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Factors Associated with Preventive Behavior toward Covid-19 Infection among African Immigrants in Kuala Lumpur

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Abstract
The study examines the factors associated with preventive behavior toward COVID-19 infection among African immigrants in Kuala Lumpur. The study employed a cross-sectional study carried out on 445 African immigrants. Data were collected using an online Google form and were analyzed using the statistical tool (SPSS 25.0). Pearson Chi-square test of independence and Multiple Regression were used to analyze the data. The findings of the descriptive analysis revealed that the level of education and preventive behavior were good. However, the level of past COVID-19 history was low. therefore, all the variables significantly contributed to preventive behavior among immigrants. The study revealed that the level of education has the highest significant contribution to preventive behavior among immigrants. The study recommended among others, that to minimize the limitation of self-reporting data, further study is required to adopt a qualitative research technique.
Keywords: Preventive Behavior, Education, Past History of Covid-19.

Introduction

The emergence of the novel coronavirus disease (COVID-19) in late 2019 posed unprecedented challenges to global public health systems, including in Malaysia. With its highly transmissible nature, the virus has necessitated the adoption of preventive behavior among populations worldwide to mitigate its spread. Among vulnerable populations are African immigrants residing in Kuala Lumpur who face unique barriers to accessing healthcare information and services. Thus, understanding the factors associated with preventive behavior toward COVID-19 among African Immigrants is equally critical for developing targeted interventions to curb transmission rates and protect public health. The year 2020 began with optimism and aspirations for a fruitful year ahead, only to be disrupted by the rapid spread of COVID-19, caused by the novel coronavirus (2019-nCOV, later named SARS-

CoV-2), originating in Wuhan, China (Chan et al., 2020b; WHO, 2021). By June 12, 2022, Malaysia had reported 35,712 deaths and 4,526,298 confirmed cases of COVID-19, making it the leading cause of death in the country, with 31,063 deaths in 2021 alone with 19.8% of medically certified deaths (DOSM, 2022).

Malaysia experienced a steady increase in the spread of COVID-19 infections, primarily concentrated in Selangor, Johor, Kuala Lumpur, Sabah, and Sarawak during its initial outbreak in the country (Lim et al., 2022; Hashim et al., 2021; Azlan et al., 2020). The first case was reported on January 25, 2020, involving three travelers from China (Elengoe, 2020). By January 8, 2023, Malaysia had recorded about 5,030,313 confirmed cases and 36,875 deaths, with a 0.7% fatality rate among reported cases (WHO, 2023). The progression of reported cases in Malaysia until March 31, 2020, delineates three distinct waves. The COVID-19 outbreak profoundly impacted religious worship, particularly evident in mass gatherings. A notable event occurred at the Seri Petaling Mosque in Selangor, where over 10,000 participants, including international travelers, led to a significant spike in cases which led to the first wave of the spread (Shah et al., 2020). Malaysia experienced another considerable wave of COVID-19 outbreak stemming from a Christian leadership seminar held in Kuching. Approximately 100 individuals participated in a church seminar which subsequently became identified as the origin of 117 out of the 371 reported COVID-19 cases in Kuching (Tan, Musa, & Su, 2021).

Following the fatalities associated with clusters identified attendees of these religious gatherings and individuals who were in close contact with them were strongly encouraged to undergo COVID-19 testing. A total of 190 individuals were identified and subsequently tested (The New Sarawak, 2020). Consequently, the Malaysian government responded with a Movement Control Order (MCO) on March 18, 2020, to curb the spread of the disease (Tang, 2020). As part of preventive measures in response to the rapid spread of the disease in the country, strict implementation of the MCO led to increased awareness and compliance, resulting in a decline in COVID-19 cases by mid-April 2020. Subsequent phases of the MCO, including Conditional MCO (CMCO) and Recovery MCO (RMCO), were implemented to manage the outbreak (Zamri et al., 2021). Equally, Malaysia initiated a national immunization program, prioritizing healthcare workers and high-risk groups, with 21.3% of the population receiving their second vaccine dose by August 1, 2021 (WHO, 2021). The response and vaccination efforts were successful in reducing the rate of infection and preventing deaths in Malaysia.

As of February 5, 2023, Malaysia has reported a cumulative total of 5,037,995 confirmed cases with 36,943 deaths attributed to COVID-19 with an overall case fatality rate standing at 0.7% (WHO, 2023). Notably, vaccine uptake among migrants posed challenges due to distrust and logistical barriers, language barriers, stigmatization, and misinformation on social media which hindered vaccination efforts and exacerbated by concerns over data sharing and immigration enforcement (Mohamed et al., 2023; Human Rights Watch, 2021). Relative to income, the drop in migrant income, especially those residing in the capital city KL hindered their access to immediate medical care during the outbreak. With many businesses closed due to the global economic impact of the virus. African immigrants struggled to maintain their livelihoods or receive support from their families back home. Similarly, location-wise, understanding factors that are associated with preventive behavior towards COVID-19 among

African immigrants in religious fellowships in Kuala Lumpur is crucial for effective public health interventions. Despite socio-economic challenges and limited healthcare access, addressing misconceptions and enhancing support could empower communities to combat the pandemic effectively.

The outbreak of COVID-19 significantly threatened public health and widespread death across the globe. The World Health Organization revealed that the total number of deaths linked directly to the COVID-19 pandemic from January 1, 2020, to December 31, 2021, stood at around 14.9 million, with a range of 13.3 million to 16.6 million (WHO, 2022). The stark rise in death highlights not just the consequences of the pandemic but also underscores the imperative for robust health systems capable of maintaining vital healthcare services and preventive habits geared at reducing infection and death amid the crises. The increasing cases of COVID-19 in Malaysia and the world at large impact all demographics. However, the prevalence of COVID-19 among immigrants, particularly Africans in Malaysia, remained unclear. Preventing the spread of the virus within immigrant communities was driven by limited knowledge, attitudes, and practices, which were essential to curb the spread of the disease (Wong et al., 2020). While African immigrants in Malaysia comprise various ethnic, cultural, linguistic, religious, and educational backgrounds, however, the incidence of infection among immigrants has not been determined empirically.

Wahab (2020), stated that most COVID-19 information is in Bahasa Malaysia which made it difficult for immigrants to understand crucial prevention advice, SOPs, and awareness of symptoms as contained in the informational materials thereby posing risks to public health. As a result, they did not fully grasp the severity of the situation or know how to protect themselves and their families effectively due to the language limitations. This is because when individuals seek medical aid, language barriers can impede effective communication with healthcare providers, and they may struggle to describe their symptoms accurately or understand medical instructions thus leading to potential misdiagnosis or inadequate treatment (Wahab, 2020). Given that communication is vital in medical care especially between patients and healthcare providers or professionals the lack of a common mode of communication is an obstacle that could lead to misinformation and inadequate information on the disease itself, which can result in the spread of infection among these immigrants including African immigrants. On the premise that COVID-19 spread in Malaysia emanated from religious fellowships as a result, this study seeks to provide valuable insights for tailored strategies to mitigate the impact of COVID-19 among vulnerable populations particularly African immigrant in their places of religious fellowships.

Literature Review

Definition of Coronavirus

One of the main coronaviruses, COVID-19, particularly affects the respiratory system of humans. The Middle East Respiratory Syndrome coronavirus (MERS-CoV) and the Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) were two earlier coronavirus epidemics that posed a serious threat to people. The COVID-19 is defined as illness caused by a novel (new) coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCOV), which was first detected amid outbreak of respiratory illness in Wuhan City, Hubei Province, China. The coronavirus is an enveloped positive sense, single-stranded RNA viruses that are round and sometimes pleomorphic with 80-120mm diameter

and belongs to the family coronaviridae (Payne, 2017). After SARS-CoV and MERS-CoV, SARS-CoV-2 is the third zoonotic coronavirus that generated an epidemic outbreak in the last two decades. The bat has been identified as the most likely reservoir host for SARS-CoV-2 infection by genome analysis. One of the main infectious agents that essentially affect the human respiratory system is the coronavirus. The coronavirus disease COVID-19 is thought to have been transmitted from person to person and to have its origins in an animal host (zoonotic) (Sharun et al., 2020).

Preventive Behaviour

According to WHO, preventing the spread of the virus while the vaccine is not widely available to the public is the most successful technique (WHO, 2020). Thus, according to Šuriņa et al. (2021), Numerous health behaviour theories are taken into consideration when researching preventative behaviour. The importance of preventative behaviour during pandemics is paramount in safeguarding the spread of infection. To manage outbreaks, public behaviour is crucial, and it is dependent on how much people participate in and follow safety precautions including using face masks, washing their hands, and isolating themselves According to a study conducted in Malaysia by Azlan et al (2020), about (80.5%) of respondents' knowledge of COVID-19 was accurate overall. Likewise, most participants in the same study (83.1%) had a positive attitude toward the COVID-19 outbreak's successful containment, the country's capacity to overcome it and the contain with disease at (95.9%) rate of containment. Equally, the crisis management strategies employed by the Malaysian government indicated (89.9%) success rate with most participants also taking preventative measures weeks before the movement control order began, and (83.4%) avoiding crowds, (87.8%) frequently washing their hands properly, and mask-wearing was less prevalent (51.2%) (Azlan et al., 2020).

Similarly, in Malaysia, preventive actions included staying home for immune-compromised individuals, avoiding travel to affected areas, and self-isolating after international travel or experiencing symptoms (Chan et al., 2020a). Individual behaviour, influenced by ideas, values, and habits, plays a crucial role in maintaining health and preventing disease (Chan et al., 2020a). The World Health Organization (WHO) has advised against direct contact with COVID-19-infected individuals, consumption of meat from such areas, and travel to high-risk regions. Malaysian researchers have leveraged the pandemic as an opportunity to innovate, creating diverse technologies to aid their compatriots during this crisis. These advancements encompass rapid COVID-19 test kits (Gomes, 2020), 3D-printed face shields (Tariq, 2020), and artificial sanitization tunnels (Atif et al., 2020) showcasing the collaborative efforts of Malaysians in combating the pandemic (Mohammed et al., 2023).

Level of Education

Education contributes to health literacy, which encompasses the ability to understand health information and navigate healthcare systems. Individuals with higher health literacy are more likely to engage in preventive behaviour and seek appropriate medical care when needed (Pförtner & Hower, 2022). Consequently, those with higher levels of education may have better access to reliable sources of information about COVID-19 because they may be more likely to seek information on the disease, follow updates from health authorities and scientific research which can inform their preventive behaviour (Kim & Kim, 2020). Similarly, education often draws a parallel with a better understanding of health-related information. People with higher levels of education may have a deeper understanding of the risks associated with

COVID-19 and the importance of preventive measures such as wearing masks, practicing good hand hygiene, and maintaining physical distance. Education is closely associated with critical thinking skills, and it enhances critical thinking by enabling individuals to evaluate information critically and make informed decisions about their health behaviour such as assessing the credibility of sources and understanding the scientific basis behind preventive measures. The educational backgrounds in this study spanned across two groups: the first group included those with a secondary education or lower, while the second group consisted of those with a bachelor's degree or higher. Secondary and below comprise of respondents who have primary, secondary, certificates, while bachelor’s and above comprise of respondents with bachelors, master’s degree, and PhD respectively.

A study by Liu et al. (2022) to examine employee’s compliance with COVID-19 prevention measures when returning to work indicated that individuals with higher educational attainment showed higher compliance rates to preventive measures compared to those with lower educational levels. In the study, preventive behavior score for bachelor's degree holders ranges from 46.69% high and 33.15% low = (79.8%), junior college education 44.59% high and 31.27% low = (75.8%), high school 42.55% high and 29.23% low = (71.7%), junior middle school and below 41.70% high and 27.38% low = (69.0%) respectively. The study indicated that individuals with higher educational attainment showed a higher compliance rate to preventive behavior compared to those with lower educational levels. As such, the compliance rates tend to increase as the educational level rises.

Past History of COVID-19

The emergence of COVID-19 in December 2019 marked a turning point in global health thereby challenging healthcare systems, governments, and societies worldwide. Malaysia, like many other countries, faced significant challenges in controlling the spread of the virus. This history of COVID-19 infections in Malaysia focused on key epidemiological trends, control measures, and their effectiveness. Malaysia swiftly implemented various containment measures, including travel restrictions, border controls, and nationwide lockdowns, to curb the spread of the virus (Davies et al., 2020). However, despite these efforts, the number of cases surged, reaching its peak in March 2020, with a high daily incidence rate (He et al., 2021). This initial phase highlighted the challenges in controlling community transmission and the importance of proactive measures in the pandemic response.

Several factors contributed to the spread of COVID-19 in Malaysia during the early stages of the pandemic. The country's dense population centers, particularly in urban areas like Kuala Lumpur and Selangor, facilitated rapid transmission (Ng et al., 2020). Additionally, socioeconomic disparities and overcrowded living conditions in certain communities exacerbated the vulnerability to infection (Ng, 2022; Nungsari et al., 2021). In response to the escalating crisis, Malaysia intensified its public health measures, including widespread testing, contact tracing, and isolation of confirmed cases (Ang et al., 2021). The government also implemented targeted lockdown in hot-spot areas and enforced strict adherence to public health protocols, such as mask-wearing and social distancing (Aziz et al., 2020). These interventions, coupled with public awareness campaigns and community engagement, contributed to a gradual decline in cases by mid-2020.

Methodoloy

A cross-sectional study was employed to investigate factors influencing preventive behavior regarding COVID-19 infection among vulnerable populations, specifically African immigrants participating in religious fellowships in Kuala Lumpur. This research design involved collecting data at a single point in time, allowing for the examination of associations between variables without inferring causality. Participants were recruited from various religious gatherings in Kuala Lumpur, ensuring representation from different congregations and demographics within the African immigrant community. An an online Google form was used for data collection. the study employed the two-proportion sample size formula (Ogston et al., 1991) was used to estimate the number of study participants where 445 respondents were eventually selected as the sample size. Statistical Package for Social Sciences (SPSS), version 25.0 was used for analysis.

Findings

The level of preventive behavior and level of education were perceived at a good level by the people. However, the level of past history was perceived as moderate. Rresearchers have consistently emphasized the importance of organization in providing prospective members with preventive behavior that will improve their development. The study indicated that individuals with a higher educational attainment showed higher compliance rate to preventive behaviour compared to those with lower educational levels. As such, the compliance rates tend to increase as the educational level rises. This finding aligns with previous research, such as Pförtner & Hower, (2022), education contributes to health literacy, which encompasses the ability to understand health information and navigate healthcare systems. Individuals with higher health literacy are more likely to engage in preventive behaviour and seek appropriate medical care when needed. Consequently, those with higher levels of education may have better access to reliable sources of information about COVID-19 because they may be more likely to seek information on the disease, follow updates from health authorities and scientific research which can inform their preventive behaviour (Kim & Kim, 2020).

Also supported by Liu et al (2022), indicated that individuals with a higher educational attainment showed higher compliance rates to preventive measures compared to those with lower educational levels. Similarly, education often draws a parallel with a better understanding of health-related information. People with higher levels of education may have a deeper understanding of the risks associated with COVID-19 and the importance of preventive measures such as wearing masks, practicing good hand hygiene, and maintaining physical distance (Sikakulya et al., 2021). Education is closely associated with critical thinking skills, and it enhances critical thinking by enabling individuals to evaluate information critically and make informed decisions about their health behaviour such as assessing the credibility of sources and understanding the scientific basis behind preventive measures (Altaher et al., 2021).

Conclusion

Based on the results of this study, it is distinct that the level of education was perceived as good. While past history of Covid-19, on the other hand, was found to be moderate by the respondents. past history of Covid-19 have some elements of the COVID-19 virus have not yet been properly identified, despite a significant increase in the number of articles about COVID-

19 in the literature. This ambiguity has resulted in a massive flow of false information regarding the virus and the illness (Shiang & Hou, 2021; Balakrishnan; Ng & Rahim, 2021). These elements included the source of the virus, the existence of a specific antiviral medication and an efficient vaccination, as well as concerns about the precision of recently created diagnostic techniques. Conspiracy theories that surrounded the new threat added to the discomfort and anxiety that humans felt because of a lack of knowledge of the COVID-19 infection's natural origin (Sallam et al., 2020). There is a need to improve the awarness to enhance education panowledge of Covid-19 prticularly the issue of preventive behavior
Knowledge provides awareness and as such, understanding risks and preventive measures increases awareness about potential health threats. Similarly, knowledge informs decision-making because knowing about the dangers of disease helps individuals make informed choices to protect themselves and others (Cvetković et al., 2020). Thus, knowing empowers action in the sense that individuals are aware of the dangers of COVID-19 and armed with information on how to manage or prevent infection spread (Ismail & Mohamad, 2020) Hence, this is in line with previous studies the more informed a person is, the more likely they will adopt and adhere to preventive behavior to reduce the spread of diseases (Khai & Asaduzzaman, 2023).

The outcomes of this study serve as a source of empirical evidence to the Ministry of Education, policymakers, and curriculum designers on the level of education, past history of Covid-19, and preventive behavior among the Immigrants community in Malaysia. Prior to this investigation, there was a lack of empirical and theoretical evidence in relation to research variables in this area. This leads to ambiguity and uncertainty among policymakers and practitioners about putting the variables into use within the context of preventive behavior. This study suggests that policymakers, and curriculum designers, establish programs that will support community preventive behavior. Considering the significant contribution of immigrant communities to the spread of the disease, alongside the observation that factors such as knowledge, risk perception, and disease history did not significantly influence preventive behaviour in the study, it became evident that a holistic approach to research is warranted to comprehensively assess the impact of the disease spread among immigrants in the country.

This holistic method should encompass various dimensions, including but not limited to socio-economic factors, cultural contexts, healthcare access, living conditions, and community dynamics. By adopting such an approach, researchers can gain deeper insights into the complex interplay of factors influencing the spread of the disease within immigrant communities, thereby informing the development of more targeted and effective intervention strategies to mitigate transmission and promote public health. The population of this study is limited to Nigerian community in Malaysia therefore, a similar research can be conducted in other states of Malaysia. One of the significant limitations of this study is the sampling of solely African immigrants who were participating in religious fellowships in Kuala Lumpur. Consequently, the limitation to only Nigerians in the study impedes a holistic understanding of the impact of the COVID-19 outbreak on other migrant communities. Thus, the inclusion and coverage of African immigrants with diverse social and economic backgrounds cannot be extrapolated to other African immigrants in different religious groups across Malaysia.

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