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The Impact of COVID-19 on Malaysia's Socio-Economic, Healthcare and Education Sectors: Challenges and Responses

Ismail Sabri Yaakob[1], Rusdi Omar[2], Che Mohd Aziz Yaacob [3] & Jessica Ong Hai Liaw[4*]

[1]Universiti Utara Malaysia, Kedah, Malaysia
[2]Universiti Utara Malaysia, Kedah, Malaysia Selangor, Malaysia
[3]Universiti Utara Malaysia, Kedah, Malaysia
[4*]National Defence University of Malaysia, Kuala Lumpur Malaysia Lincoln
[1]ismailsabri60@yahoocom, [2]rusdiomar@uu.edu.my, [3]cmaziz@uum.edu.my, [4]jessica@upnm.edu.my
[2]orcid.org/0000-0003-3972-7461, [4]orcid.org/0000-0003-1109-8915

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ABSTRACT

COVID-19, or Coronavirus Disease, is caused by the coronavirus known as SARS-CoV-2. This virus was detected on December 31, 2019, following reports of a cluster of human cases suffering from pneumonia in Wuhan, China. According to the latest report from the COVIDNOW dashboard, updated by the Ministry of Health Malaysia on July 14, 2024, there have been 5,265,647 local cases and 39,203 imported cases, resulting in 37,351 deaths and 5,256,882 recoveries. The Movement Control Order (MCO) in Malaysia is a series of national sanitation and quarantine measures implemented by the Malaysian federal government in response to the COVID-19 pandemic. This order was enforced from March 18, 2020, to November 1, 2021. During this period, various types of MCO were enacted according to the crisis management needs of specific situations, such as the Enhanced Movement Control Order (EMCO), Conditional Movement Control Order (CMCO), and Recovery Movement Control Order (RMCO). Economic stimulus packages have played a crucial role in mitigating the impacts of the COVID-19 pandemic and paving the way for economic recovery. From February 2020 to June 2021, Malaysia launched nine different stimulus packages totalling RM530 billion (USD 126.2 billion), nearly double the original 2020 budget of RM297 billion (USD 70.7 billion). Of the RM530 billion, RM82.9 billion (USD 19.74 billion) consisted of direct fiscal injections. The packages focused on assisting the people, reviving businesses, and stimulating the economy. The Malaysian government's response to the challenges of COVID-19 demonstrates a commitment continuously to protect citizens, supporting business, healthcare, and education sectors.

Keywords*: COVID-19, quarantine, response, sanitation, pandemic, recovery*

INTRODUCTION

The year 2020 witnessed hundreds of countries facing a disease outbreak known as the novel β-coronavirus (2019-nCoV) or COVID-19. According to the World Health Organization (WHO), updated as of April 23, 2020, a total of 225 countries were involved in the spread of this disease, leading the WHO to declare a pandemic status with 175,694 deaths (WHO, 2020). The outbreak was first detected in Wuhan, Hubei Province, China, at the end of November 2019 (Giovanetti, 2020). In response to curb the outbreak, the government's initial reaction was to introduce the Movement Control Order (MCO). Several action plans were implemented during the MCO, including mandates for wearing face masks, practicing social

distancing, and enforcing a full lockdown across the country.

The COVID-19 pandemic has had a profound impact on the global community, with millions of cases reported worldwide. As of the latest data, the total number of COVID-19 cases globally has surpassed 700 million, highlighting the significant challenges posed by this unprecedented health crisis (WHO, 2020). In Malaysia, the pandemic has also left its mark, with the country grappling with surges in infections and the pressure placed on its healthcare system. As of the most recent statistics, Malaysia has reported over 5 million COVID-19 cases, underscoring the need for ongoing vigilance and robust public health measures to combat the virus's spread (Ministry of Health Malaysia, 2022). According to the latest report from the COVIDNOW dashboard, updated by the Ministry of Health Malaysia on July 14, 2024, there have been 5,265,647 local cases, 39,203 imported cases, resulting in 37,351 deaths, and 5,256,882 recoveries (KKMNOW, 2024).

In the Prime Minister's Special Message on March 16, 2020, Prime Minister Tan Sri Muhyiddin Yassin declared Phase 1 of the Movement Control Order (MCO), effective from March 18 to March 31, 2020, nationwide to curb the spread of COVID-19. This MCO included a comprehensive ban on movement and public gatherings across the country, encompassing religious, sports, social, and cultural activities. Phase 2 was implemented through a special announcement by the Prime Minister on March 25, 2020, extending the MCO for Phase 2 from April 1 to April 14, 2020. During this second phase, the government issued directives allowing only businesses selling essential goods, including supermarkets and petrol stations, to operate from 8:00 AM to 8:00 PM. Additionally, travel restrictions were set, allowing individuals to leave their homes for permitted purposes within a radius of no more than 10 kilometers from their residences. On April 10, 2020, following consultations with the Ministry of Health Malaysia, the Prime Minister announced that the MCO would be extended for another two weeks, from April 15 to April 28, 2020, with school sessions postponed until conditions improved (Sinar Harian, April 10, 2020).

The Movement Control Order (MCO) has now entered Phase 3, with the possibility of further extensions. However, the implementation of the MCO faces its own challenges. To date, adherence to the MCO has not reached 100%. This is driven by the cultural factors within Malaysian society, which has historically prioritized social interactions and relationships in daily life. Furthermore, it has become a long-standing tradition for Malaysians to take the opportunity to return to their hometowns whenever the government announces a long holiday. Consequently, when the government announced the first phase of the MCO, many people rushed to return to their villages, as seen in social media reports (Malaysiakini, March 17, 2020).

BACKGROUND

COVID-19, or Coronavirus Disease, is caused by the coronavirus known as SARS-CoV-2. This virus was detected on December 31, 2019, following reports of a cluster of human cases suffering from pneumonia in Wuhan, People's Republic of China. The World Health Organization (WHO) outlines that COVID-19 symptoms begin with fever, chills, and sore throat. The condition worsens when patients experience difficulty breathing, confusion, drowsiness, or loss of consciousness, along with persistent chest pain or pressure, cold, pale, and bluish skin, which can lead to loss of speech and inability to move (WHO, 2023).

According to the Ministry of Health Malaysia (MOH), COVID-19 is a new virus in Malaysia that spreads through respiratory droplets or contact, leading to infections of the respiratory tract (MOH, 2021). The virus is observed to spread rapidly, with the first cases detected in Malaysia on January 23, 2020. The Crisis Preparedness and Response Centre (CPRC) of the MOH received reports of the first three suspected COVID-19 cases: two in Sabah and one in Selangor. The situation escalated the following day, on January 24, 2020, when the MOH reported that eight close contacts of COVID-19 cases from Singapore were in Johor. From that point, on January 25, 2020, Datuk Seri Dr. Dzulkefly Ahmad, then Minister of Health Malaysia, confirmed the first case in Malaysia involving three Chinese nationals who entered the country from Singapore on January 23, 2020.

Following this, the Malaysian government began taking action by advising citizens against traveling to China, increasing temperature screening equipment at the country's entry points, identifying 26 hospitals nationwide to handle COVID-19 cases, and temporarily suspending all immigration procedures for Chinese nationals, particularly those from Wuhan, Hubei Province, and surrounding areas. Additionally, on January 28, 2020, then Prime Minister Tun Mahathir made preparations to repatriate local citizens from Wuhan, China, and established a special committee for a humanitarian mission to bring Malaysians back from Hubei Province. Other committees were also formed, such as the National Disaster Management Agency (NADMA), in collaboration with the Ministry of Foreign Affairs, the Ministry of Health, the Malaysian Armed Forces (MAF), and the National Security Council (NSC).

By January 31, 2020, the WHO declared the coronavirus a global health emergency. Observing the increasing pressure on Malaysia, on February 27, 2020, then-Interim Prime Minister Tun Mahathir Mohamed announced the 2020 Economic Stimulus Package to address the economic impacts of the COVID-19 outbreak. However, efforts to manage the spread of the virus continued. On March 13, 2020, a surge in cases was reported, with 39 new infections identified out of a total of 197 cases. Of these new cases, 28 were among Persons Under Investigation (PUI). The number of cases continued to rise, with 41 new infections reported, bringing the total to 238 cases over the span of two months. This increase was attributed to the Tabligh assembly cluster at the Sri Petaling Mosque, which accounted for 37 cases.

On March 15, 2020, the number of cases began to increase sharply, with 190 new cases reported, and on March 16, 2020, an additional 125 cases linked to the Tabligh gathering brought the overall total to 553 cases. In response, then-Prime Minister Tan Sri Muhyiddin Yassin announced a 14-day Movement Control Order (MCO) effective from March 18 to March 31, 2020 (BERNAMA, March 17, 2020).

The implementation of the MCO involved three main directives: the Movement Control Order (MCO), the Enhanced Movement Control Order (EMCO), the Conditional Movement Control Order (CMCO), and the Recovery Movement Control Order (RMCO). The enforcement of the MCO was carried out in four phases, lasting 47 days from March 18, 2020, to May 3, 2020. However, the level of restrictions varied by state; Penang, Selangor, the Federal Territories (Kuala Lumpur, Putrajaya, and Labuan), Malacca, Johor, and Sabah were under MCO. In contrast, Pahang, Perak, Negeri Sembilan, Kedah, Terengganu, and Kelantan implemented CMCO, while Perlis and Sarawak were under RMCO. Throughout the enforcement of the MCO to the RMCO, 54 areas were subjected to EMCO, including prison facilities, as it was believed this would help contain the spread of COVID-19 to other regions (BERNAMA, January 12, 2021).

LITERATURE REVIEW

The COVID-19 pandemic has posed unprecedented challenges to public health systems worldwide. The development of effective response policies is crucial for mitigating the spread of the virus and minimizing its impact on individuals and communities. This literature review examines the factors contributing to the transmission of COVID-19 in Malaysia from 2020 to 2022. The review will be divided into two main parts. The first part will focus on the theoretical framework for COVID-19 response policies, exploring concepts such as incrementalism, the temporal dimensions in infrastructure development, the duration of activities, and building infrastructure for management models.

Additionally, the second part will analyze case studies from Malaysia and the international context, examining the effectiveness of response policies in various settings and identifying best practices for pandemic response. The response policies aim to address gaps by providing a coordinated and equitable approach to COVID-19 management. The following sections will review the current evidence on each component of the response policy and offer recommendations for developing effective and equitable policies. By synthesizing existing literature and case studies, this review seeks to inform the development of responsive policy models to address COVID-19 in Malaysia and beyond.

International Case Studies

Global Response

The COVID-19 pandemic has resulted in an unprecedented global crisis, necessitating coordinated policy responses at the international level. The World Health Organization (WHO) and other global health agencies have played a vital role in coordinating efforts to control the spread of the virus and mitigate its impact on public health systems and economies worldwide. This section examines the global policy response to

COVID-19, focusing on the strategies and initiatives implemented to combat the pandemic on a global scale. One of the key global responses was the launch of the Access to COVID-19 Tools (ACT) Accelerator in April 2020 by the

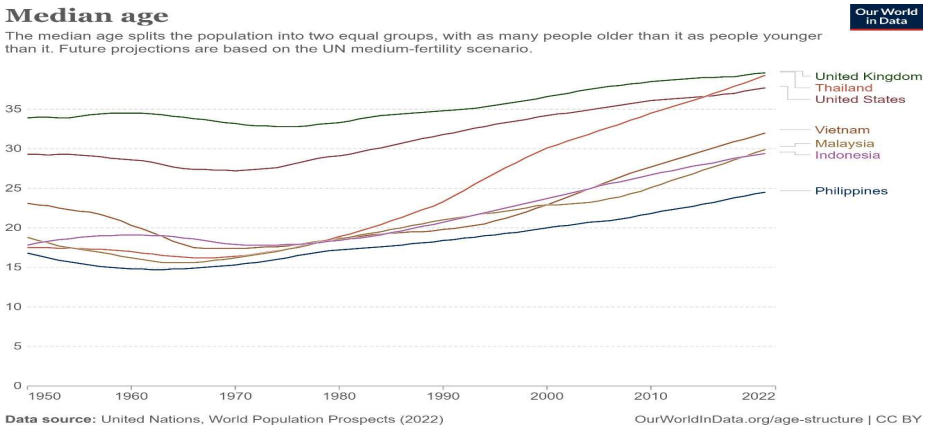


Figure 0-1: Median Age of Population (United Nations, 2022)

WHO, the European Commission, and the United Nations (UN) to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines (WHO, 2020).

The Global Access to COVID-19 Vaccines (COVAX) is one of the four pillars of the ACT Accelerator. It aims to ensure equitable access to COVID-19 vaccines, particularly for vulnerable populations in developing countries, as the UN supports fair and just access to vaccines. However, while the UN, alongside WHO and UNICEF, has advocated against "vaccine nationalism," which encourages stockpiling and price hikes, COVAX has faced competition from wealthy countries that have secured direct agreements with pharmaceutical companies, resulting in excess vaccine doses. Consequently, countries need to invest in their health systems to be better prepared for future pandemics, and policy responses should include contingency plans to address the issue of "vaccine nationalism" (United Nations (UN), 2021).

ASEAN Response

The response to the COVID-19 pandemic has varied across the region, with each country implementing its own set of policies and strategies to control the spread of the virus. The Association of Southeast Asian Nations (ASEAN) is a regional intergovernmental organization comprising ten Southeast Asian countries. Established in 1967, ASEAN aims to promote political and economic cooperation and regional stability among its members. This section will examine the policy responses among ASEAN countries, which share similar age distributions and healthcare systems.

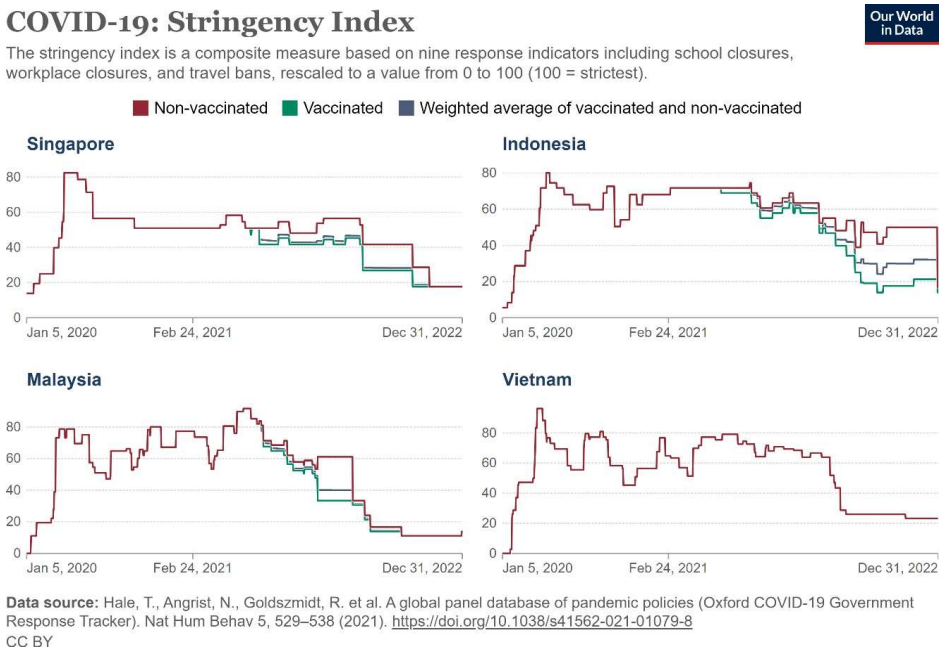
Southeast Asian countries should not simply replicate policy responses from high-income countries like the United States due to their significantly different characteristics. Rather than a one-size-fits-all approach, policies must be tailored to the unique economic and demographic conditions prevalent in many developing nations. These governments often lack the financial capacity to provide substantial support to a large portion of their populations for extended periods. Furthermore, the presence of a larger informal sector complicates the enforcement of movement restrictions. Lastly, the potential health impacts of the pandemic differ, considering the younger demographics but less advanced healthcare systems in developing countries (Titan Alon, 2020).

Older population groups are more vulnerable to the COVID-19 virus, particularly those aged 65 and above. A key difference between developed and developing countries is that the populations in developing nations are generally younger. This means that the proportion of vulnerable individuals in developing countries is smaller, which could mitigate the impact of COVID-19 in these nations. Figure 0.2 illustrates the median age of the population for developed countries such as the United Kingdom and the United States, as well as developing countries including Thailand, Vietnam, Malaysia, Indonesia, and the Philippines from 1950 to

2022. It can be observed that nearly all developing countries, except for Thailand, have a comparatively lower median age.

Developed countries typically have around 3-4 hospital beds for every thousand individuals. Countries like Japan and South Korea exceed this average, with 13 and 11 beds per thousand people, respectively. This capacity far surpasses that of developing countries, where the average is a modest 1-2 beds per thousand individuals, as illustrated in the image below. However, a limitation of using this index is that trained medical practitioners, ventilators, and appropriate pharmaceuticals are critical criteria for aiding patient recovery. Although there is no more comprehensive nationwide data, these figures can serve as an indicative measure for comparing healthcare capacity between developed and developing countries (Titan Alon, 2020). Figure 0-2: Health Care Capacity, Hospital Beds per 1000 people (WHO).

The Oxford COVID-19 Government Response Tracker (OxCGRT) is a research initiative that collects data on policy interventions aimed at addressing the COVID-19 pandemic in 2020, 2021, and 2022. OxCGRT serves as a vital resource for analyzing the diverse government responses to the pandemic. Developed by a team at the University of Oxford, OxCGRT provides a systematic way to track and compare policy measures worldwide. Nine metrics are used to calculate the Stringency Index: school closures, workplace closures, cancellation of public events, restrictions on public gatherings, public transport closures, stay-at-home requirements, public information campaigns, restrictions on internal movement, and international travel controls. Since government policies may vary according to vaccination status, the stringency index is calculated for three categories: those vaccinated, those unvaccinated, and the national average weighted by the proportion of vaccinated individuals. Figure 0.4 illustrates the OxCGRT data for Malaysia, Indonesia, Vietnam, and Singapore (Roser, 2020).



Rajah 0-3: COVID-19 String Index by the Oxford COVID-10 Government Response Tracker

For all countries except Singapore, it is noted that recovery measures continued to increase after January 2020. In the case of Singapore, measures were highest around January 2020, and they gradually decreased thereafter. Although the stringency index does not translate to the suitability or effectiveness of a country's response, previous studies have developed the Early Response Index (ERI) used to assess and compare the timeliness of responses in the early stages of the COVID-19 pandemic. The ERI is crucial for evaluating how quickly governments acted to implement control measures at the onset of the outbreak, where Singapore recorded one of the highest indices in Asia, achieving a score exceeding 50, alongside countries that experienced the SARS outbreak, such as Hong Kong and Taiwan.

Evidence clearly shows that Singapore's response to COVID-19 was highly effective. Despite the lengthy

period from the first COVID-19 case to the establishment of national policy implementation, Singapore managed to maintain one of the lowest Case Fatality Rates (CFR) in ASEAN by quickly isolating and diagnosing patients to prevent further spread, as shown in Table 1 (Chen S, 2021). This highlights the importance of learning from Singapore's approach to ensure a robust and timely response to future pandemics (Wahyu Sulistiadi, 2020).

Countries	First Case Reported	Policy Issuance Date	Duration from first case to national policy (days)	CFR every April 29, 2020
Vietnam	January 23, 2020	March 21, 2020	58	0.00
Singapore	January 23, 2020	April 7, 2020	75	0.09
Brunei	March 9, 2020	March 14, 2020	5	0.72
Malaysia	January 25, 2020	March 18, 2020	52	1.71
Thailand	January 13, 2020	March 26, 2020	73	1.84
Philippines	January 30, 2020	March 16, 2020	46	6.66
Indonesia	March 2, 2020	April 14, 2020	44	8.13

Table 1: Various COVID-19 prevention policies in 7 ASEAN countries, CFR in each country and the date the policy was issued

(Wahyu Sulistiadi, 2020)

Singapore's response to the COVID-19 pandemic provides valuable lessons for the ASEAN region. According to the COVID-19 white paper released, the country's proactive measures in maintaining a resilient healthcare system, successfully implementing a nationwide vaccination campaign, and ensuring the resilience of supply chains serve as a model. Singapore's approach to supporting businesses, jobs, and workers through targeted assistance measures, along with its commitment to supporting vulnerable populations, has minimized the societal impacts of the pandemic. These strategies, combined with the ability to unite the country and adapt to evolving conditions, demonstrate a comprehensive and dynamic response that other ASEAN nations can learn from to enhance their preparedness for future health crises (Prime Minister's Office Singapore, 2023).

Most ASEAN countries have successfully implemented policy responses that have resulted in a COVID-19 Case Fatality Rate (CFR) below the Asian average, indicating strategic success in reducing the risk of pandemic-related deaths, as shown in the figures below. The lower CFR among ASEAN countries suggests that their policy measures have been effective, contributing to better health crisis management, especially for those countries that implemented stringent measures such as closing schools and workplaces, limiting gatherings, and restricting travel to reduce the spread of COVID-19.

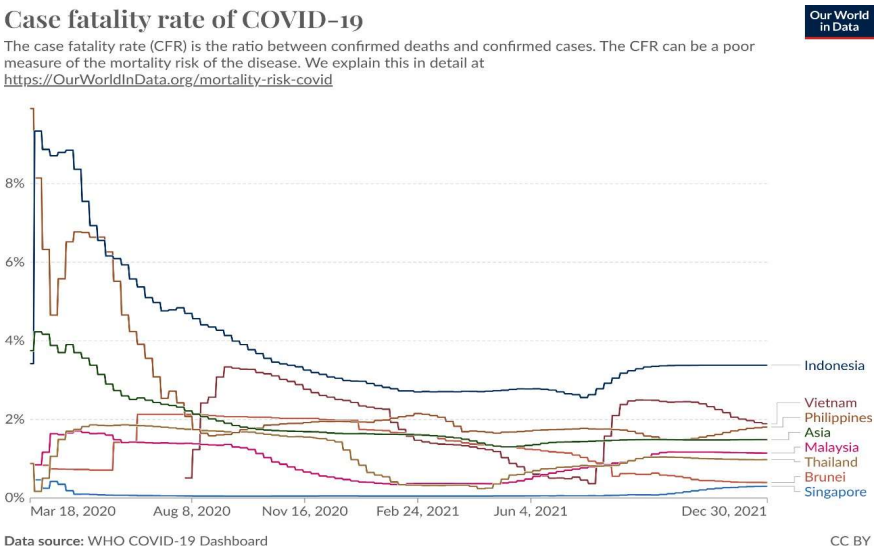


Figure 0-4: CFR COVID-19 for ASEAN countries (WHO)

The data reflect the positive impact of the policies implemented by ASEAN countries, which have played a crucial role in controlling the severity of COVID-19 outcomes compared to the broader region (Wahyu Sulistiadi, 2020; Ahmed N, 2023).

Lockdown Measures

Social quarantine, also known as lockdowns, along with social distancing, has become the standard protocol for controlling the spread of COVID-19 worldwide. The first lockdown was implemented in Wuhan, the epicenter of the outbreak in China, on January 23, 2020. Following that, 15 other cities in Hubei Province, with Wuhan as its capital, and several other administrative areas in China also enacted lockdown measures (Atalan, 2020). The Wuhan lockdown was lifted after approximately 2.5 months on April 8, while in most parts of Hubei, it was lifted earlier on March 25.

A recent study (Hien Lau, 2020) examined data on confirmed cases, domestic air traffic, and the doubling time of infections before and after the lockdown, concluding that the lockdown significantly reduced the growth rate while increasing the doubling time of COVID-19 cases in China. As shown in Figure 0 6, the doubling time, represented as Td, was approximately 2 days before the lockdown and increased to 3.9 days afterward. The doubling time refers to the total time required for the number of cases to double. An increase in doubling time indicates a slowing spread of the virus, buying time for medical facilities to accommodate the rising demand. However, we argue that prior literature has certain limitations as it did not account for the median incubation period for COVID-19, which can range from 5 to 14 days.

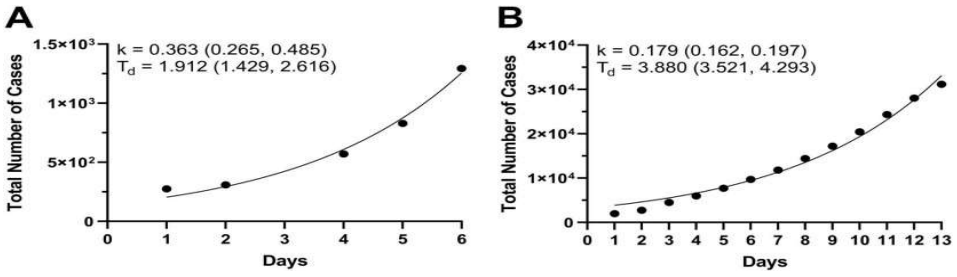


Figure 0-5: Development of COVID-19 cases in China before (A) and after lockdown (B) (Hien Lau, 2020)

This has also been explored in previous studies by Sultan Ayoub Meo (2020), which assessed the impact of lockdowns in 27 countries across Europe, America, Africa, and Asia by comparing the average number

of cases and deaths 15 days before, during, and after the movement restriction period. The study found no significant reduction in the average prevalence and mortality rates 15 days after the lockdown compared to the periods before and during the lockdown. However, they observed a downward trend in the growth factor and daily growth rates of new cases and deaths following the lockdown, consistent with the findings of Hien Lau (2020).

While movement restrictions may have some benefits in containing the virus, they also have negative effects on the psychological and economic well-being of individuals and communities. This has been discussed by numerous authors in the literature, including a study by Abel Brodeur (2021), which investigated the effects of COVID-19 and lockdowns on well-being using Google Trends data. The findings indicate that the pandemic and lockdown may have significantly impacted people's mental health, as there was an increase in searches related to boredom, loneliness, anxiety, and sadness, while searches for stress, suicide, and divorce decreased in Europe and the U.S.

Absence of Policy

A pandemic is a widespread infectious disease outbreak that affects a significant portion of the global population for an extended period, often lasting several months. In contrast, an epidemic is typically confined to a specific country or region (Rogers, 2024). Pandemics can be traced back to early civilizations, where outbreaks like the plague and the Black Death indirectly altered the course of human civilization. Modern pandemics include AIDS, malaria, H1N1, COVID-19, and others.

One modern pandemic that can be studied to assess COVID-19 policy responses is the Ebola virus disease outbreak that occurred in West Africa from 2014 to 2016. According to Jolie Kaner (2016), the Ebola outbreak began in December 2013 when an 18-month-old boy in Guinea was infected by a bat. The outbreak was contained in Liberia by May 2015, but new cases emerged in November 2015 and January 2016, with the country finally declared free of Ebola on June 1, 2016. The outbreak ended with more than 28,600 cases and 11,325 deaths. The Ebola outbreak exposed weaknesses in the healthcare system that had been neglected due to a 14-year civil conflict in the country (Yah Zolia, 2017). It also had a negative impact on Liberia's economy, which was already grappling with challenges such as poverty, inequality, and low human development. The outbreak led to reduced economic growth, increased fiscal deficits, and disrupted trade, investment, and livelihoods.

However, Liberia, after struggling with the devastating Ebola outbreak, emerged with valuable insights that influenced its response to any pandemic. According to the Country Strategy and Support (CSS) report by WHO (2021), community health workers, traditional birth attendants, and local leaders played crucial roles in addressing mistrust and stigma during the Ebola outbreak. They were subsequently supported by WHO health assistant programs, which provided opportunities to establish an early warning system for all priority diseases, aligned with the Integrated Disease Surveillance and Response (IDSR) system. In 2018, Liberia introduced national guidelines for Infection Prevention and Control (IPC), and over 14,000 healthcare workers have received training in basic IPC principles since 2015. Additionally, months before the COVID-19 crisis hit Liberia, the country conducted a self-assessment using the WHO Joint External Evaluation (JEE) tool and the National Action Plan for Health Security (NAPHS) indicators to identify gaps and improve its health security capacity in 19 technical areas, with support from international partners.

Although the Ebola virus disease (EVD) and COVID-19 have different modes of transmission and pathogenesis, there are significant overlaps in preparedness and response. Recent studies have shown that investments made in the IDSR, including laboratory facilities, have helped facilitate relatively swift preparedness and response measures, maintaining a low incidence rate of COVID-19 in Liberia (Benido, 2021). Some authors have also suggested that the Liberian government acted swiftly by imposing a nationwide lockdown and enforcing social distancing on March 21, drawing lessons from the Ebola crisis (Saito, 2020). The COVID-19 pandemic has posed unprecedented challenges to Liberia, but the country has also benefited from lessons learned from the previous Ebola outbreak, with certain measures proving successful in controlling the spread of Ebola and potentially helping to mitigate the impact of COVID-19 on the healthcare system.

Domestic Response to COVID-19 in Malaysia: Case Study

This section presents a comprehensive case study focusing on Malaysia's response to the COVID-19 pandemic, aiming to understand the context, policy measures, and impacts of the pandemic on the country. The case study examines Malaysia's approach to implementing movement control orders and distributing financial aid, such as the Economic Stimulus Package, to mitigate the socio-economic effects of the pandemic. Additionally, this study investigates the impact of COVID-19 on various sectors, including the socio-economic landscape and the education system. By analyzing Malaysia's response and outcomes, this case study aims to provide valuable insights into the effectiveness of policy measures and their implications for future pandemic preparedness and response strategies.

The COVID-19 outbreak was first reported in Wuhan, Hubei Province, China, in December 2019, with the origins of the virus reported as unknown. The Chinese government notified the World Health Organization (WHO) on December 31, 2019. Subsequently, WHO established an Incident Management Support Team (IMST) at three organizational levels: headquarters, regional office, and country level. This action prepared WHO for an emergency response to manage the COVID-19 outbreak the following day. However, COVID-19 could not be contained, and Malaysia reported its first positive case on January 25, 2020, with 21 new cases reported in the following days. These 22 cases were deemed the first wave, caused by the importation of the virus through other countries like China and Singapore.

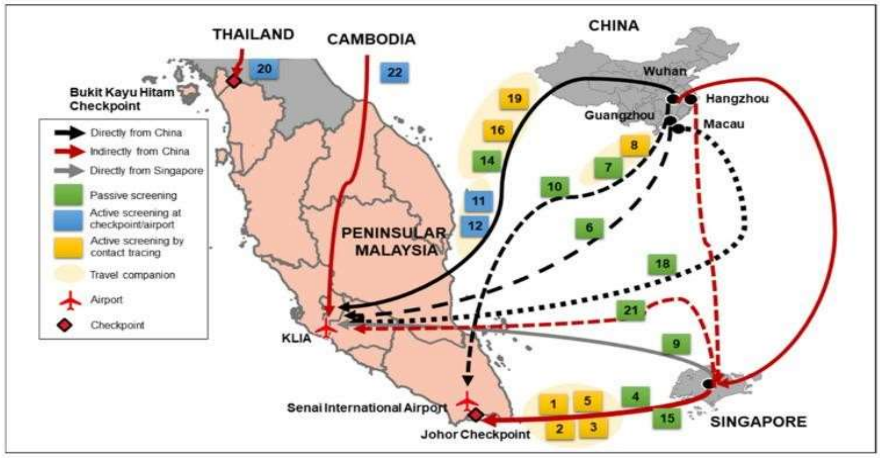


Figure 0-6: - Transmission of COVID-19 to Malaysia during the first wave (Ghazali, 2020)

After February 15, 2020, no new cases were reported for the next 11 days. The cases emerging during the second wave, which began on February 27, 2020, were unrelated and had no epidemiological links to any of the 22 initial cases. Consequently, these 22 cases were identified as the first wave, with subsequent cases classified as the second wave of COVID-19 infections. The initial wave was considered an isolated incident due to the lack of epidemiological connections between it and the second wave, supported by the 11-day gap without any cases between the two waves and the differing contributing factors to each wave. The second wave of COVID-19 cases began to spread when the International Health Regulations (IHR) Focal Point in Brunei informed the IHR FP in Malaysia that an individual with COVID-19 in Brunei had attended a Tabligh gathering at Masjid Jamek, Sri Petaling, Kuala Lumpur, from February 27 to March 3, 2020. According to estimates, approximately 14,500 Malaysians attended this event, later returning to their home states throughout Malaysia. The Sri Petaling Tabligh gathering became the largest COVID-19 cluster, triggering local transmission across Malaysia.

Starting from March 15, there was a significant increase in daily new cases, rising from 41 to 190 reported cases across all states, mostly linked to the Sri Petaling Tabligh cluster. The number of new cases remained high, exceeding 100 and reaching 553 cases the following day. In light of this escalating situation, the Ministry of Health Malaysia (MOH) declared that the country had entered the final phase of containing the COVID-19 outbreak. On March 18, Malaysia implemented a Movement Control Order (MCO) to control

the spread of the virus through social distancing measures. This was in response to the surge in COVID-19 cases in Malaysia, which reached 900 cases, placing the country among those with the highest number of cases in Southeast Asia.

The third wave of infections was detected during the Sabah state election on September 26, 2020, which became a vector for the virus's spread. As of January 27, 2021, Malaysia reported over 4,000 daily new infections, with a cumulative total of 180,455 cases and 667 deaths. The sharp increase in cases and deaths, particularly in early 2021, marked a significant shift from the country's previous success in managing the pandemic. The third wave of COVID-19 worsened as politicians and voters returned to their hometowns, leading to a surge in COVID-19 cases nationwide. At that time, Prime Minister Muhyiddin Yassin acknowledged the role of the elections in this spike and cited it as a reason to postpone the Batu Sapi by-election. A state of emergency was declared in the area to defer voting and subsequently put the health of Malaysians at risk.

In summary, the emergence of the three waves of COVID-19 in Malaysia, particularly evident before the implementation of movement control orders, was largely attributed to foreign nationals or travelers. This underscores a significant gap in policy measures to contain the virus and emphasizes the need for robust strategies to effectively manage and mitigate the spread of infectious diseases in the future.

Malaysia's Government Response

Movement Control Order (MCO)

The Movement Control Order (MCO), commonly referred to as Perintah Kawalan Pergerakan (PKP) in Malaysia, is a series of national sanitation and quarantine measures implemented by the Malaysian federal government in response to the COVID-19 pandemic. This order was enforced from March 18, 2020, to November 1, 2021. During this period, various types of MCO were enacted according to the crisis management needs of specific situations, such as the Enhanced Movement Control Order (EMCO), Conditional Movement Control Order (CMCO), and Recovery Movement Control Order (RMCO).

The MCO included three main measures: the enforcement of border controls, regulation of public movement, and prohibition of mass gatherings, along with the promotion of social distancing. Malaysia closed its international borders except for foreign nationals leaving the country and Malaysian citizens returning from abroad. Under the EMCO, stricter movement restrictions were enforced on residents and visitors in affected zones, prohibiting them from entering or leaving during the order. All commercial activities, except for essential services, were shut down, and authorities were tasked with ensuring an adequate food supply for residents for 14 days. Additionally, medical facilities were established in affected areas to cater to the sick and those in need of medical assistance. To control movement and prevent the public from violating the order, roadblocks were set up. Conversely, the PKPP was introduced as a step towards returning to normalcy. This allowed greater movement and business operations; however, strict enforcement of Standard Operating Procedures (SOPs) was maintained to ensure compliance and minimize transmission rates. Those who violated the MCO could face fines of up to RM1,000 and a maximum prison term of six months (Hashim Jamal Hisham, 2021).

The implementation of the MCO, particularly in phases 1, 2, and 3, clearly succeeded in flattening the outbreak curve, as the number of cases was only 51.2% of the 5,070 cases predicted to occur on April 12 by the Malaysian Institute of Economic Research (MIER), based on a study by Hashim Jamal Hisham (2021). The study also noted that the peak of the outbreak occurred a week earlier on April 5, rather than on April 12, as predicted by MIER.

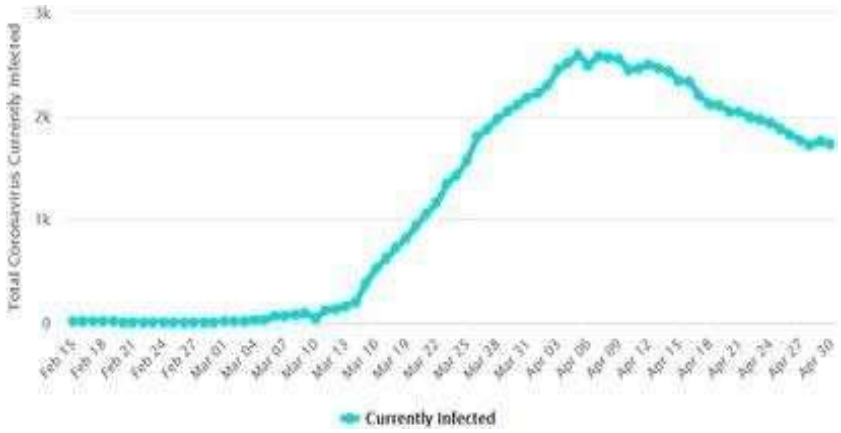


Figure 0-7: The number of daily new cases of COVID-19 reported in Malaysia (Worldometers.info)

One of the methods used by Pang NTP (2020) is the Mann-Kendall trend analysis to test for monotonic trends in the daily confirmed COVID-19 cases at the state level. The results are summarized in Table 2, indicating that Johor experienced a declining trend during the third and fourth/fifth phases of the Movement Control Order (MCO), following a significant initial increase during the first phase. In contrast, other states did not show any sustained downward trend, with most either showing no specific trend or a declining trend during a single MCO phase. Sarawak was an exception, displaying a declining trend during the second MCO phase. Additionally, both Johor and Pahang exhibited declining trends during the third MCO phase, while Johor, Melaka, and Selangor all showed declining trends during the fourth/fifth MCO phases. Therefore, the findings indicate that the MCO was effective in reducing cases, particularly after the second MCO phase. The variations in case trends across states were attributed to factors such as border control and local transmission. The study concludes that the MCO successfully flattened the curve within the expected timeframe.

State	MCO 1	MCO 2	MCO 3	MCO 4/MCO 5
Johor	Rising trend*	No Trend	Downward trend*	Downward trend*
Kedah	Downward trend *	No Trend	No Trend	No new cases
Kelantan	No Trend	No Trend	No Trend	No new cases
Melaka	No Trend	No Trend	No Trend	Downward trend*
Negeri Sembilan	No Trend	No Trend	No Trend	No Trend
Pahang	No Trend	No Trend	Downward trend*	No Trend
Perak	No Trend	No Trend	No Trend	No Trend
Perlis	No Trend	No Trend	No new cases	No new cases
Pulau Pinang	No Trend	No Trend	No Trend	No new cases
Sabah	No Trend	No Trend	No Trend	No Trend
Sarawak	No Trend	Downward trend*	No Trend	No Trend
Selangor	No Trend	No Trend	No Trend	Downward trend*
Terengganu	No Trend	No Trend	No Trend	No new cases
WP. Kuala	No Trend	No Trend	No Trend	No Trend

Lumpur				
WP. Putrajaya	No Trend	No Trend	No Trend	No Trend
WP. Labuan	No Trend	No Trend	No Trend	No new cases

Table 2: Mann-Kendall trend test results at the state level for all phases (Pang NTP, 2020)

The implementation of these movement restriction measures was effective in controlling the spread of COVID-19; however, it also incurred significant economic losses. Malaysia experienced substantial economic losses of RM2.4 billion per day during the Movement Control Order (MCO), with total losses estimated at RM63 billion by the end of April 2021 (Hashim, 2021).

Furthermore, previous studies have shown the differing impacts of social distancing policies in high- and low-income countries during the COVID-19 pandemic. It emphasized that while such measures could provide significant welfare value in high-income countries, their value is much lower in low-income countries with younger populations that are less exposed to COVID-19 (Zachary Barnett-Howell, 2021). Additionally, the economic sacrifices required for social distancing are more challenging for poor individuals who depend on daily wages and lack social protection. In the context of Malaysia, a lower-middle-income country, these limitations are particularly relevant. Workers in the informal sector may lack the resources to maintain prolonged isolation, leading to increased hunger and deprivation.

The early movement restrictions implemented by Malaysia during the COVID-19 pandemic were a public health success. They played a crucial role in saving lives and preventing the healthcare system from becoming overwhelmed. This was achieved by effectively limiting the spread of the virus, thereby reducing the number of severe cases requiring hospitalization. However, it is important to note that despite the success of movement restrictions in these aspects, they also had significant economic and social impacts.

It is also noteworthy that according to Loong, & Wan Usamah, (2022), the ability to effectively manage the initial surge did not coincide with sufficient testing and tracing capacity to prevent or control subsequent waves. As a result, due to deficiencies in testing, movement restrictions remained the primary public health strategy, with vaccines introduced as an additional measure at a later stage. This underscores the importance of policy modeling for future crises, which should integrate robust testing and tracing mechanisms from the outset, reduce reliance on movement restrictions, and enable a more balanced and effective response.

Stimulus Packages

In an effort to curb the spread of the COVID-19 pandemic, the Malaysian government enforced the Movement Control Order (MCO) on all citizens. Given that the MCO had been in effect for nearly six months, this study discusses its impact on the economy of the people. To address these effects, various stakeholders in Malaysia, including the government (both federal and state), corporate companies, non-governmental organizations (NGOs), and individuals, have stepped up to provide assistance and contributions.

Since the onset of the pandemic, Malaysia has announced several stimulus packages totalling RM530 billion. These packages have included both fiscal and non-fiscal injections. The proactive and immediate measures taken by the government have benefited 20 million Malaysians and 2.4 million businesses as of September 2021.

The stimulus package includes cash handouts to 11 million people, direct cash assistance to one million individuals who lost their jobs, and a three-month allowance of RM1,500 for each of 20,000 individuals with disabilities (OKU). The government has also allocated over RM200 million for the Food Basket Assistance program. From February 2020 to June 2021, Malaysia launched nine different stimulus packages totalling RM530 billion (USD 126.2 billion), nearly double the original 2020 budget of RM297 billion (USD 70.7 billion). Of the RM530 billion, RM82.9 billion (USD 19.74 billion) consisted of direct fiscal injections (MOF, 2021). The packages focused on three main areas: assisting the people, reviving businesses, and stimulating the economy.

Date	Name	Total size (RM Billion)	Fiscal Injection (RM Billion)
27/2/2020	Pakej Rangsangan Ekonomi (*Economic Stimulus Package*)	20	-
27/3/2020	PRIHATIN	230	25
6/4/2020	PRIHATIN PKS+	10	10
5/6/2020	PENJANA	35	10
23/9/2020	KAMI PRIHATIN	10	10
18/1/2021	PERMAI	15	1.9
17/3/2021	PEMERKASAAN	20	11
31/5/2021	PEMERKASA PLUS	40	5
28/6/2021	PEMULIH	150	10

Table 3: Summary of Economic Stimulus Packages

The stimulus packages and fiscal injections have played a crucial role in mitigating the impacts of the COVID-19 pandemic and paving the way for economic recovery. They have provided relief to the people, with some even using the funds as capital for small businesses. The Malaysian government's response to the COVID-19 crisis through stimulus packages and fiscal injections demonstrates a commitment to protecting its citizens and supporting business continuity during these challenging times. The effectiveness of these measures will continue to be monitored and adjusted as needed to ensure the country's economic recovery.

IMPACT OF COVID-19 IN MALAYSIA

The COVID-19 pandemic on Malaysia, impacts on the country's health, lifestyle, and economy. It examines the challenges faced by individuals and communities, including physical and mental health repercussions, struggles to adapt to new norms, and economic impacts that have been felt across various sectors.

Socio-Economic Effects

A study conducted by Hasan (2022) highlights that the COVID-19 pandemic has disrupted global economic activities, leading to severe disturbances across various sectors. The pandemic triggered a significant economic contraction, evidenced by Malaysia's GDP shrinking by 5.6% in 2020. This decline was accompanied by a spike in unemployment rates, with Malaysia's unemployment reaching 4.5% in 2020, the highest in a decade. Furthermore, the pandemic exacerbated poverty levels, pushing approximately 0.6% of Malaysian households into poverty. In response, the Malaysian government has enacted several fiscal stimulus packages totaling RM340 billion to alleviate the economic impact and support affected communities. Despite these challenges, the pandemic has also accelerated the growth of the digital and gig economy, emphasizing Malaysia's potential to emerge as a "tiger economy" in Asia, supported by robust national economic policies and political stability.

The socio-economic impact of the COVID-19 pandemic has been particularly profound in rural communities in Malaysia, as evidenced by a study conducted in Mersing, Pontian, and Batu Pahat (Yusoff, 2022). This study focused on income, economic activities, and health vulnerabilities, utilizing GIS mapping to analyze data from three villages. Through a quantitative research approach involving surveys of 182 household heads, the study revealed a decline in income generation and economic activity, alongside education-related issues.

Notably concerning was the decrease in the economically active population aged 15 to 60 in these villages. The closure of schools for several months exacerbated these challenges, disrupting learning for millions of students nationwide. To address this issue, the Ministry of Education launched an online teaching and learning platform, which has been instrumental in facilitating the transition to online learning. Even after schools gradually reopened, a blended learning approach combining face-to-face and online education has been adopted and is expected to continue post-pandemic. Teacher training has been a crucial component of this approach, with the Digital Learning Community for Teachers aimed at equipping educators with the skills and knowledge needed for effective remote teaching. Despite concerns regarding learning loss, the Ministry of Education reported no significant negative effects on student learning as a result of the pandemic. Efforts are now underway for post-COVID educational recovery, with insights gathered from students, teachers, school leaders, and parents to inform these initiatives.

An article published by the International Labour Organization discusses the launch of the Prihatin Economic Stimulus Package aimed at protecting the welfare of the people and supporting businesses. This package targets the most vulnerable workers and enterprises, particularly those in the informal economy, considering factors such as gender, age, and migrant status that exacerbate their vulnerabilities. The study concludes with policy considerations and guidance for protecting the most vulnerable, supporting job retention and creation, and aiding SMEs and microenterprises. It emphasizes the importance of rebuilding better post-pandemic through inclusive policies that promote social protection, access to healthcare, and support for those affected by job and income loss. Stimulus measures must be designed and delivered effectively to reach the most vulnerable groups, including informal workers, women, and migrants. During the economic recovery phase, focus should be on job retention and creation, particularly in support of SMEs and microenterprises. Policies must also be developed to promote inclusion, address discrimination, and build more resilient communities for future shocks. These efforts are vital to ensure sustainable and inclusive recovery from the socio-economic impacts of COVID-19 in Malaysia.

Healthcare Sectors

The COVID-19 pandemic has had significant financial implications for healthcare systems globally, leading to a universal decline in demand and subsequent financial losses. In the United States, for example, 97% of medical practices reported negative financial impacts.

Despite these challenges, pharmacy services remained operational during the Movement Control Order (MCO), with pharmacists playing a vital role in managing the supply chain of medications and patient care. Healthcare providers adapted by supplying patients with longer medication refills to reduce the frequency of visits and support physical distancing efforts. However, the utilization of virtual healthcare services remained low, with less than a quarter of healthcare providers using them. This indicates a gap in patient management that could be addressed by increasing the use of telemedicine. Relevant stakeholders should explore practical methods to empower healthcare professionals and patients to utilize telemedicine while simultaneously removing barriers that hinder its widespread adoption as a preparation for future outbreaks.

Malaysia's response to COVID-19 was characterized by a nationwide approach, encompassing various strategies such as movement restrictions, targeted screenings, institutional quarantines, and equitable care for both citizens and non-citizens. These efforts aligned with WHO recommendations and effectively contained the outbreak while allowing socio-economic activities to continue. Centralized coordination was achieved through a council comprising various ministries, with the Ministry of Health (MOH) providing advisory support. Targeted screenings were a key component, with subsidized COVID-19 treatment and testing ensuring equitable access to services.

In adopting technology to combat the pandemic, Malaysia introduced several initiatives like MySejahtera and SELangkah. MySejahtera is a contact tracing application that allows users to report their health status and assists health authorities in tracking and managing virus transmission. Meanwhile, SELangkah serves as a digital platform used for detecting, monitoring, and managing COVID-19 cases. These technological solutions played a significant role in enhancing Malaysia's pandemic response by facilitating efficient contact tracing and monitoring, thereby helping to contain virus transmission and contributing to Malaysia being recognized as one of the best countries in handling the pandemic.

One of the primary effects of COVID-19 has been the disruption of healthcare services worldwide, leading

to economic losses for hospitals and health insurance companies. According to a study published by Almurisi (2020), the pharmaceutical industry faced challenges in obtaining Active Pharmaceutical Ingredients (APIs) due to disruptions in global trade, affecting supply chains and resulting in shifts in the types and quantities of products in demand. A critical aspect of the pandemic response has been vaccine development, with countries and pharmaceutical companies racing to create effective vaccines in a short period. This urgency has underscored the importance of rapid vaccine development and the repurposing of existing medications for treatment protocols in the absence of specific treatments for COVID-19.

Furthermore, the pandemic has highlighted the importance of crisis management strategies within the healthcare system and the pharmaceutical industry. Effective crisis management is essential for addressing current pandemics and preparing for future outbreaks. It involves proactive planning, resource allocation, and coordination to ensure timely and effective responses to crises. By implementing robust crisis management strategies, healthcare systems and the pharmaceutical industry can better navigate the challenges posed by pandemics like COVID-19.

Education Sectors

A comprehensive study reported by Shukri (2021) highlights the profound and multifaceted effects of the COVID-19 pandemic on the education sector. One of the primary challenges faced by students has been the disruption of their academic performance due to the pandemic. The sudden shift to online learning required a rapid adjustment to new teaching and assessment methods, presenting significant adaptations for students at all educational levels. This transition also had measurable impacts on learning outcomes, with students experiencing varying degrees of difficulty in maintaining the same level of academic achievement as they had before the pandemic. In response to these challenges, educational institutions and policymakers have implemented various strategies to mitigate the negative effects on students. These strategies include the development of remote learning policies, the provision of digital resources and support services, and the implementation of alternative assessment methods. Although these efforts have helped alleviate some immediate challenges, the long-term effects of the pandemic on education remain a topic of concern and ongoing research.

Moreover, the transition to virtual education has become a key focus, emphasizing the need for online learning, teacher training, and community support to maintain educational continuity. Aisyah Sufian (2020) notes that advancements in technology and online platforms have played a vital role in facilitating education during the pandemic, despite ongoing challenges such as limited applications, a lack of technological infrastructure, and internet access issues. Government initiatives aimed at supporting virtual education, including providing internet access and distributing free data during the Movement Control Order (MCO), were implemented to assist in this transition.

Teachers have had to adapt to online learning techniques, content delivery, and pedagogical methods, highlighting the necessity of familiarizing themselves with essential technological devices. Despite these challenges, various educational technologies have been adopted to ensure learning continuity, with teachers utilizing online platforms for teaching, interaction, and virtual training sessions. However, e-learning from home has posed challenges, particularly concerning complex tasks that require thorough explanations and discussions. This situation demands mental preparation, capabilities, and resources to effectively carry out tasks virtually, underscoring the ongoing need for adaptation and innovation in the education sector.

METHODOLOGY

This study will employ a qualitative research design to explore the multifaceted impacts of COVID-19 on the healthcare sector and education sector. The qualitative approach will allow for an in-depth understanding of the experiences, perceptions, and responses of healthcare sector, students, educators, and administrators during the pandemic. Individual semi-structured interviews will be conducted with healthcare sector, students, teachers, and administrators. The interviews will follow a guide with open-ended questions designed to elicit detailed narratives about participants' experiences during the pandemic, including challenges faced, coping strategies, and the effectiveness of institutional responses.

CONCLUSION

The COVID-19 pandemic has had significant impacts on Malaysia, affecting various aspects of society including the economy, healthcare, and education sectors. The pandemic led to a severe economic downturn, with Malaysia's GDP shrinking by 5.6% in 2020 and unemployment rates rising to 4.5%, the highest in a decade. Rural communities were particularly affected, experiencing income losses and disrupted education due to school closures. In response, the government launched fiscal stimulus packages totaling RM340 billion to mitigate economic hardships. While the pandemic caused widespread economic distress, it also accelerated growth in the digital and gig economies. Furthermore, the pandemic placed immense strain on Malaysia's healthcare system. Healthcare services, including pharmacies, adapted by providing longer medication refills and reducing patient visits. However, telemedicine adoption remained low, revealing gaps in healthcare delivery. To address these effects, various stakeholders in Malaysia, including the government (both federal and state), corporate companies, non-governmental organizations (NGOs), and individuals, have stepped up to provide assistance and contributions. Since the onset of the pandemic, Malaysia has announced several stimulus packages totaling RM530 billion. These packages have included both fiscal and non-fiscal injections.

Malaysia effectively contained the virus through nationwide movement restrictions, targeted screenings, and equitable healthcare access. The use of digital platforms like MySejahtera for contact tracing was key to the country's success in managing the pandemic. Lastly, the education sector faced substantial challenges, including the abrupt transition to online learning, which impacted students' academic performance. Educational institutions implemented remote learning policies and alternative assessments to address these difficulties. Government efforts to provide internet access and support virtual learning were essential during the Movement Control Order (MCO). However, the transition to e-learning posed challenges, particularly in complex tasks requiring in-depth discussions, highlighting the need for continuous adaptation and innovation in education.

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