MAN, ENVIRONMENT AND SOCIETY
Vol. 3, No. 2, 2022, pp. 281-295, ISSN: 2582-7669
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URL : www.arfjournals.com/mes
https://DOI:10.47509/MES.2022.v03i02.04

DETERMINANTS OF HOSPITALISATION OF COVID-19 PATIENTS: A TWO-YEAR RETROSPECTIVE STUDY AT AN INFECTIOUS DISEASE HOSPITAL IN BULAWAYO, ZIMBABWE

Desmond Mwembe[1], Lucy Shoniwa[2] & Solwayo Ngwenya[3]
[1 & 2]National University of Science and Technology
Faculty of Applied Sciences, Department of Statistics and Operations Research, Ascot, Bulawayo, Zimbabwe.
E-mail: desmond.mwembe@nust.ac.zw
[3]Mpilo Central Hospital Bulawayo, Zimbabwe.Royal Women's Clinic, Bulawayo, Zimbabwe.
National University of Science and Technology Medical Technology Medical School, Bulawayo, Zimbabwe.

Article History

Received : 16 August 2022
Revised : 11 September 2022
Accepted : 22 September 2022
Published : 29 December 2022

Keywords

SARS-CoV-2, Thorngrove, Infectious Diseases, Signs

Abstract: *Introduction:* Thorngrove Infectious Diseases Hospital is one of the infectious diseases hospitals for Severe Acute Respiratory Syndrome Coronavirus patients in Bulawayo for quarantine and treatment. *Methods*: A data collection sheet was created, and all patients' information admitted to the hospital was collected. Cramer's V statistic and multivariable logistic regression were used to determine demographic factors associated with hospitalisation. *Results:* The study established that males (OR=1.46, 95% CI=0.81-2.63, Cramer's V=0.09, p> 0.05) are more likely to be hospitalised than females, while females are more exposed. Age (95% CI=41.74 - 46.92, Cramer's V=0.71, p<0.05), smoking (OR=1.21, 95% CI=1.01-2.27, Cramer's V=0.03, p<0.05), place of residence, people in low-density areas (OR=3.32, 95% CI= 1.87 – 12.64, Cramer's V=0.22, p<0.05) are 3 times more likely to be hospitalised compared to those in medium density areas. Single patients (OR=10.38, 95% CI=2.16 – 50.00, Cramer's V=0.20, p<0.05) were 10 times more likely to be hospitalised compared to widowed patients. Hypertension (OR=7.2, 95% CI=3.38 -15.37, Cramer's V=0.41, p<0.001) was leading in influencing hospitalisation. *Conclusion and recommendations:* Aged patients, place of residence, smoking, marital status and pre-existing conditions and showing symptoms influenced hospitalisation. Quick attention is required for elderly patients, smoking and those showing Covid-19 symptoms.

To cite this article

Desmond Mwembe, Lucy Shoniwa & Solwayo Ngwenya (2022). Determinants of Hospitalisation of Covid-19 Patients: A Two-Year Retrospective Study at an Infectious Disease Hospital in Bulawayo, Zimbabwe. *Man, Environment and Society*, Vol. 3, No. 2, pp. 281-295. https://DOI:10.47509/MES.2022.v03i02.04

Introduction

Covid-19 is a respiratory disease caused by the coronavirus. The virus causes Severe Acute Respiratory Syndrome (SARS-Cov-2). This implies that when it is at an advanced stage, Covid-19 affects the respiratory system of patients and the highly affected respiratory organs are the lungs. The SARS-Cov-2 strain is a novel virus in humans and has never been experienced in humankind (Ogunode, 2020). This new disease brought panic in the health sector as health professionals feared for massive loss of lives.

In the early days of the disease, there were no vaccines were available. People, especially in Zimbabwe, relied solely on steaming and restrictive measures to avoid acquiring the disease. Just like in other research, these steaming methods were effective (Suter et al. 2021). Later, vaccines and antiviral medication were availed through research. This is an ongoing process and the hope is that better medication will be discovered that would reduce the spread of the disease or lessen the pain and mortality due to the disease.

The Coronavirus was first reported in Wuhan, China in December 2019 (Alsoufi et al. 2020). The disease spread across continents and countries until it reached Africa. This prompted the World Health Organisation (WHO) to declare Covid-19 as a world disaster on the 30th of January 2020. In March 2020, the alert level was increased when the WHO declared COVID-19 to be a pandemic (Alsoufi et al., 2020; Mutambisi et al., 2021; Vurayai, 2021). By April 2020, 60,000 people had died of the disease and a million cases had been reported (Ogunode, 2020).

Zimbabwe was not spared from this scourge. On 21 March 2020, the first positive case was reported in Zimbabwe (Mbunge et al., 2020; Noah et al., 2020). Subsequently, the first death due to Covid-19 was reported on March 23, 2020, in Zimbabwe. Many efforts were laid down to reduce the further spread of the pandemic. This included lockdowns, where people were to remain in their areas of residence. No intercity travelling was allowed and schools were closed (Mutambisi et al., 2021).

This forced some medical centres to close and referral centres for COVID-19 patients were opened in Bulawayo. This included Thorngrove Infectious Diseases Hospital, Ekusileni Medical Centre and other centres. The spread of Covid-19 paralysed many economic activities and even many health centres were no longer allowing visitors for patients. Only one visitor per patient was allowed even up to now to reduce the spread of the disease.

Other measures introduced by the government were social distancing, continuous washing of hands and sanitising whenever necessary, especially after greeting other people or from a crowd. As Mbunge et al. (2020) state, curfews were even put in place to reduce the spread of the disease. The disease continues to spread though it has been noticed that

its peak is normally during winter when temperatures are low. This has forced more lockdowns and curfews in winter. This is all meant to reduce the spread of the disease.

Patients need care and constant monitoring to avoid re-admission (Choi et al., 2021). This could not be done given the way Covid-19 spreads. Health professionals were reluctant to take Covid-19 patients for fear that they would be the next victims of the disease. This, therefore, drastically reduced the quality of service in hospitals, and hence referral hospitals were introduced for those suspected or confirmed to be suffering from COVID-19. This was to improve the quality of service for Covid-19 patients. Furthermore, knowing the ailment patients were suffering from could improve service delivery, unlike when mixed with other patients suffering from other ailments that could be accident-related or sickness that has nothing to do with COVID-19. As most scholars agree, knowing risk factors leading to hospitalisation is vital in that it improves understanding of the disease given the pre-existing conditions of the patient and knowing most affected people (Olak et al., 2021). This also helps in the planning process whenever a patient with certain characteristics or pre-existing conditions is presented. Planning of assisted ventilation, bedding and medication is simplified when the risk of hospitalisation is predictable.

Furthermore, pre-existing conditions help decide whether to hospitalise a patient or not. If the patient has pre-existing conditions or has certain demographic characteristics that increase the risk of hospitalisation, then planning of new referral hospitals for COVID-19 patients that need to be constructed can be done. This will, in turn, improve equity in health among Covid-19 patients.

Research Methods

A retrospective two-year cross-sectional study of all COVID-19 patients at Thorngrove Infectious Diseases Hospital hospital was done. Written permission from the Bulawayo City Director of Health Services was given to the researcher to collect data on patients. Patients' records were read through, a data collection sheet was formulated, and demographic information and clinical conditions of patients were collected. All admitted patients from March 2020 to February 2022 were recorded in the data collection sheet. One hundred and eighty (180) patients were included in this study. Information collected was on the demographic characteristics of patients, pre-existing clinical conditions of patients, and symptoms common among COVID-19 patients.

The data was cleaned, coded, and entered in Excel, which was later exported to SPSS version 16 for analysis. Data was put into categories of either hospitalised or not hospitalised. Risks using odds ratio were calculated for demographic characteristics, pre-existing clinical conditions and symptoms patients experienced when infected by the disease. A logistic regression model was used to determine the risk of being hospitalised.

Results

The study had more males (54.4%) than females (45.6%). In terms of age, the mean age of the participants was 44.3 years (SD±2.59). The data was bimodal in terms of age group. There were 93 (51.7%) participants who were exposed to medication, and 87 (48.3%) were not exposed to treatment (control). Place of residence was another variable that was researched. Most of the participants resided in the high-density areas, followed by medium-density areas, and finally, the low-density area. Most of the participants were single (24.4%) and married made up 23.9% of the population. As for education, the majority of participants had attained tertiary education (46.1%). Very few had no formal education (1.1%). Other demographic characteristics are summarised in Table 1.

Table 1: Demographic characteristics of respondents

Demographic characteristics	*Characteristic level*	*Total Observations N=180 (%)*	*Hospitalisedn =86 (%)*
Gender	Males	98 (54.4)	51(59.3)
	Females	82 (45.6)	35(40.7)
Place of residence	Low	33(18.3)	23(26.7)
	Medium	56(31.1)	21(24.4)
	High	91(50.6)	42(48.8)
Marital status	Cohabiting	29(16.1)	16(18.6)
	Married	43(23.9)	23(26.7)
	Widow	28(15.6)	10(11.6)
	Separated	31(17.2)	11(12.8)
	Single	44(24.4)	22(25.6)
	Other	5(2.8)	4(4.7)
Highest level of education	None	2(1.1)	1(1.2)
	primary	20(11.1)	9(10.5)
	secondary	75(41.7)	29(33.7)
	Tertiary	83(46.1)	47(54.7)
Religion of participants	Apostolic	45(25.0)	26(30.2)
	Islam	18(10.0)	10(11.6)
	None	2(1.1)	1(1.2)
	Orthodox	40(22.2)	15(17.4)
	Other, specify	3(1.7)	3(3.5)

contd. table 1

Demographic characteristics	*Characteristic level*	*Total Observations N=180 (%)*	*Hospitalisedn =86 (%)*
	Pentecostal	48(26.7)	24(27.9)
	Traditional	24(13.3)	7(8.1)
Smoking	No	153 (85.0)	72(83.7)
	Yes	27(15)	14(16.3)
Number of participants per household	3-5 people	37(20.6)	22(25.6)
	Less than 3 people	64(35.6)	16(18.6)
	over 5 people	79(43.9)	48(55.8))
Employment	Formally employed	33(18.3)	14(16.3)
	Not employed	22(12.2)	6(7.0)
	others specify	4(2.2)	2(2.3)
	Self employed	106(58.9)	59(68.6)
	Student	15(8.3)	5(5.8)
Income	Below $100 USD	102(56.7)	46(53.5)
	$100 USD - $200USD	36(20.0)	15(17.4)
	$200 USD - $500 USD	10(5.6)	6(7.0)
	$500 USD - $1000USD	18(10.0)	9(10.5)
	Above $1000 USD	14(7.8)	10(11.6)

Most of the participants indicated that their income is below $100. As income increased, the number of people decreased exponentially.

Chances of being hospitalised given the patient's demographic features

Females were 45.7% more likely to be hospitalised if diagnosed with COVID-19 compared to males, even though statistically insignificant (OR= 1.5, 95% CI=0.8-2.6, Cramer's V=0.09, p=0.211). On the same note, females are more likely to be diagnosed positive for COVID-19 as compared to their male counterparts. The odds of females being diagnosed with COVID-19 are 96% more likely compared to males. This shows that females could be more mobile and less cautious about the Covid-19 pandemic. Smoking patients are at a higher risk of being hospitalised whenever they are diagnosed positive for Covid-19. The research established that smoking patients are 21.2% (OR=1.21, 95% CI=1.01-2.3, Cramer's V=0.03, p<0.05) more likely to be hospitalised compared to non-smoking patients.

The study established that income (p = 0.33, Cramer's V=0.16), employment (p=0.09, Cramer's V=0.21), gender (p=0.21, Cramer's V=0.09) and education (p=0.16, Cramer's V=0.17) are not influential in hospitalisation when diagnosed Covid-19 positive. On the

other hand, age (p=0.04, Cramer's V=0.71), household number (p=0.00, Cramer's V=0.34), place of residence (p=0.01, Cramer's V=0.22), and marital status (p=0.00, Cramer's V=0.20) are influential in hospitalisation when diagnosed positive of Covid-19. It is worth noting that even though the number of people in a household and employment is not significant, Cramer's V statistic shows that they are associated with hospitalisation. This implies that these demographic characteristics influence hospitalisation.

It is established that as age increases, the odds of being hospitalised are 12% more likely for the elderly compared to the younger generation (OR=1.12, 95% CI=1.07-1.18, p=0.01). This implies that elderly people are more likely to get severe symptoms that will require hospitalisation as compared to younger people. The younger might recover without being hospitalised. Place of residence was found to be influential in leading to hospitalisation. It was established that people in low-density areas were 3.3 times more likely to be hospitalised compared to people in medium-density areas(OR=3.32, 95% CI=0.87-12.64, p=0.03). The reason why they were likely to be hospitalised compared to other residential areas needs to be established.

Furthermore, marital status influenced hospitalisation. The findings show that cohabiting couples were 6.86 times more likely to be hospitalised once diagnosed positive with COVID-19 compared to widowed people(OR=6.86, 95% CI=1.54-30.50, p=0.01). The unemployed also had less chance of contracting COVID-19 compared to students, holding other variables constant (OR=0.05, 95% CI=0.00-0.93, p=0.04). Widowed people could not afford hospital bills; hence they were likely not to go to the hospital if they were not feeling well. This explains the reason why cohabiting people are more frequently hospitalised compared to widows. Single people are also more likely to be hospitalised compared to widows. Results show that single individuals are 10 times more likely to be hospitalised compared to widows (OR=10.38, 95% CI=2.16-50.00, p=0.01). This information is summarised below in Table 2.

Risk of hospitalisation given the participant's clinical conditions

The results indicate that 91.7% of the participants had underlying conditions, and of those with underlying conditions, 86% were hospitalised when infected by Covid-19. The results also show that 40% of the participants had no underlying conditions, and 14% of them were hospitalised for covid-19 treatment. Pre-existing conditions were analysed, and it was established that hypertension (29.4%) among COVID-19 patients was more prevalent compared with other conditions. HIV (13.3%) was the second most common pre-existing condition among the patients. Cardiovascular (1.1%) and cancer (1.1%) were the least prevalent among the patients. Table 3 condenses this information.

Table 2: Logistic regression

Variable	*B*	*S.E.*	*Wald*	*df*	*Sig.*	*Exp (B)*	*95% C.I. for EXP(B)*	
							Lower	*Upper*
Age	.11	.03	21.36	1	.00	1.12	1.07	1.18
Gender(Female)	-.34	.46	.53	1	.47	.72	.29	1.77
Residence			6.39	2	.04			
Residence(High Density)	-.81	.81	.99	1	.32	.45	.09	2.19
Residence (Low Density)	1.20	.68	3.09	1	.03	3.32	1.87	12.64
Marital status			12.32	4	.03			
Marital status(Cohabiting)	1.93	.76	6.40	1	.01	6.86	1.54	30.50
Marital status(Married)	.75	.73	1.06	1	.30	2.11	.51	8.74
Marital status(Separated)	.27	.66	.16	1	.69	1.31	.36	4.81
Marital status(Single)	2.34	.80	8.51	1	.00	10.38	2.16	50.00
Education			2.96	3	.40			
education(None)	-19.45	2241	.00	1	.99	.00	.00	.
Education(Primary)	-1.64	.97	2.88	1	.09	.19	.03	1.29
Education(Secondary)	-.41	.54	.58	1	.45	.66	.23	1.92
Smoking(No)	-1.28	.75	2.95	1	.09	.28	.06	1.20
Members			3.31	2	.19			
Members(3-5 people)	-1.18	.82	2.08	1	.15	.31	.06	1.53
Members(<5people)	-1.34	.75	3.19	1	.07	.26	.06	1.14
Employment			5.56	4	.24			
Employment(Formal)	-1.42	1.29	1.21	1	.27	.24	.02	3.02
Employment(Not Employed)	-3.02	1.50	4.04	1	.04	.05	.00	.93
Employment(O)	-.73	2.01	.13	1	.72	.48	.01	24.56
Employment(SE)	-.87	1.12	.60	1	.44	.42	.05	3.76
Income			3.83	4	.43			
Income(<$100USD)	-1.53	.85	3.25	1	.07	.22	.04	1.14
Income($100-$200)	-.98	.94	1.09	1	.30	.38	.06	2.35
Income($200-$500)	-1.16	1.14	1.03	1	.31	.31	.03	2.96
Income($500-$1000)	-.68	.97	.48	1	.49	.51	.08	3.41
Constant	-1.68	1.80	.87	1	.35	.19		

Table 3: Prevalence of pre-existing conditions among Covid-19 patients

Clinical characteristics	*Characteristics*	*Total Observations N=180 (%)*	*Hospitalisedn =86 (%)*
Comorbidity	No	72 (40.0)	12(14.0)
	Yes	108(91.7)	74(86.0)
Diabetes	No	165(18.3)	76(88.4)
	Yes	15(8.3)	10(11.6)
Hypertension	No	127(70.6)	44(51.2)
	Yes	53(29.4)	42(48.8)
Cardiovascular	No	178(98.9)	84(97.7)
	Yes	2(1.1)	2(2.3)
Chronic pulmonary disease	No	170(94.4)	80(93.0)
	Yes	10(5.6)	6(7.0)
Cancer	No	178 (98.9)	85(98.8)
	Yes	2(1.1)	1(1.2)
HIV	No	156(86.7)	74(86.0)
	Yes	24(13.3)	12(14.0)
Other underlying conditions	No	175(97.2)	83(96.5)
	Yes	5(2.8)	3(3.5)

These research findings show that diabetes did not influence hospitalisation during the study period. Cramer's V is 0.11, which indicates a low association between hospitalisation and diabetes. The odds of being hospitalised when having cancer as a pre-existing condition were 2 times more likely than those patients without cancer, holding other variables constant (OR=2.3, 95% CI=0.77-7.15, p=0.95). The research established that hypertension was highly associated with hospitalisation. Cramer's V is moderate at 0.41. The odds of being hospitalised when having a pre-existing condition such as hypertension are 7 times more likely compared to a patient without hypertension (OR=7.2, 95% CI=3.38-15.37, p=0.001).

Other pre-existing conditions were not influential in hospitalisation. These include cardiovascular, chronic pulmonary disease, HIV and other pre-existing conditions. Table 4 summarises the odds of these non-significant pre-existing conditions influencing hospitalisation.

Table 4: Odds of the non-significant of pre-existing conditions

Condition	*OR*	*95% CI*	*p-value*	*Cramer's V*
Diabetes	2.34	0.77-7.15	0.12	0.11
Cardiovascular disease	-	-	-	0.11
Chronic pulmonary disease	1.69	0.46 - 6.20	0.43	0.06
Cancer	1.09	0.07-17.77	0.95	0.01
HIV	1.11	0.47-2.62	0.82	0.02
Other	1.66	0.27-10.20	0.58	0.04

Symptoms of Covid-19

Table 5 summarises the prevalence of symptoms in patients. Shortness of breath (48.9%) was common among Covid-19 patients. Shortness of breath was followed by headache (35%) as common among Covid-19 patients. This indicated that a patient suffering from COVID-19 was likely to show symptoms of shortness of breath and headache.

Table 5: Symptoms experienced

Clinical symptoms	*Symptom*	*Total Observations N=180 (%)*	*Hospitalisedn =86 (%)*
Had symptoms	No	70 (38.9)	6(7.0)
	Yes	110(61.1)	80(93.0)
Headache	No	117(65.0)	38(44.2)
	Yes	63(35.0)	48(55.8)
Fever	No	162(90.0)	75(87.2)
	Yes	18(10.0)	11(12.8)
Shortness of breath	No	92(51.1)	7(8.1)
	Yes	88(48.9)	79(91.9)
Gastrointestinal symptoms	No	149(82.8)	63(73.3)
	Yes	31(17.2)	23(26.7)
Other symptoms	No	157(87.2)	65(75.6)
	Yes	23(12.8)	21(24.4)

After assessing the prevalence of the symptoms of Covid 19 among Covid-19 patients, the odds of being hospitalised when these symptoms were experienced were analysed.

These findings showed that symptoms, in general, had an association with hospitalisation. If a patient is symptomatic of COVID-19, the patient is 28 times more likely to be hospitalised compared to a patient who did not show symptoms of the disease, holding other variables constant (OR=28.44, 95% CI=11.15-72.54, p=0.001). It was found that the odds of being hospitalised when showing symptoms of a headache were 7 times more likely than a patient not showing headache symptoms (OR=6.7, 95% CI=3.30-13.4, Cramer's V=0.42, p=0.001). Cramer's V indicated that there was a moderate association between hospitalisation and headache symptoms. The research established that fever does not influence hospitalisation (OR=1.82, 95% CI=0.67-4.94, Cramer's V= 0.09, p=0.23).

It was clear that shortness of breath had an association with hospitalisation. The odds of being hospitalised were 107 times more likely to be hospitalised as compared to patients not showing this symptom, holding other variables constant (OR=106.6, 95% CI=37.90-299.79, Cramer's V=0.82, p= 0.001). Gastrointestinal symptoms influenced hospitalisation; the odds of being hospitalised when showing such symptoms were roughly 4 times compared to a patient not showing this symptom (OR=3.93, 95% CI=1.65-9.35, Cramer's V=0.24, p=0.01). The odds of hospitalisation, if a patient had other symptoms were 15 compared to a patient who did not show other symptoms (OR=14.86, 95% CI=3.37-65.60, Cramer's V=0.041, p=0.001).

Discussion of Results

Hospitalisation in Zimbabwe has not been common among COVID-19 patients due to a lack of tools and ventilators in clinics and hospitals. This motivated quarantine as the most effective way of reducing the spread of the disease. This research established that males had a higher chance of hospitalisation than women, even though not statistically significant when infected with Covid-19. These results are in line with what Pijls et al. (2020) found. Contradictory to what Pijls et al. (2020) found, females, were most likely infected with the disease compared to males. This could be due to the nature of gatherings type of work, and exposure of females to the disease.

The research found that age was associated with hospitalisation. The results were in line with what Staneva et al. (2020), Telle et al. (2021) and Kimberly (2022) found. As the immune system of elderly people weakens, they are severely affected by the disease. Hesni et al. (2022) and Sargin Altunok et al. (2022) also found that age was influential in hospitalisation. Surprisingly, gender was not associated with hospitalisation. These conclusions contradict the results found by Telle et al. (2021). This was possible because most patients used home-based treatment methods (steaming), and quarantine was home-based because of the lack of facilities in hospitals due to the sudden nature of the pandemic that caught everyone by surprise and unprepared. Marino et al. (2021) also stated a lack of facilities.

This was common at the onset of the disease, and the availability of facilities continued to improve with time.

The research found that income was not associated with hospitalisation. These results are contrary to what Martin-Sanchez et al. (2021) found. The results agreed on age as a contributor to hospitalisation. There could be differences in results in that Martin-Sanchez et al. (2021) were more into in-hospital mortality, while this research concentrated more on hospitalisation. The findings of this research are in line with what Crankson et al. (2022) found that living with diabetes did not influence hospitalisation. Soni et al. (2021) in India did similar research. Their research results were consistent with what this research found. Age had an association with hospitalisation. As an individual advanced in age, the chances of being hospitalised also increased. The presence of hypertension was found to be a contributing factor to hospitalisation. Contrary to what Soni et al. (2021) found, this research found that diabetes was not a contributing factor to hospitalisation.

There is a need to look at the interactions between age and diabetes. We cannot completely say that diabetes had no association with hospitalisation without looking at some of the confounding factors. Shoaib et al. (2021) found that hypertension contributed more to the hospitalisation of patients with Covid-19. This is in agreement with the results found in this research. Hypertension was found to be highly associated with death due to COVID-19 or hospitalisation of patients with Covid-19. These results are consistent with what Malik et al. (2021) found when a patient is suffering from a chronic and severe disease. Diabetes was one of the comorbidities contributing to hospitalisation although these findings are contrary to the findings of this research.

An analysis of symptoms associated with hospitalisation was done. Results showed that a patient with Covid-19 symptoms was more likely to be hospitalised compared to patients who did not show any symptoms. In particular, patients showing symptoms were 28 times more likely to be hospitalised compared to patients without these clinical symptoms. This concurs with what Solanki et al. (2022) found in South Africa. Those with the above three underlying conditions had higher chances or risk of being hospitalised compared to people without underlying conditions.

Shortness of breath and headache were common symptoms of Covid-19. This research established that headaches and shortness of breath were highly associated with hospitalisation. Setianegari et al. (2022) echoed similar results in similar research in Indonesia. A patient having shortness of breath with a headache is approximately 107 times more likely to be hospitalised compared to a patient not showing these symptoms.

Vahey et al (2012) found that headaches and sore throat were not associated with hospitalisation. These studies agreed on several symptoms being associated with hospitalisation, but results did not agree on headaches. This could be due to some

confounding factors like the age of patients. Patients could not need hospitalisation because it could be a younger population, but as age advanced, symptoms of headache could lead to hospitalisation, as found in other studies. Lam et al. (2022) and Bhaskaran et al. (2022) found that age was a contributing factor to hospitalisation and mortality of patients with Covid-19 when the headache was one of the symptoms.

This was substantiated by Dananche et al. (2022) and Rivera-Izquierdo et al. (2020)'s findings. Younger Covid-19 patients took more time to hospitalisation compared to older people. This was because of the differences in the immune system of these two different sets of people. Younger people have stronger immunity compared to older people.

General Observation and Remarks

Most researchers agree that aged people are highly affected by Covid-19 as compared to younger people. This is simply due to the strong immunity system that younger people have. The authors are also in agreement that patients with underlying conditions like hypertension are more likely to be hospitalised compared to patients without underlying conditions. People with Covid-19 have a higher chance of being hospitalised compared to patients who do not show any symptoms. There are areas of disagreement in research. This could perhaps be due to levels of preparedness to respond to such natural disasters.

In some countries, the response to natural disasters could be quick while in developing countries, response would take time. By the nature of COVID-19 is transmitted from one patient to another, it was not possible to hospitalise most of the patients at the initial stage of the outbreak of this disease. Due to these imbalances in preparedness by developed and underdeveloped countries, findings from research done in developed and underdeveloped countries may contradict some areas while agreeing in other areas. In developing countries, if the patient was seen to be in a stable condition, they were referred home to use simple home-based remedies like steaming due to lack of facilities while in developed countries the patient could be hospitalised for observations.

Data availability

Data are available from the corresponding author upon reasonable request.

Compliance with ethical standards

Conflict of interest: Authors have nothing to declare pertaining to the write-up of this manuscript.

Authors' contribution: DM conceptualised the manuscript and did data analysis and write-up of the manuscript. LS collected data, cleaned data, and entered data on SPSS. SN

contributed to the write-up of the manuscript and the critical analysis of the manuscript. All authors proofread the manuscript.

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