCLUSION

This study concludes that healthcare services in Selangor during the COVID-19 pandemic are easily available. The most frequently encountered issues faced by the B-40 income group to access healthcare services during COVID-19 pandemic is the delay in medical check-up, follow-up appointments, and walk-in services. This research concludes that healthcare services are affordable during the COVID-19 pandemic among the B40 population in Selangor and there was no significant need to cut down on essential needs to afford healthcare services is low among the B40 population. The utilization of outpatient services is more than inpatient services and public health facilities are more commonly used as compared to the private health facilities for both inpatient and outpatient services during this COVID-19 pandemic.

Based on the study, the safety aspect in quality of healthcare services achieved the highest numbers of satisfaction while the timely domain achieved the highest numbers of dissatisfaction. Therefore, it is concluded that both the safety and timely aspects are playing a major role to determine the quality of healthcare access. In conclusion, all five domains of healthcare access are playing a paramount role to ensure an efficient and successful healthcare system in Malaysia. The collaboration between government and non-government agencies, and public and private healthcare providers should be encouraged to ensure the optimization of human resources, as well as ensuring the coverage for healthcare services for the B40 population. Both the government and non-government bodies should ensure a safe and convenient services in both government and private hospitals or clinics. Future researchers are urged to conduct more and wider research in order to make a correlation study to support the findings.

### Limitations

There were some identified limitations to this study. Firstly, the sample population was from the B40-income group residing in Selangor and therefore does not represent the whole B40-income group of Malaysia. Secondly, the ongoing movement control order has made it difficult to recognize the B40 population due to travel restrictions and bans on all social activities. Thus, data collection was done through convenience sampling which introduces bias. Another limitation is that this study was conducted during the third MCO therefore the data collected may not represent the situation in the early phases of the MCO.

Travel restrictions during MCO were also a limitation as it was difficult to approach participants.

This study was done through telephone interviews; therefore, the element of social interaction may have affected the participants to give socially acceptable answers to the questions given in the questionnaire. Many of the possible participants were untrusting and

wary of phone scams which resulted in unanswered phone calls or them declining to answer the survey.
This was cross-sectional study, so the data collected at a set point in time, and it does not compare the data from previous timeframes. Therefore, there is a possibility that the challenges in healthcare access that existed preceding the time of MCO and the challenges were not introduced due to the MCO. Time was another limitation of this study, as the researchers had only 5 days to collect data.

**Implications and future recommendations**
This study was conducted to assess the challenges in healthcare access among B-40 income groups residing in Selangor. For future research, it is recommended that it would be good if the study is conducted among B-40 income groups in other states of Malaysia. It will also be insightful to conduct similar research at a future point in time as to do a correlation study and identify if the challenges faced by the B-40 income group was unique to the ongoing pandemic or if it was an already existing problem. In addition to this, the COVID-19 pandemic is predicted to proceed for the next few years along with an economic regression; hence it is important to continue the topic of healthcare access among low socioeconomic population for the future policies that will effectively improve healthcare access.

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## CONSENT

All authors declare that informed consent was obtained from the study participants.

## ETHICAL APPROVAL

Ethical approval has been issued from the research ethical committee at the Management and Science university with Code ethics: MSU-RMC-02/FR01/09/L1/085

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