

Covid-19, Mortality and Inequality in Sarawak

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ABSTRACT

The first two males' mortality in Malaysia due to COVID-19 announced by the authority on March 13, 2020. The fatalities became the major headlines on the media. Although many people discussed 'actively' about COVID-19, however conversations about deaths or funerals of victims from COVID-19 are quite 'passive' during the initial stage of the pandemic. When death occurs, biomedical examiners must examine death causation, mechanism and manners of death because COVID-19-related deaths are contagious. As a results, corpses are managed by authorised personnel with no or limited intervention from family or community members. These social responses to deaths from COVID-19 are paradox as funerals are traditionally communities' responsibility. Due to surging cases of COVID-19, drastic measures are taken by the government globally to prevent the spread of COVID-19 and for social, economy and environment sustainability. This study aims to examine COVID-19 mortality patterns and its socio-cultural dimensions in Sarawak. Data are collected in the duration of 18 months from official sources and from participant observation. Data are analysed in several aspects including age, gender and co-morbidity. The findings show that mortality rates among males are significant higher compared to females. Most casualties occurred among age groups: 70-79, 60-69 and 50-59. The majority of cases have co-morbidity.

Keywords: *COVID-19, mortality, inequality, gender, Sarawak*

INTRODUCTION

In the late December 2019, COVID-19 detected in Wuhan (Hubei, China) and as at Feb 17, 2020 the outbreak has spread to 27 countries, with more than 70,000 cases (Dong, Du and Gardner, 2020). The World Health Organization (WHO) declared COVID-19 as pandemic on March 11, 2020 (WHO, 2021). Although WHO announced COVID-19 as global emergency, the media statement by the Sarawak Disaster Management Committee (SDMC) on the March 11, 2020 indicated contrary situation: "Since the COVID-19 outbreak there is no known COVID-19 infection in Sarawak". Most populations especially in isolated geographical locations in Sarawak carried on with their socio-economic activities with no or little fear and with no or limited knowledge about COVID-19 (Liau and Wan Ahmad, 2022).

On January 25, 2020, the first case of COVID-19 detected in Peninsular Malaysia and the cases are traced back to 3 Chinese nationals who previously had close contact with an infected person in Singapore (Elengoe, 2020). According to the SDMC the first cases of COVID-19 in Sarawak was recorded two days after the declaration of COVID-19 as pandemic when 3 people are tested positive. 173 persons are instructed by the authority to be home surveillance and 63 persons-under-investigations (Sarawak Disaster Information, 2020). All these 236 cases in Sarawak are associated with religious gathering in Selangor Peninsular Malaysia from February 28, 2020 to March 1, 2020 (refer Table 1).

Table 1: Number of participants of religious gathering at the Sri Petaling Mosque

No	Division	Number of Person Traced/ Self-declared		Total
		Home Surveillance	Person-Under-Investigation	
1	Kuching	22	6	28
2	Samarahan	57	3	60
3	Serian	8	1	9
4	Sri Aman	3	0	3
5	Betong	7	0	7
6	Sarikei	0	3	3
7	Sibu	21	5	26
8	Mukah	14	1	15
9	Kapit	1	0	1
10	Bintulu	29	0	29
11	Miri	11	18	29
12	Limbang	0	26	26
Total		173	63	236

Source: SDMC, 13 March 2020

On March 15, 2020 the National Crisis Preparedness and Responses Centre (CPRC) of the Ministry of Health Malaysia (MoH) and the WHO reported that the pandemic has spread to 146 countries with 156,162 total cases and 5,612 deaths, while Malaysia recorded 238 cases with no death. In Sarawak, the first death from COVID-19 was reported by the SDMC on March 17, 2020 and the victim was a pastor from the Emmanuel Baptist Church in Kuching Sarawak (SDMC, 2020; Borneo Post Online, 2020). The deaths of the 60-year-old pastor and the 34-year-old man from Johore became the eyes opener for many people who previously not aware of the grave danger of COVID-19. Lockdowns implemented by many countries globally to curb the spread of COVID-19. Malaysia implemented the first Movement Control Order (MCO) (from March 18-31, 2020) to prevent the spread of COVID-19, followed by the second MCO (from April 1-14, 2020), the third MCO (from April 15-30, 2020) and the fourth MCO (May 1-14, 2020). After 8 weeks of lockdown, the authority continued with a range of measure to curb COVID-19 including 'conditional' lockdown, borders surveillance and enforcement of laws.

Information on the COVID-19 cascaded by respective authorities (e.g. the National Security Council (MKN), MoH and SDMC via several platforms including their official websites and social media platforms. Announcement via prime media and social media highlighted the need of everyone to practice new habits such as physical distancing (of at least 1 meter in public places), avoiding crowded places, washing hands and using face masks. Information related to COVID-19 cascaded by the MKN via messages sent to the mobile phones of population members. People with access to the internet can download MySejahtera application that linked to the MoH. Through MySejahtera, mobile phone users can perform several activities such as following COVID-19 updates, identify COVID-19 hotspots, register for vaccination and check-in with MySejahtera before entering all public premises such as supermarkets and cafes. Before the pandemic, family and community members in Sarawak especially the Dayak communities are involved in all funeral proceedings: vigil night, cremation and funeral. Among the Sarawak Malays, they are involved actively in post-funeral rites such as prayers and feasts. During the pandemic when deaths occur these events are divided to two categories: contiguous (i.e. deaths from COVID-19) and not contiguous. Handling of dead bodies and burial related to COVID-19 are managed by biomedical personnel; while deaths that are confirmed 'not contiguous' managed by respective family and community members with adherence to the Standard Operating Procedures.

Despite the availability of significant statistical information and data related to COVID-19 particularly among urban dwellers, the understanding of deaths from COVID-19 in Sarawak is scarce. For instance, the search on Google Scholar with keywords 'anthropology of death, COVID-19 and Sarawak' yielded limited results (from year 2020 - 2021). Although death is part of human life on earth however, research on deaths is limited in Sarawak partly attributed to the fact that deaths are surrounded with taboos and evoked the feeling of fear. Researchers like Lupton (2020), Ward (2020) and Will (2020) suggesting that sociological contribution is needed in understanding social phenomena such as deaths, funerals and

impact of COVID-19. Therefore, this study aims to examine deaths patterns from COVID-19, inequality and socio-cultural aspects related to the overwhelming situations.

Pictures of COVID-19 Confirmed Cases and Deaths


Table 2 highlighted the pictures of COVID-19 pandemic on the March 17, 2020 at the global level (i.e. involving 157 countries), national level (Malaysia) and local level (Sarawak). The first two deaths from COVID-19 in Malaysia became the major headlines on the printed media and digital media. However, the news about the deaths are slow to reach those people living in interior areas with no or limited access to the internet and with no or limited television and radio networks.

Table 2: Pictures of COVID-19 Confirmed Cases and Deaths on 17 March 2020

Level	Confirmed Cases	Total Deaths
Global ¹	181,556	6,442
Malaysia ²	673	2 (Patient 358 and Patient 178)
Sarawak ³	45	1 (Case 358)

Source: ¹CPRC MoH & WHO, ²CPRC MoH and ³MoH and Sarawak Disaster Information

Following the first death from COVID-19 in Sarawak, the SDMC made a press release with details on the age, occupation and workplace of the victim:



STATE DISASTER MANAGEMENT COMMITTEE
FOR IMMEDIATE MEDIA/PRESS RELEASE

SARAWAK RECORDS FIRST NATION COVID-19 DEATH TODAY.

The victim, a 60-year-old pastor from Emmanuel Baptist Church Kuching passed away at 11:00 am at Sarawak General Hospital. The State Health Department is still in the process to identify the source of his infection. Meanwhile, 193 closed contacts of the deceased have been traced and are undergoing home-quarantine.

Sarawak today recorded eleven (11) new positive cases. There are 6 from Kuching, 3 from Limbang and 1 each from Betong and Lawas. They are now being treated at the three designated hospital namely, Sarawak General Hospital, Sibul Hospital and Miri Hospital.

Sarawak today recorded another 35 Person-Under-Investigation (PUI), while 204 patients are still awaiting results.

Currently, 45 COVID-19 cases in Sarawak had been traced to four clusters namely, Sri Petaling Cluster, Kuching (Church) Cluster, Sarikei Cluster and one more cluster in Kuching, the source of which is yet to be identified.

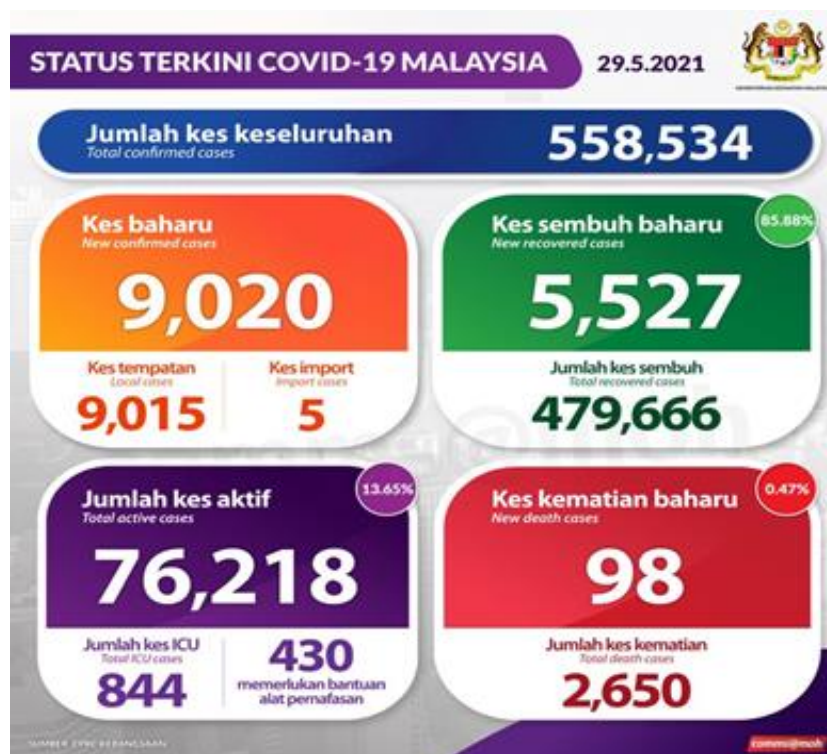
SECRETARIAT
SDMC
17th MARCH 2020
5:00 PM

While most media platforms reported the first fatality in Sarawak based on the SDMC's press release, a few online newspapers highlighted the victim's personal details such as the picture, age, name and occupation. For example, the Star wrote: "Pastor from Sarawak is first COVID-19 fatality in Malaysia" (The Star Online, 2020) while the New Straits Times (2020) highlighted the name of Case 358. In all official reports cascaded to the public members in Malaysia, details in respect to name, ethnicity and home address of the deceased persons are not available due to ethical reasons. According to Aimi Nadia et. al., (2020), the sharing of personal information raises the risk of stigmatization, discrimination and blame. Bagcchi (2020) reported that patients and healthcare workers who have survived COVID-19 are facing stigma and discrimination all over the world.

From a total of 673 confirmed cases and 2 deaths in Malaysia on March 17, 2020; the total confirmed cases of COVID-19 increased to 327,253 with a total of 1,220 deaths (0.37%) and 310,958 recovered (95.02%) on March 17, 2021. Similarly, in Sarawak, from a total of 45 confirmed cases and one death on the March 17, 2020; a total confirmed cases on March 17, 2021 are 13,110 with 94 deaths. Based on the statistics by MySejahtera on May 30, 2021 at the global level, there are 170,659, 373 (World Confirmed Cases): 152, 814,747 (World Recovered Cases) and 3,549,694 (World Deaths). At the world level, the top 10 countries with the highest confirmed cases are the United States, India, Brazil, France, Turkey, Russia, the United Kingdom (UK), Italy, Argentina and Germany. In the Association of Southeast Asian Nations (ASEAN) the top 3 countries with the highest total confirmed cases are Indonesia, Philippines and Malaysia (MySejahtera – Statistics 30 May 2021). COVID-19 pandemic has highlighted socio-economic inequality among countries and communities such as inequality access to healthcare and management of dead bodies from COVID-19. In India high number of infections and deaths among the poor populations and the rising cost of cremation have caused some families and communities to resort to immersing dead bodies in the Gangga River (Ali, 2021). What had happened in India highlighted the attitudes and behaviours of peoples in moments of fear and desperation in dealing with large-scale outbreak and systemic failures.

From a total of 6,075 confirmed cases on May 19, 2020 in Malaysia, the total cases on May 20, 2021 are 492,302 with a total of 2,099 deaths. As highlighted in Chart 1, deaths from COVID-19 on the May 29, 2021 is the highest in Malaysia since March 17, 2020. Therefore, the situations of COVID-19 pandemic reported in digital newspapers are labelled 'dark' and 'grim'. The surging cases in Malaysia in May 2021 are associated with celebration of Eid-Mubarak on May 13, 2021 and involvement of peoples in socio-cultural gatherings. Daily infection cases (i.e. 9,020) also the highest (refer Chart 2) and deaths continued to rise from May 19, 2020 to May 31, 2021. Therefore, in Sarawak MCO is implemented from May 29 to June 11, 2021. Gawai Dayak which is celebrated on the 1-2 June every year prior to the pandemic is not celebrated in big scale in 2020 and 2021. In Peninsular Malaysia and Sabah another MCO is implemented from June 1-14, 2021. Due to the detection of new variants of COVID-19 (e.g. the UK, South Africa and the Philippines variants) by the Institute of Health and Community Medicine UNIMAS, scientific community become more vigilant but this discovery contributed to fear among public members in Sarawak. Many people living in Sarawak are afraid of what happened in the other regions in Malaysia with high infection rates (e.g. Selangor, Federal Territory Kuala Lumpur and Sabah) to repeat or occur in Sarawak. With poorly equipped healthcare clinics and sub-standard physical infrastructures in rural areas severe infections among rural community will pose the danger to sustainability of healthcare services and the livelihood of the populations.

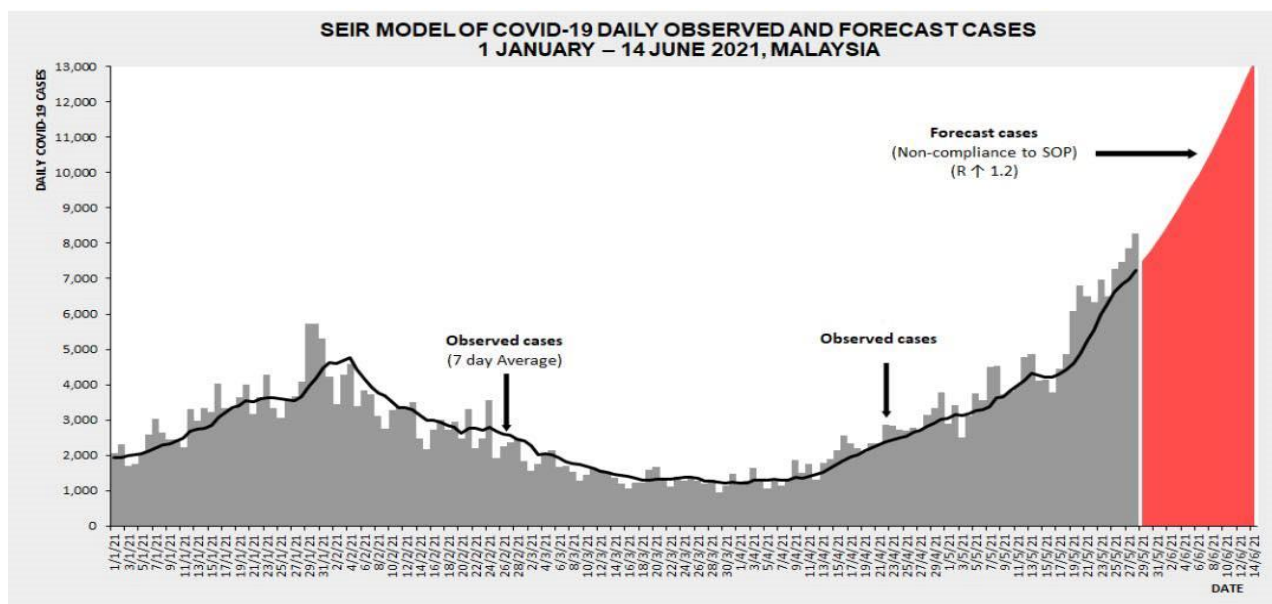
Chart 1: Latest Status of COVID-19 in Malaysia



Source: MoH, 2021

Chart 1 and Chart 2 showed that since May 19, 2021, new cases of COVID-19 in Malaysia indicated the trend of ‘risky’ situations with significant increase of the daily cases. Based on the Susceptible-Exposed-Infectious-Recovered (SEIR) Model the situations are forecasted to be ‘grim’ if the populations in Malaysia are not observing the SOP and subsequently affects the inability of the healthcare staff members dealing with overwhelming situations and the shortage of healthcare facilities.

Chart 2: SEIR Model and Forecast Cases (January 1, 2021 to June 14, 2021)



Source: Director General of Health Malaysia, Facebook, 29 May 2021

The data in Table 3 showed that COVID-19 pandemic placed significant impact to all aspects of lives in Malaysia at the level of individual, household, community and the nation-state. For instance, infected individuals, family and communities have to be isolated in the event of infections and the relevant government agencies are expected by the needy populations to extend relevant social services including the distribution of food and medical supplies to them.

Table 3: Status of COVID-19 in Malaysia (May 15-31, 2021)

Date	Infections		Deaths	
	Daily Confirmed Cases	Total Confirmed Cases	Daily Deaths Cases	Total Deaths Cases
31/5/2021	6,824	572,357	67	2,796
30/5/2021	6,999	565,533	79	2,729
29/5/2021	9,020	558,534	98	2,650
28/5/2021	8,290	549,514	61	2,552
27/5/2021	7,857	541,224	59	2,491
26/5/2021	7,468	533,367	63	2,432
25/5/2021	7,289	525,889	60	2,369
24/5/2021	6,509	518,600	61	2,309
23/5/2021	6,976	51,2091	49	2,248
22/5/2021	6,320	505,115	50	2,199
21/5/2021	6,493	498,795	50	2,149
20/5/2021	6,809	492,302	59	2,099
19/5/2021	6,075	485,496	46	2,040
18/5/2021	4,865	479,421	47	1,994
17/5/2021	4,446	474,556	45	1,947
16/5/2021	3,780	470,110	36	1,902
15/5/2021	4,140	466,300	44	1,860

Source: Ministry of Health, 2021

As this study attempt to examine COVID-19 pandemic particularly on death patterns in Sarawak, the researchers are going to describe socio-cultural context of communities and societies in Sarawak in the next section.

SOCIO-CULTURAL CONTEXT OF SOCIETY IN SARAWAK

The link between economic class and health have been observed by scholars. The empirical findings so far predict the link is indeed positive (Phelan, Link and Tehranifar, 2010). Low socioeconomic status is related to higher mortality and poor health, with chronic diseases, communicable diseases and injuries are associated with diseases and causes of death in lower socioeconomic groups. Reading into the association is therefore to argue that deployment of resources may play an important role to weaken and reverse the disadvantages, although, researchers cautioned that higher socioeconomic status does not itself bring health advantage, and their relation is difficult to be tested empirically (Phelan, Link and Tehranifar, 2010, p. 31).

Nettleton (2015) summarises three explanations that linked social class and health. The health selection explanation looks at the influence of health in shaping one's long term social position. Nettleton cited a study by Wadsworth (1986) who used data from the British National Birth cohort which had shown males who had poor health in younger age tend to end in lower social classes. The second explanation looks at how social classes cause variations in health outcome. This was observed in the lifestyle of the groups in lower socioeconomic position which tend to be unhealthy, such as drinking alcohol and eating food with excessive amount of sugar and fat. The unhealthy lifestyle poses risk to health, whose presence is more frequent among the lower social classes. Finally, the materialist explanation views structural disadvantages in housing condition, unemployment and pollution increases the risk to health to those in lower social classes, such as exposure to respiratory illness and heart disease (Wadsworth, 1986, pp. 160-163).

In connection to socioeconomic as one of the predictors of health, regional differences are also read in parallel. Thus, region which is more deprived of economically and structurally, tend to display a higher rate of mortality than a developed region. Challier, Meslans and Viel (2000) studies the link between deprivation and attendance to cervical cancer screening for women aged 25-65 who lived in 594 municipalities in France. The study utilised several characteristics for deprivation, which covered demography (women's mean age, average net income per household, population density) and health care access (density of physicians and density of paramedical facilities). They found attendance to the health screening was lower in urbanised areas that were more deprived, to which they recorded lower average income, higher mean age of women and poor medical facilities (p. 160). Researchers who adopted the socioeconomic link to health tend to study the socioeconomic determinants such as education, occupational class and income as independent variable that leads to a direct pathway to health. Researchers from Finland, Lahelma et. al. (2004), investigated each indicator to test their independent link. Their study used baseline data from 2000 and 2001 survey of middle age women and men employed by the City of Helsinki, with a sample size of 6243, with 80% of the respondents were women. Their research discovered all three socioeconomic indicators showed interrelation to health inequalities. Among women, educational disadvantages were mediated through occupational and household income, while only small part of income inequalities can be explained by educational and occupational class. Similar results reported among men, and only 20% of the occupational class inequalities were mediated through income (p. 331). Hence, the study concludes that the socioeconomic determinant to health should be studied in conjunction with other determinants of inequalities, and broader incorporation such as youth and parental home.

Learning the theoretical and empirical contexts connecting health with socio-economy provide a scholarly basis to argue that the same nexus is observable in the scenario of public health in Malaysia. Khazanah Research Institute (KRI) released a report Social Inequalities and Health in Malaysia, which examined the ways in which social factors, specifically income and work, that affect the health outcomes of Malaysians. Overall, the data from 1970 to 2020 suggests the upward trend for life expectancy in 2020 which sees Malaysians are living longer, where a male and female newborn can expect to live to the age of 72.6 and 77.6 years, respectively. However, the data also found some intractable connection between states in Malaysia and the outcome of health, which suggests to some forms of inequalities. Among other findings, the research team found "significant variation" in life expectancy between states.

For example, a male newborn in Sarawak is expected to live to 74.6 years, whereas a male newborn in Perlis is only expected to live up to 69.2 years (p. 10). Another finding on children under 5 mortality rate also looks encouraging for Sarawak, which recorded lower deaths per 1,000 births, compared to children under 5 in Kelantan, Negeri Sembilan and Pahang.

These findings are at least, startling, given the economic dimension, notably on the income factor, that presented mixed pictures of the health-socioeconomic nexus of those states under comparison. Economic Planning Unit (EPU) at the Prime Minister's Department, Household Income, Poverty and Household Expenditure data (1970-2019) stated the mean of monthly gross income for Sarawak in 2019 was RM5959, Perlis RM5476, Negeri Sembilan RM6707, Pahang RM5667 and Kelantan RM4874. The incidence of relative poverty in Sarawak was reported at 15.2%, Perlis at 12%, Negeri Sembilan at 11.6%, Pahang at 6.0%, and Kelantan 9.9%. For the incidence of absolute poverty, Sarawak recorded 9.0%, Perlis 3.9%, Negeri Sembilan 4.3%, Pahang 4.3% and Kelantan 12.4%. Despite Sarawak having a relatively higher household income to other states mentioned earlier, the incidence of poverty, both relative and absolute, pointed to the variation of income between states in Malaysia do not necessarily produce clear linkage with the health outcomes of the people in those states. On the other hand, one should exercise caution on the numbers and the possible unified representation they generate. The spatial, urban-rural dimension is a distinctive reality in Sarawak, aggravated by the differing access to roads, communications and public facilities, and their likely cumulative influence upon the health outcome of those populations may not be visibly captured in those data.

In the context of administration, Sarawak is divided into 12 divisions namely Kuching, Samarahan, Serian, Sri Aman, Betong, Sarikei, Sibul, Kapit, Mukah, Bintulu, Miri and Limbang. All of these divisions have districts and sub-districts. With two cities (Kuching and Miri) and one town in each division, the populations in Sarawak live in two worlds: urban and rural areas. Many people commute daily to and forth from their homes in rural areas to urban areas due to work or because of other socio-economic activities. The movement from urban to rural areas or vice versa significant in the weekends before COVID-19 pandemic such as weddings celebration, attending funerals and getting social services. The Department of Statistics (2010) stated that 53.8% populations in Sarawak are living in urban areas while 46.2% living in rural areas. In rural areas peoples are living in the villages with separate dwellings and/or longhouses. The majority of the indigenous Iban and Orang Ulu are living in the longhouses with close proximity to each other, for instance, they shared common areas (e.g. *ruai*) with their neighbours and other villagers. Communalism significantly influenced the behaviours and ideas of communities in Sarawak in which portrayed in their community-based activities such as worshipping, celebrating wedding and working together (Liau and Wan Ahmad, 2022). With the availability of airports in major cities or towns (e.g. Kuching, Sibul, Bintulu, Miri and Limbang), the mobility of peoples in these areas are more complex. The movement of populations in areas with access via roads and rivers transportation are slightly less complex. People with no ownerships of private vehicles depending on public transport to move around such as by using public bus and van services, taxis and express boats in which physical distance with other people is an issue and subsequent pose risk of COVID-19 infection. A travel by bus from Kuching to Bintulu could take between 10-12 hours and this journey is long and tiring.

RESEARCH METHODS

This study used secondary data from official reports on COVID-19 and data obtained through participant observation. Secondary data include the review of messages sent by the MKN, the analysis of report by MoH and Sarawak Disaster Information and the review of posts of the Director General of Health Malaysia on social media. As all the researchers are living in Sarawak, participant observation are carried out in different settings in both rural and urban areas. During the death of first author's neighbor due to COVID-19 the observation of the events take place behind curtain from the bedroom and the researcher was afraid to draw closer to the family members of the deceased. The first author only talked to deceased's brother three days after the funeral with the used of face mask and physical distancing.

The researchers used participant observation because we aimed to grasp the research participants' point of view, their relation to life, their vision of their worlds (Malinowski, 1922 in Erickson, 2011).

Understanding what has been done by others (Eisenhart and Jurow, 2011), and finding a way to frame the research enquiries analytically and conceptually, are critical steps in any research (Seale, 2008). The researchers used the combination of the research methods to answer the following research questions:

- i) What are mortality patterns of COVID-19-related deaths in Sarawak?
- ii) What measures are taken to ensure sustainability of social, economy and environment?
- iii) How COVID-19 influenced community ideas and behaviours related to deaths?

Data for research questions i and ii are obtained significantly from official reports (e.g. MoH and SDMC Reports) while significant data for research questions iii are gathered from participant observation. All the registered deaths from COVID-19 are examined based on to the following areas: date of reported deaths, number of deaths, age, gender, case reference or patient identification, co-morbidity, date of an individual tested positive for COVID-19, citizenship and the place of death. Sometimes personal information about the deceased individuals are shared by social media users (e.g. in Facebook and Whatsapp groups). Leak of information could pose negative implications such as stigmatization and discrimination (Aimi Nadia et al., 2020). Systematic reviews of official reports conducted for 18 months (from the January 1, 2020 to June 30, 2021) carried out with the aim of finding existing evidence without bias in order to produce systematic investigation. Almost all the official reports available in Malaysia are in national language (i.e. Bahasa Malaysia).

FINDINGS AND DISCUSSION

In this section, findings and discussion cover the following areas: urban-based deaths in Sarawak during the initial stage of COVID-19 pandemic, deaths in January 2021 to June 2021, total deaths (from March 2020 to June 2021), deaths among citizens and non-citizens, deaths among males and females, deaths based on age groups, pre-existing health conditions of the casualties, place of deaths, and impact of deaths. The data cited in the findings, unless indicated otherwise, were sourced from the Ministry of Health (Table 3) and Sarawak Disaster Management Committee (Table 4).

Deaths during initial stage of the pandemic

The SDMC announced that Sarawak records three positive cases for COVID-19 on the March 13, 2020. The initial data on COVID-19 cases in Sarawak during the earlier stage of the pandemic detected among persons who had interactions with others outside or inside Sarawak due to religious gatherings (SDMC, 2020). Initial infections and deaths are classified urban-based, for example most cases of infection detected in Kuching, indicated by the admission to the Hospital Umum Sarawak (HUS) (refer to Table 4). Therefore, to contain the spread of COVID-19, all entries of people to Sarawak (either via air, sea and land) are required to go through stringent monitoring and quarantine for 14 days in the designated quarantine centers. The implementation of the MCO for 8 weeks (from March 18, 2020 to May 14, 2020), and regulated movement between zones or divisions have prevented the virus from spreading to interior communities in Sarawak such as in the Upper Baram and Upper Balui. 17 deaths out of the total 19 deaths (from March 17, 2020 to July 31, 2020) from COVID-19 are recorded in HUS located in Kuching City, one death (in HUS Sarawak Heart Institute (IJN) in Kota Samarahan, one death (in Miri Hospital) and one death (in Limbang Hospital). As initial infections are urban-based the deaths also occurred among people living around or near towns or cities. The age of the victims ranged between 23-79 years old: 9 persons are 60 years old and above while 10 individuals are below 60 years old. 8 deaths are documented in March 2020, 9 deaths in April 2020 and 2 deaths in July 2020. No death occurs in 2 months (May 2020 to June 2020) and between August 2020 to December 2020 (refer Table 4).

Table 4: Deaths due to COVID-19 in Sarawak (January 1, 2020 to December 31, 2020)

Month/ Year	Date of Death Reported	Number of Death	Case Reference	Gender	Age	Place of Death
Aug 2020 - Dec 2020		0				
Jul 2020	27/7/2020	1	19 (589)	Female	63	HUS
	11/7/2020	1	18 (8702)	Male	72	HUS
Jun 2020		0				
May 2020		0				
Apr 2020	29/4/2020	1	17 (5282)	Male	72	HUS IJN
	22/4/2020	1	16 (5483)	Female	72	HUS
	19/4/2020	1	15 (4090)	Male	69	HUS
	11/4/2020	1	14 (4314)	Female	47	HUS
	9/4/2020	1	13 (2864)	Female	23	HUS
	5/4/2020	1	12 (3073)	Male	53	HUS
	5/4/2020	1	11 (2210)	Male	72	HUS
	4/4/2020	1	10 (2850)	Male	56	HUS
	2/4/2020	1	9 (1273)	Male	61	HUS
Mar 2020	31/3/2020	1	8 (1275)	Male	40	HUS
	30/3/2020	1	7 (2471)	Female	46	Hospital Miri
	30/3/2020	1	6 (1941)	Male	47	HUS
	23/3/2020	1	5 (595)	Female	51	Hospital Limbang
	23/3/2020	1	4 (1006)	Male	49	HUS
	21/3/2020	1	3 (595)	Female	40	HUS
	21/3/2020	1	2 (1031)	Female	79	HUS
	17/3/2020	1	1 (358)	Male	60	HUS

Source: MoH and Sarawak Disaster Information, 2020

From the total of 45 cases in Sarawak on the March 17, 2020 with one identified cluster (i.e. cluster related to religious gathering in Petaling Jaya) and sporadic cases, Sarawak is perceived by many people 'safe' from the pandemic. However, with the surging cases of COVID-19 in Peninsular Malaysia (particularly in Selangor and Federal Territory Kuala Lumpur) and Sabah the pandemic eventually evoked fear among populations in Sarawak. Based on the Sarawak Disaster Information's report on the December 31, 2020, Sarawak has a total of 1,117 confirmed cases, 19 deaths and a total of 1,069 persons are successfully treated and subsequently discharged from hospitals.

Deaths in January 2021 to June 2021

Year 2021 is considered a 'grim' moment for peoples living in Sarawak. After 5 months (from August 2020 to December 2020) of no fatality due to COVID-19, death numbered 20 is documented on the January 16, 2021. A total of 19 deaths are reported in January 2021. From the total of 409 deaths recorded from March 17, 2020 to June 30, 2021, 95.4% (390 deaths) listed in January 2021 to June 2021. The highest number of deaths are registered in May 2021 (28.4% or 116 deaths), June 2021 (28.1% or 115 deaths) and April (17.1% or 70 deaths). These figures are alarming as more positive cases detected and more community-related clusters declared by the authority between the months of January 2021 to June 2021. Furthermore, year 2021 considered 'risky' for peoples in Sarawak because many cases of COVID-19 are asymptomatic or showing no symptoms and infections have spread to marginalized communities and rural areas and subsequently pose risks towards vulnerable groups such as the aging populations and people with chronic illnesses.

Deaths among citizens and non-citizens

Out of the total of 409 deaths in Sarawak (from the March 17, 2020 to June 30, 2021) almost all fatalities (99.3% or 407 deaths) involved Malaysia citizens (i.e. local Sarawak) while only 0.7% (N=2) involved non-citizens. The two non-citizens are 43-year-old citizen of the Philippines and 40-year-old citizen of Indonesia. These non-citizens are classified as migrant workers in Sarawak. The former was found fainted at home and subsequently died while the latter received treatment in HUS. Low rates of deaths among non-citizens is part attributed to the fact that many migrant workers recruited to work in Sarawak legally are 45-year-old and below, and they must be certified healthy by medical doctors. There is no reported death case among illegal immigrants in Sarawak.

In 2020, there are an estimated 138,000 foreign workers in Sarawak (World, 2020). Oil palm plantation and construction are two economic sectors that depend heavily on migrant workers. They are among the most vulnerable groups during COVID-19 pandemic (Douglas, et. al., 2022). However, migrant workers' mortality pattern is depended on many factors including their assigned accommodation. The cramped accommodation such as crowded and confined hostel or detention centre contributed to the higher rates of COVID-19 patients such as in Peninsular Malaysia (Wahab, 2020) and Singapore (Koh, 2020). However, in Sarawak, the mortality rate of migrant workers is the lowest. One of the reasons is due to their accommodation that situated within the community and shophouses (Sarawak Voice, 2022).

Deaths among males and females

60.5% (248 deaths) are among males while 39.5% (161 deaths) among females. Mortality rates among males in Malaysia is significant in part because males are more likely be involved in socio-cultural activities outside homes (e.g. working outside homes and hanging out in public places) and therefore they faced higher risk of infections. Furthermore, males are more likely than females involved in significant riskier behaviours (e.g. smoking and drinking alcohols excessively) and therefore their health statuses are affected by these behaviours.

Deaths based on age groups

In terms of casualties based on age groups, the highest top three deaths involved peoples aged 70-79 (31.5% or 129 deaths), 60-69 (22.7% or 93 deaths) and 50-59 (15.9% or 65 deaths). The data showed that fewer deaths are recorded in younger age groups compared to older age groups. The age ranged for male who died due to COVID-19 are between 30-92 years old while for females are between 23-91 years old. The youngest deceased (i.e. 30-year-old man and 23-year-old woman) had pre-existing health conditions. Although Sarawak has a relatively young population, the chances of recovery are significantly affected when people had comorbidity such as hypertension, diabetes mellitus and dyslipidemia reflected in almost all cases of deaths in this study. In terms of aged group: no death occurs among people 19-year-old and below in Sarawak from the March 17, 2020 till June 30, 2021. However, according to the Director General MoH Malaysia on the June 2, 2021, 3 deaths among children are registered in 2020 and another 3 deaths in 2021 (from January 2021 to May 2021). The closure of childcare centres, pre-schools, schools, colleges and universities in Malaysia during the pandemic had prevented severe infections among young people. As younger populations are physically active, the closure of these educational institutions highlighted the crucial need in regulating their mobility and controlling their activities inside or outside learning institutions. Based on Chart 3, there are 82,342 cases among children (from January 25, 2021 till May 30, 2021). Out of 82,342 COVID-19 cases: 24.1% involved the youngest age group, 10% cases involved children from 5-6 years old, 32.6% involved the 7-12 years old and 33.3% involved those children between the aged of 13-17 years old. Based on the data there is need for individuals, households, communities and the government to protect these young populations from infections especially infants, toddlers and adolescent. As younger populations are the assets of every societies or countries provision of safe learning environment is stipulated in the Sustainable Development Goals, that is Goal 4.

Chart 3: Confirmed cases among children (From January 25, 2021 till May 30, 2021)



Source: MoH, 2021

Pre-existing health conditions of casualties

The majority of deaths occurred among peoples with comorbidity: 379 deaths (92.9%). Comorbidity refers to the occurrence of more than one illness or condition at the same time (The Free Dictionary, 2022). A range of pre-existing health conditions are experienced by the deceased persons including hypertension, diabetes, dyslipidemia, and obesity. 22 deaths (4.4%) had “No Comorbidity” while 8 persons (2.7%) pre-existing health conditions are “Not Stated.” Almost all “Not Stated” pre-existing conditions are recorded during the deaths of people from COVID-19 in March 2020 and during the earlier stage knowledge about the virus was still developing.

Place of deaths

In Sarawak, the top 6 divisions with the highest confirmed cases are Sibul, Bintulu, Kuching, Miri, Kapit and Sarikei. The mortality rates also significant higher in the hospitals in these divisions such as Sibul Hospital, Bintulu Hospital, Sarawak General Hospital (HUS), Miri Hospital, Kapit Hospital and Sarikei Hospital. 156 deaths (38.1%) occurred in Hospital Sibul, followed by Hospital Bintulu with 53 fatalities (13%), Hospital Miri with 51 deaths (12.5%) and HUS (48 deaths or 11.7%). The percentage of deaths in Hospital Sibul is among the highest in Sarawak in which out of 47,329 cases in Sarawak on the May 31, 2021 (MoH, 31 May 2021), 12,398 confirmed cases recorded in Sibul. Cluster Pasai in Sibul Division recorded the highest infections in Sarawak (i.e. 2,693 positive cases involving 29 deaths). Pasai Cluster is associated with inter-state and inter-district travels due to funeral, and impacted many rural longhouses. Furthermore, with the role of Sibul Hospital as an important hospital in the middle regions of Sarawak, many cases from nearby clinics and health centres in Kapit, Sarikei and Mukah Divisions are referred to Sibul Hospital. These factors contributed to significant burden on healthcare facilities, healthcare workers in Sibul Hospital and families who had lost their loved ones.

Brought-in-Death

Another significant finding in respect to deaths in Sarawak is linked to Brought-in-Death (BID). BID refers to a situation in which a death occurs at home and the deceased is sent to hospital for further investigation. For instance, 13 BID registered in June 2021: 8 males and 5 females and almost all are found fainted at their homes and died before they were sent to the hospitals. According to Ebrille et al., (2020), the severity of COVID-19 symptoms can range from none to very mild or severe, and the

symptoms usually appear 2 to 14 days after virus exposure and can include fever, cough, shortness of breath, headache, diarrhea, vomiting, runny nose, sore throat, conjunctivitis, tiredness, and aches. Ebrille et al., (2020) also indicated that syncope alone has not been described as a symptom associated with COVID-19 infection and therefore they reported a case series of syncope as the presenting symptom in otherwise asymptomatic patients with COVID-19 infection.

Out of the total of 2,650 deaths in Malaysia on the May 29, 2021, 14.5% deaths occurred at homes and these incidents are influenced by several factors including the inability of persons and family members identifying asymptomatic cases and the refusal some parties in getting professional healthcare services. Another explanation is related to socio-cultural beliefs and practices in which family members' decided to take care of their infected loved ones (e.g. aging parents) at homes which in line with the concept of filial piety and the perception of homes as the most suitable place of caregiving.

Impact of deaths

The impact of the death of a family member due to COVID-19 can be categorized into measurable impact (e.g. the loss of income in the event of death of a breadwinner) and unmeasurable impact such as emotional stress and loneliness. In addition, the effects of COVID-19-related deaths is disproportionate impact vulnerable individuals, families and communities. The deaths of peoples at homes or outside homes due to COVID-19 also influenced households, family members' and community members' in respect to their attitudes and behaviours to physical distancing, fear of infection and vigilant measure. The death of first author's neighbour due to COVID-19 caused families living on the right and left, and opposite of the dead person neighbourhood showed panic behaviours such closed the windows and doors, and observing from afar. Only 5 members of the deceased family are observed present immediately after the death together with biomedical personnel dressed in Personal Protection Equipment (PPEs). The first author experienced several months of trauma and fear due to her 40-year-old neighbor's death linked to COVID-19 in early February 2021. Researchers also attended funerals of family members and friends not related to COVID-19 with shorter duration of a visit. When dealing with infectious diseases (e.g. HIV and H1N1 influenza (swine flu), the fear of infection fed social exclusion and unpleasant imagination (Manderson and Levine, 2020). In addition, impacted people have to learn to lower social expectation towards others and learned to cope independently. Similarly, the death of immediate family members due to COVID-19 highlighted feelings of agony, regret and fear as depicted in the late Deputy Chief Minister of Sarawak's Facebook post and his comments on online newspapers due to the death of his brother in Kapit Hospital:



Source: Facebook, 2 June 2021

In addition, his post showed that funeral practices in Sarawak is impacted due to COVID-19 such as family members are not allowed to go near the gravesites and they do not able to hold or see the loved ones for the last time. Despite feeling painful, people also showed hope associated with vaccination and reminded other to be vigilant (HarianMetro, 5 June 2021).

CONCLUSION

Data from this study showed that inequality is an overarching aspect in this study. Inequality observed at the individual, household, community levels. Impact of COVID-19 is unequal between individuals or family who lost their members due to COVID-19 compared to individuals or family whose experienced no death. Those with comorbidity also succumbed to deaths more than those without comorbidity. Based on the findings of this study, we would like to rethink deaths due to COVID-19 in Sarawak. Rethinking deaths from COVID-19 will enhance our understanding and contributes to the policy formulation and implementation related to COVID-19 pandemic. These include sustainability related to social, economy and environment such as strong social support systems, employment and conducive working environment. Communities need to be informed and trained to manage contagious disease and deaths related to the disease and understanding funeral proceedings.

As communalism, supernaturalism and family are significant themes among communities and societies in Sarawak (Liau and Wan Ahmad, 2022), these aspects influenced peoples' attitudes and behaviours such as their perceptions towards new normal (e.g. social distancing, sanitizing and using face masks) and individuals' agency towards SOP. Most infections and deaths occurred between the months of January 2021 to May 2021 due to significant involvement of people in socio-cultural activities such as family reunion, cultural celebrations, weddings, funerals, and working in groups. The numbers of infections and deaths are significantly higher after Eid-Mubarak celebration on the May 13, 2021 due to inter-districts and inter-states travels, and socio-cultural gatherings. As mentioned earlier individuals and members need to reflect many aspects including on which habits are useful or risky during a pandemic.

Based on the MoH announcement on June 11, 2020 there are 8,369 confirmed cases involving migrant workers in Malaysia. Out of a total of 8,369 positive cases, 556 migrant workers (6.6%) are working in Sarawak. Only 2 deaths are recorded among migrant workers in Sarawak: 1 death in March 2020 and 1 death in April 2021. The death of 40-year-old Filipino migrant worker suggests the need to further examine issues related to migrant workers such as the needs and welfare of migrant workers because COVID-19 disproportionate impact vulnerable and minority communities. Data from this study also showed that mortality rate is higher among males than females. For instance, the incidence of death in the male populations in Sarawak for 16 months (March 2020 to June 30, 2021) is 60.5% compared to 39.5% among females. The inequality in terms of deaths between genders indicated that risks to infections and deaths are unequally experienced by men and women in Sarawak. In terms of fatality among males, the youngest age is 30 while among females is 23.

Although deaths among people aged 19 and below did not occur in Sarawak, infections among these aged group existed and this will place significant impact on family in both urban and rural areas such as they are separated physically from each other, e.g. the bonding between mothers and children are affected during quarantine especially those children aged 5 and below as the children are separated from the closest family members. Data from this study also suggesting that COVID-19 impacting aging population significantly. This study also highlighted inequality among 'healthy' or 'not healthy' populations and raised issue on the moral and ethical obligations of 'healthy' people to protect 'unhealthy' people from infections and subsequent deaths. Thus, early stages of vaccination are targeting frontliners (e.g. doctors, nurses and police) and people with pre-existing health conditions (e.g. people living with diabetes and aging populations). Similarly, the attempt to prevent people from travelling between sub-districts, districts and divisions in Sarawak showed efforts to contain the virus transmitting to aging and vulnerable populations especially in rural areas.

As a result of significant infections and deaths in certain divisions (e.g. Sibuluan Division) there is a need to upgrade health facilities and improve health services in those areas. The funding for the facilities should be drawn from the government, private sectors and investors. Furthermore, high infections in particular regions in Sarawak may suggest underlying conditions such as poverty, lack of awareness and negative attitudes towards people infected by COVID-19. In addition, COVID cases require further study to examine the underlying factors contributing to the incidents and may suggest way on how to manage pandemic which may occur in the future. In other words, holistic approach to pandemic preparation and management is crucial in Sarawak in line with WHO's (2022) call to encourage countries to engage the whole communities for effective pandemic preparedness and response. Lastly, deaths due to COVID-19 we suggest the need of people to rethink socio-cultural practices which could place danger on individuals, households and the communities or societies during pandemic such as forsaking handshaking, avoiding hugging and not participating in big-scale social-cultural gatherings.

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