# Covid-19 Lockdown Health Consequences for Residents of Ilorin South Local Government Area, Kwara State

Amore, A. A<sup>1\*</sup>, Oyeyemi. A.O<sup>2</sup>, Olatunji<sup>3</sup>, Jidda, K. A<sup>4</sup>

<sup>1</sup>Ph.D., Department of Public Health, Texila American University, Guyana

<sup>2</sup>Ph.D., Department of Public Health, Babcock University, Nigeria

<sup>3</sup>M. A., Department of Health Promotion and Environmental Health Education, University of Ilorin

<sup>4</sup>Ph.D., Department of Health Promotion and Environmental Health Education, University of Ilorin

#### Abstract

Residents of Ilorin South Local Government Area (LGA), Kwara State, Nigeria, were studied to see how Covid-19 lockdown affected their health. The survey was descriptive in nature. For this investigation, a total of 300 inhabitants were chosen using a multi-stage sampling process. Data was collected using a researcher-designed questionnaire with a reliability coefficient of 0.69. To describe the demographic characteristics of the participants, data was analyzed using percentages. The research question was answered using mean and rank order. Hypothesis one was examined with an independent t-test, while hypotheses two, three, and four were assessed with a 0.05 alpha level Analysis of Variance (ANOVA). The findings revealed that residents suffered an upsurge in substance use, sadness, anxiety, and loneliness as a result of the Covid-19 lockdown. They however did not suffer from obesity or change in eating habits. There were statistical significant differences in health consequences of covid-19 lockdown on residents based on gender ( $t_{(298)} = 3.78$ , p > 0.05), age ( $F_{(4,295)} = 13.725$ , p < 0.05), based on educational status ( $F_{(5, 294)} = 7.956$ , p < 0.05) and occupational status ( $F_{(3, 296)} = 22.041$ , p < 0.05). Given that the pandemic is still present, and people are becoming infected on a daily basis, there is a chance of another lockdown, and it was suggested, among others, that people should try to stay active by engaging and occupying themselves with learning new useful skills that will allow them to remain productive during the lockdown. This could help to mitigate the negative health effects of loneliness and anxiety during the lockdown.

Keywords: Anxiety, Covid-19, Health Implications, Lockdown, Obesity, Residents.

#### Introduction

The Middle East Respiratory Syndrome (MERS), initially detected in Saudi Arabia in 2012, the western African Ebola virus in Guinea between 2013 and 2016, and the Brazilian Zika virus in 2015 have all been health problems in the new millennium. Unexpectedly, a new lethal virus (SARS-CoV-2) emerged at the start of the year 2020, starting as an outbreak in China and eventually becoming a global pandemic [1]. According to [2], the virus first appeared in

Wuhan, the capital of China's Hubei province, in December 2019. It began in the province as a type of pneumonic disease, and it was later discovered that the virus was a new strain of the SARS-CoV virus from 2002. The virus was given the name Covid-19 by the World Health Organization (WHO) on February 11th, 2020. Its first case in Nigeria was confirmed in Lagos by the Federal Ministry of Health (FMoH) on 27<sup>th</sup> February 2020 [3]. The pandemic became a public health problem which culminated in

 several health consequences. According to [4], It was estimated that the Covid-19 would reduce the average life expectancy by almost three years, while everyone million deaths would cost the economy by six to ten trillion dollars in the long run.

New variants of Covid-19 have recently been detected in Nigeria and other countries [3]. Fever, cough, shortness of breath, and loss of smell are all symptoms of the condition. As a result, [5] believes that the best ways to control the virus are to keep a safe distance from sick people, wash hands often, and disinfect potentially contaminated surfaces. However, the risks outweigh the symptoms, since it can result in pneumonia, viral sepsis, acute respiratory distress syndrome, and kidney failure, among other things. The consequences are reported to worsen over time depending on the individual's health situation, necessitating the lockdown to stop the spread. Although lockdown precautions may have helped reduce community spread, the epidemic's structure and nature remain unknown. However, there are indications that the lockdown is damaging health by disrupting the health system and fostering social and economic unrest [6]. The Federal Government of Nigeria, through the Nigerian Civil Aviation barred Authority (NCAA), international commercial flights into the country, effective March 23, 2020, in reaction to the virus's worrisome quick spread and rising mortality rate. On the same day, Nigeria recorded its first fatality: a 67-year-old male returnee from the United Kingdom who had previously been treated for underlying medical conditions. The death took place in Abuja, the Federal Capital Territory [3]. A lockdown was imminent to avert severe consequences.

Throughout the world, an essential modus of prevention from Covid- 19 infection was deigned to be isolation and social distancing strategies to protect from the risk of infection [7]. The Covid-19 lockdown induced fear and anxiety on a global scale, which has had both short- and long-term effects on the physical,

emotional, and mental health of people. Numerous sensitivity factors, such as developmental age, educational position, pre-existing mental health condition, being economically disadvantaged, or being isolated due to infection or fear of infection, determine the nature and severity of its effects [8].

The Covid-19 epidemic has wreaked havoc on vital health indicators and thrown the world into chaos. Due to uncertainty and a variety of losses, the Covid-19 pandemic is believed to have impacted the mental health of individuals around the globe. [9] opined that psychological distress may be a state which usually occurs following stressful situations such as the covid-19 pandemic. Most of the time, it is transient, but sometimes may last longer than a few weeks. When this happens, the person may be at risk of developing other mental illnesses such as depression, anxiety, and Post-traumatic Stress Disorder (PSD). Uncertainty reduces people's ability to plan, so contributing to anxiety, stress, unhealthy eating habits, bewilderment, rage, and substance misuse [10]. Children, although being less directly impacted by the illness, are paying a high price for the crisis' indirect impacts, such as poor food, especially among underprivileged communities [11]. Many families' eating and lifestyle patterns have changed as a result of the Covid-19 epidemic. In addition to the lockdown, the global economic crisis has impacted millions of people's livelihoods, particularly those in the informal economy. Thousands of desperate people have been queuing for long hours, week after week, to collect free food boxes in highincome nations, even the wealthiest. The majority are vulnerable migrants and lowincome households.

In Nigeria, a country with already high rates of unemployment, the impact of massive job losses in the pandemic cannot be underestimated [10]. The lockdown exacerbates the hardships experienced by those who lost their jobs as a result of the pandemic, hence increasing the burden on families to create necessary financial assistance. Due to family separation, loss of

personal freedom, and the stress caused by the socioeconomic effects of the epidemic, the isolation and lockdown tactics have a number of significant mental health repercussions. The lockdown exacerbates the hardships experienced by those who lost their jobs as a result of the pandemic, hence increasing the burden on families to create necessary financial assistance. Due to family separation, loss of personal freedom, and the stress caused by the socioeconomic effects of the epidemic, the isolation and lockdown tactics have a number of significant mental health repercussions [12] School closures also resulted in the suspension of programs that provided free or subsidized school meals and healthful snacks to children from low-income households, exposing millions of youngsters to food insecurity [13]. [14,15] opined that during a global pandemic, persons in specific lockdown settings require drugs, food, and the means to sustain a regular lifestyle; consequently, these issues must be addressed. Disruptions in nutrition aid programs and health services in low-income nations exacerbate poverty. The pandemic lockdown has resulted in financial difficulties as a result of Covid-19, which may lead families to ration food and choose cheaper and unhealthy dietary choices in order to pay for other necessities like rent and prescriptions, according to the Centre for Disease Control [16].

On March 29, 2020, the Federal Government of Nigeria responded by authorizing the shutdown of all non-essential (companies and industries) and restricting people's movement in Lagos, Ogun, and the Federal Capital Territory, Abuja. Lockdowns have existed in many forms and for various causes throughout human history: to stop a pandemic, to fight terrorism, or to deal with technology calamities [11]. It is also worth noting that isolation, quarantine, and total lockdown are all well-known public health procedures that have long been in use. The rapid advent of the unique Coronavirus, as well as the considerable impact of its strict lockdown measures, has had an unprecedented influence on the entire planet. Thus, the issue has gained traction day by day, owing to the growing awareness of the Covid-19 Lockdown's negative health consequences and unrestrained lethality in terms of loneliness, anxiety, obesity, depression, an alarming increase in drug abuse, and even nutrition (malnutrition/undernutrition).

The main purpose of lockdown is to flatten the Covid-19 curve by minimizing confirmed cases and ensuring that those who have been infected recover quickly [3]. During lockdowns, people are expected to stay at home. Schools, universities, hotels, clubs, and religious institutions were all closed, as were social gatherings of more than 20 people and economic transactions involving physical contact. During the country's lockdown, a steady stream of new cases emerged, the majority of which were ascribed to interstate travels in the form of community transmission [1].

According to [17], lockdown exacerbate juvenile obesity owing to Covid-19. School closures may disproportionately affect teenagers' activity patterns and weight status during the lockdown time since school is a key location with numerous activities (for example, physical education courses, extracurricular physical exercise requirement) that might reduce their obesity risk. For example, an Italian study found that following Covid-19 during lockdown, children with obesity had less exercise time and more screen and sleeping time [18]. [19] posited that individuals' eating habits and food choices may alter during the quarantine due to limited access to nutritious meals and a preference for fast food and instant food products. People staying at home get to spend more time with their family members and tend to eat more meals and snack more frequently due to increased home cooking. Lockdowns also play a part in "stress eating", which may contribute to poor dietary intake and unhealthy food choices. Studies also found that individuals who have changed their eating habits and food preferences during the Covid-19 pandemic lockdown are more likely to gain, rather than lose weight [19].

Covid-19 outbreaks over the globe resulting in social isolation and quarantine. This stressful period might lead to psychological problems, such as an increase in substance usage [20]. Distressed people may turn to inexpensive and easily accessible addictive drugs to deal with their negative feelings. This might lead to the emergence of drug and/or alcohol disorders (SUDs) among high-risk populations, as well as an increase in SUD prevalence in the general population.

The effects caused by the Covid-19 pandemic pose numerous challenges in terms of coping with emotions of loneliness. Individuals struggle to adjust to a way of life that is incompatible with humans' social nature, according to quarantine studies, and describe a variety of negative psychological effects to isolation, including loneliness. Loneliness in adult and older adult populations is predicted by geographical isolation, living alone, and a lack of social non-pandemic contact in environments. Loneliness is exacerbated by a lack of social engagement, which is especially prevalent among young people. People in critical responsibilities during the pandemic, particularly those in healthcare, are under greater stress, and there is concern that their mental health may be jeopardized [21]. According to [15], lockdown measures in response to coronavirus sickness 2019 may have exacerbated this (Covid-19). People who are confined in isolation and quarantine feel substantial levels of anxiety, rage, perplexity, and tension. Anxiety and depression in a society influence everyone to some extent. Nonetheless, it is difficult to estimate the psychological and emotional implications of Covid-19 lockdown in the current situation. Several studies looking into the psychological disorders that occurred during the Covid-19 pandemic lockdown found that those who were affected experienced emotional distress, depression, stress, mood swings, irritability, insomnia, attention deficit hyperactivity disorder, post-traumatic stress disorder, and anger [22].

Loneliness is a difficult psychological term to grasp. Loneliness is the subjective sense of being apart from others. Loneliness is more likely among socially isolated people, according to previous study [23]. Lockdown procedures are necessary to keep the virus from spreading, but they may have negative repercussions for mental health, such as increased worry, despair, or even tension [24]. In fact, these preventative measures may result in the separation of close family, a sensation of loneliness, a loss of independence, and the necessity for a time-consuming lifestyle reorganization. The fact that we are in an unusual situation causes a variety of feelings of dread and uncertainty, which, along with the afore mentioned implications of adopting preventative measures, may elevate anxiety levels [14].

Furthermore, according to [20], the economic effects of the Covid-19 outbreak can be particularly severe for persons in insecure job or financial situations, giving them unimaginable distress due to the uncertainty about their Even though [25] claim employment position has no effect on mental health, [26] argued that distressed persons may seek solace in cheap, easily accessible addictive medications to alleviate their unpleasant emotions. This could lead to the emergence of drug and/or alcohol disorders (substance use disorders [SUDs]) in high-risk populations, as well as a rise in SUD rates in the general population.

People who are alone and stressed, as many people are during a pandemic, usually turn to these substances to relieve their unpleasant sentiments [27]. Individuals with Substance User Disorders (SUDs) are at risk for contamination, according to [27], due to a variety of factors related to their clinical, psychiatric, sociocultural and problems. Increased stress levels, social isolation, and the physical repercussions of addiction contribute to the spread of drug usage. Furthermore, social, and economic changes

brought on by the epidemic, as well as conventional barriers to treatment availability and adherence, would very probably deteriorate throughout this time, exacerbating their situation. Furthermore, these group may act as transmission vectors. The Covid-19 pandemic has wreaked havoc on vital health indicators and thrown the world into chaos.

Another significant effect of Covid-19 is nutrition in Sub-Sahara Africa causing the disruption of food supply systems. Nations in Sub-Saharan Africa (SSA), Nigeria inclusive have developed extensive public health protection measures to combat Covid-19, including partial and full lockdowns that are occasionally policed and last at least one month or more in certain countries. In addition, governments have imposed social separation, border closures, house confinement, and quarantine measures, which may have disrupted agriculture and food systems, as well as health causing social and systems, economic disruptions [28, 29].

### **Problem Description**

Within a very short length of time, daily activities in schools, places of work, and markets, among others, have become breeding grounds for the rapid spread of the corona virus, as well as a frightening anxiety owing to the dread of Covid-19 spreading. As a result, governments around the world implemented the Covid-19 lockdown. Unfortunately, lockdown has had some negative consequences for people's health, including psychological effects such as sadness and anxiety, as well as physiological repercussions like malnutrition. People who are subjected to a lockdown develop unhealthy health behaviors such as binge eating, smoking, alcohol use, substance abuse, and drug abuse, all of which negatively impact their health and impair their overall effectiveness in society. As a result, the goal of this research is to use what we have learned to keep the health consequences of the Covid-19 lockdown to a bare minimum.

## The Study's Goal

The major goal of this study was to look at the health consequences of Covid-19 lockdown on inhabitants of Ilorin South LGA in Kwara State, Nigeria.

#### **Question for Research**

What are the health consequences of the Covid-19 lockdown for residents of Kwara State's Ilorin South Local Government Area?

# **Hypotheses for Research**

Ho1: The health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are not significantly different based on gender.

Ho2: There is no substantial difference in the health consequences of Covid-19 lockdown on people of Kwara State's Ilorin South Local Government Area based on their age.

Ho3: The health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are unaffected by their educational status.

Ho4: The health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are unaffected by their occupational position.

### Methodology

This was a survey that was descriptive in nature. All residents of the 11 wards of Ilorin South Local Government Area, Ilorin, Kwara State, were included in the study's population. For this investigation, a multistage sampling technique was adopted. A total of 300 inhabitants from Ilorin-South were chosen using a multi-stage sampling process. In the first stage, a systematic sampling technique was utilized to choose 5 wards from Ilorin-11 South's wards. To arrive at 300 residents, the second stage employed sampling to select 60 residents from each of the sampled wards. In the third stage, simple random sampling procedures were employed to select 60 respondents in each sampled ward for the questionnaire. The data for this study was collected using a researcherdesigned questionnaire (which comprised 6 main items, each with 3 sub-items structured in a four-response-type of Strongly Agreed, Agreed, Disagreed, and Strongly Disagreed) with a reliability coefficient of 0.69. To describe demographic characteristics participants, the data was analyzed using percentages. The research question answered using the mean and rank order. Hypothesis one was examined with an independent t-test, while hypotheses two, three, and four were assessed with a 0.05 alpha level Analysis of Variance (ANOVA). The rights and dignity of participants and privacy were adequately considered. The researchers sought the informed consent of all those that participated in the study. It was made clear to respondents that they were free to decide on whatever to participate in the study and that information collected was only for research purpose.

#### **Results**

One hundred and fifty-eight (53%) of the 300 inhabitants polled for this study were males, while 142 (47%) were females as displayed by Figure 1.

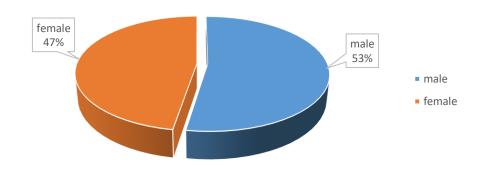


Figure 1. Distribution of Participants by Gender

Also, 25 (15%) of the participants were between the ages of 15 and 20, 75 (25%) were between the ages of 21 and 30, 82 (27%) were

between the ages of 31 and 40, 61 (20%) were between the ages of 41 and 50, and 37 were over the age of 50 (see Figure 2 below).

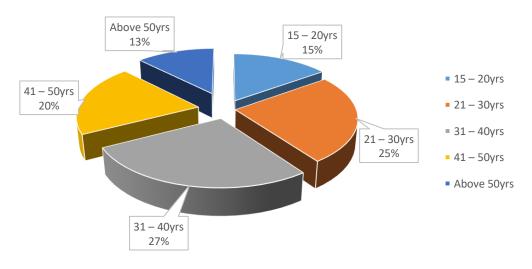


Figure 2. Distribution of Participants by Age

Also, 63 (21%) had no formal education; 56 (19%) had only completed SSCE; 13 (4%) had completed an OND; 13 (4%) had completed an

HND; 49 (16%) had completed a B.Sc.; and 106 (35%) had completed a Postgraduate Degree as shown in Figure 3 below.

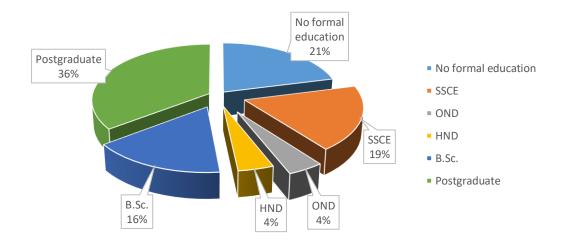


Figure 3. Distribution of Participants by Educational Status

Furthermore, Figure 4 below revealed that 98 (33%) of them were employed, 137 (46%) were

self-employed, 21 (7%) were jobless, and 44 (15%) were students.

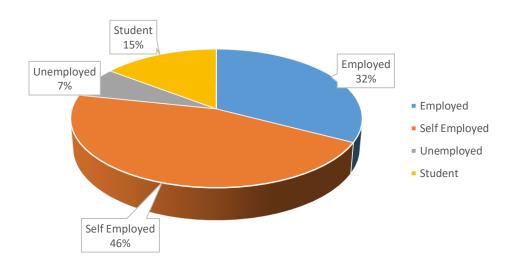


Figure 4. Distribution of Respondents by Occupational Status

### **Response to Research Question**

What are the health consequences of the Covid-19 lockdown for residents of Kwara State's Ilorin South Local Government Area?

The replies of the participants were submitted to item-by-item analysis of mean. The means obtained for the sub items were further subjected to grand mean for each of the main items, while a cut-off score of 2.50 was used as the baseline for determining participants' responses, given

that the questionnaire contained 6 main items with each having 3 sub-items structured in a four-response-type. As a result, things with grand mean scores equal to or greater than 2.50 were affirmed as Covid-19 implications encountered by inhabitants of Ilorin South Local Government Area of Kwara State, while items with mean values less than 2.50 were remarked otherwise.

As seen in Table 1 and figure 5 below, locals agreed with the first to fourth items, implying

that the residents of Ilorin South Local Government Area in Kwara State experienced an increase in substance usage, sadness, anxiety, and loneliness as a result of the Covid-19 lockdown. The citizens of Ilorin South Local Government Area in Kwara State, however, were not affected by obesity or changes in nutritional patterns, hence they were rated 5th and 6th.

**Table 1.** Health Consequences of Covid-19 lockdown on residents of Ilorin South Local Government Area of Kwara State

S/N	Implications of Covid-19 Lockdown	Mean	S.D.	Rank	Remark
1	Loneliness	2.65	2.36	4 <sup>th</sup>	Affirmed
2	Anxiety	2.67	2.62	3 <sup>rd</sup>	Affirmed
3	Depression	2.74	2.14	2 <sup>nd</sup>	Affirmed
4	Obesity	2.24	2.68	6 <sup>th</sup>	Disaffirmed
5	Increase in Substance Use	3.14	2.84	$1^{st}$	Affirmed
6	Change in Nutritional Practices	2.47	2.16	5 <sup>th</sup>	Disaffirmed

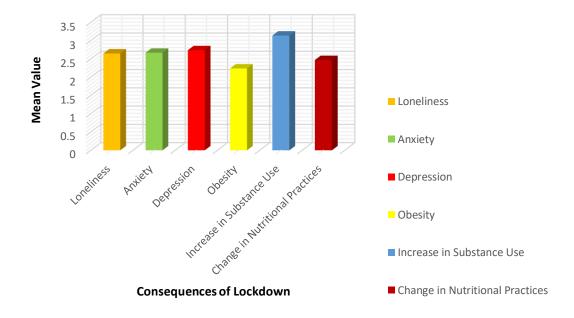


Figure 5. Health Consequences of Covid-19 Lockdown on Residents

# **Hypotheses Testing**

Ho1: The health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are not significantly different based on gender.

T-test results showed that when computing at the 0.05 alpha level, the t-value 3.789 is produced with a p-value of 0.022. The null hypothesis one is rejected since the p-value of 0.022 is less than the 0.05 criterion of significance. As a result, there was a statistically

significant difference in the health effects of Covid-19 lockdown on residents of Kwara State's Ilorin South Local Government Area (t 298 = 3.78, p>0.05). It was discovered that

female inhabitants (with a mean score of 49.58) were more vulnerable to health issues than male ones (having mean score 45.97). These are shown in Table 2 below.

**Table 2:** T-test Statistics Demonstrating the Health Consequences of Covid-19 Lockdown on People of Kwara State's Ilorin South Local Government Area based on Gender

Gender	No	Mean	S. D.	Df	t-value	Sig	Remark
Male	158	45.97	8.92	-	-	-	-
-	-	-	-	298	3.789	0.022	Not Rejected
Female	142	49.58	7.41	-	-	-	-

<sup>\*</sup>Insignificance at p>0.05

Ho2: There is no substantial difference in the health consequences of Covid-19 lockdown on people of Kwara State's Ilorin South Local Government Area based on their age.

When computed at the 0.05 alpha level, the F-value 13.725 was obtained with a p-value 0.00, as shown in Table 3a. The null hypothesis two

was rejected since the obtained p-value of 0.00 was less than the 0.05 criterion of significance. This revealed that the health effects of Covid-19 shutdown on people of Ilorin South Local Government Area in Kwara State differed significantly depending on their age (F 4, 295 = 13.725, p0.05).

**Table 3a.** ANOVA Summary Statistics of the Differences in the Health Consequences of Covid-19 Lockdown on Residents of Ilorin South Local Government Area of Kwara State by Age

Ages	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3324.969	4	831.242	13.725	.000
Within Groups	17866.667	295	60.565	-	ı
Total	21191.637	299	-	-	1

<sup>\*</sup>Significance at p<0.05

Following the discovery of a substantial difference between the means, additional tests were conducted on other combinations of means to determine where the discrepancy arose. Duncan's Post Hoc technique was used to run the test at a 0.05 alpha level. The Post Hoc procedure is a statistical method for determining which of the several groups made a difference.

Table 3b displayed below demonstrated that residents in the 15-20-year age bracket

contributed the most to the difference in Table 3a, followed by those in the 31–40 years age bracket; 21–30 year age bracket; and above 50 year age bracket, while residents in the 41–50 year age bracket had the least health consequences. This means that inhabitants in the Ilorin South Local Government Area of Kwara State who were 15 to 20 years old and 31 to 40 years old were more affected by the Covid-19 Lockdown.

**Table 3b.** Duncan's Post Hoc Pair-Wise Comparisons Showing the Difference in the Health Implications of Covid-19 Lockdown on Residents of Ilorin South Local Government Area of Kwara State Based on Age

Age	N	Subset for alpha $= 0.05$			
		1	2	3	
41-50 yrs	61	43.2131	ı	-	
Above 50 yrs	37	44.5405	1	-	
21-30 yrs	75	-	47.0000	-	

31-40 yrs	82	-	-	50.2195
15-20 yrs	45	-	-	52.8000
Sig.	-	.372	.099	.084

Means for groups in homogeneous subsets are displayed.

- 1. Uses Harmonic Mean Sample Size = 54.842.
- 2. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Ho3: The health effects of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are unaffected by their educational status.

When computed at the 0.05 alpha level, the F-value 7.956 was obtained with a p-value 0.00, as shown in Table 4a. The null hypothesis three was rejected since the obtained p-value of 0.00 was less than the 0.05 criterion of significance. This revealed that the health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State differed significantly depending on educational status (F 5,294=7.956,p0.05).

**Table 4a.** ANOVA Summary Statistics of Differences in the Health Consequences of Covid-19 Lockdown on Residents of Ilorin South Local Government Area of Kwara State Based on Educational Status

<b>Educational Status</b>	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2525.597	5	505.119	7.956	.000
Within Groups	18666.040	294	63.490	-	-
Total	21191.637	299	-	-	-

Following the discovery of a substantial difference between the means, Duncan's Post Hoc test at a 0.05 alpha level, showed where the differences existed. Residents who were OND holders, followed by postgraduates and BSc. holders, contributed to the difference noted in Table 4a, whereas residents who were SSCE holders, those with no formal education, and

HND holders had the least health implications of the Covid-19 Lockdown in Ilorin South Local Government Area of Kwara State. In Ilorin South Local Government Area of Kwara State, residents with OND, Postgraduates, and B.Sc. educational status were disproportionately affected by the Covid-19 Lockdown's health consequences as shown in Table 4b.

**Table 4b.** Duncan's Post Hoc Pair-wise Comparisons Revealing the Impact of Covid-19 Lockout on People of Ilorin South Local Government Area, Kwara State, based on Educational Status

<b>Educational Status</b>	N	Subset for alpha = 0.05				
		1	2	3	4	
SSCE	56	43.3929	-	-	-	
No formal education	63	45.2063	-	-	-	
HND	13	46.5385	-	-	-	
BSc.	49	-	48.9796	-	_	
Postgraduate	106	-	-	50.5189	-	
OND	13	-	-	-	51.1538	
Sig.	-	.169	.097	.080	.343	

Means for groups in homogeneous subsets are displayed:

1. Uses Harmonic Mean Sample Size = 27.597.

2. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Ho4**: The health effects of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State are unaffected by their occupational position.

When computed at the 0.05 alpha level, the F-value 22.041 was obtained with a p-value 0.00,

as shown in Table 5a. The null hypothesis four was rejected since the obtained p-value of 0.00 was less than the 0.05 criterion of significance. This revealed that the health effects of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State differed significantly depending on employment position (F 3, 296 = 22.041, p0.05).

**Table 5a.** ANOVA Summary Statistics of Differences in the Health Consequences of Covid-19 Lockdown on Residents of Ilorin South Local Government Area of Kwara State Based on Occupational Status

<b>Occupational Status</b>	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3869.612	3	1289.871	22.041	.000
Within Groups	17322.025	296	58.520	-	-
Total	21191.637	299	-	-	-

Duncan's Post Hoc test revealed that residents who were unemployed, students, and self-employed contributed to the disparity indicated in Table 5a, whereas residents who were working had the least health repercussions of the Covid-19 lockdown in Ilorin South Local

Government Area of Kwara State. As a result, persons in Ilorin South Local Government Area of Kwara State who were unemployed, students, or self-employed suffered severe health consequences as a result of the Covid-19 lockdown. This is shown in table 5b below.

**Table 5b.** Duncan's Post Hoc Pair-wise Comparisons Revealing the Impact of Covid-19 Lockdown on People of Ilorin South Local Government Area, Kwara State, based on Occupational Status

Occupation Status	N	Subset for alpha = 0.05		
		1	2	
Employed	137	43.7664	-	
Self Employed	98	-	50.7347	
Student	44	-	51.2045	
Unemployed	21	-	51.5238	
Sig.	_	1.000	.647	

Means for groups in homogeneous subsets are displayed.

- 1. Uses Harmonic Mean Sample Size = 45.532.
- 2. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

# **Discussion of the Results**

The residents of Ilorin South Local Government Area of Kwara State experienced an increase in substance use, depression, anxiety, and loneliness because of the Covid-19 lockdown, according to the findings of this study, while obesity and changes in nutritional practices were not experienced by the residents of Ilorin South Local Government Area of Kwara State. This means that many inhabitants were lonely and isolated from family and friends, as well as social activities, š throughout the Covid-19 lockdown, causing them to be terrified and panicked for no cause. They were dissatisfied, depressed, easily frustrated, and lacked self-confidence. As a result, many

inhabitants turned to drug abuse, such as drinking and smoking, to manage their emotions and maintain psychosocial stability. These data support [30] assertion that the Covid-19 epidemic and lockdown had caused dread and world. anxiety over the For children, adolescents, and adults, this phenomena has had both short- and long-term psychosocial and mental health consequences. [31] corroborates this study by reporting that findings of their national survey carried out during the lockdown in Nigeria revealed that the pandemic threatened the livelihood and mental health of at least, 76 per cent of Nigerians. Also [10] reported that in their study among Nigerians, nearly Nigerians studied indicated mental health symptoms (500, or 89.9 percent). About half of Nigerians (44.9%) reported feeling anxious or worried (47.1 percent). Nearly reported feeling frustrated (31.7 percent). Almost two-thirds (59.2%) of those surveyed were bored during the lockdown, while nearly one-sixth (18.5%) were angry. The study by [32] is also in agreement with the findings of the present study. [32] reported that 66.9% of the 523 respondents studied reportedly suffered from distress during the pandemic. However, in the study of [33] looking at factors associated with psychological distress among Filipinos during the coronavirus pandemic, most of the respondents studied did not feel distressed due to Covid-19. This was attributed to religiousness, low level of education and living in a particular area (Mindanao). Also, a higher percentage of respondents (63.5%) in a study carried out by [34], respondents did not suffer any distress due to the pandemic. It was also reported by [35] al in their study among Myanmar residents that 62.6% of the respondents suffered psychological distress because of the Covid-19 pandemic

Residents in Kwara State's Ilorin South Local Government Area, on the other hand, did not suffer from obesity or a change in eating habits. This means that inhabitants of Kwara State's Ilorin South Local Government Area did not

gain weight, that they engaged in physical activities, and that they did not eat a lot of junk food during the Covid-19 lockdown, even if they wanted to. This finding contradicts [11], who claimed that due to the Covid-19 pandemic, children, despite being less directly affected by the illness, are paying a high price for the crisis' indirect impacts, such as poor diet, especially among vulnerable communities. In a similar line, [36] discovered that following Covid-19 during lockdown, children with obesity had less exercise time and more screen and sleeping time. Also contradicting this study's finding is the study of [19] among university students, which revealed that almost half of the surveyed individuals had been consuming sweet drinks for more than once daily and more than half of the respondents reported frequent consumption of fast food, instant food, confections, and salty snacks in daily or weekly basis, but only a quarter reported consuming vegetables and fruits daily during the lockdown. This was deemed alarming as consumption of sugary drinks is highly associated with increased risk of obesity.

The results of this study also revealed that the health effects of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State differed statistically significantly by gender, age, educational status, and occupation. The study by [37] among Filipino healthcare workers showed that anxiety experienced by participants during the pandemic differed by gender, age, marital status, living occupation, work premises availability of mental health services, while the psychological distress experienced participants in [35] study also differed by occupation, age, religion and educational status, there was however no statistical difference based on gender among the residents of Myanmar studied. In the present study, there was a disparity in the health effects of Covid-19 lockdown between male and female residents. It was revealed that females were more vulnerable to health effects than males during the Covid-19 lockdown in Kwara State's Ilorin South Local Government Area. This is an established occurence, one that had been reported by previous studies. For example, the findings of [38] supports the present findings. The authors [38] reported that Women had 1.19 times higher odds to exhibit anxiety symptoms than men. Also, [32] found that the percentage of females with severe distress (21.7%) was two times higher than that of males (10.7%). [39] study across 13 countries to study psychological distress among adult population also showed that Women had 30% higher odds of having reported psychological distress. The current findings of the present study among residents of Ilorin South can be attributed to the fact that male children in area studied are more educated than female children, and so majority of the males are literate. The males may have become more knowledgeable and well-informed about issues related to Covid-19 lockdown and how to deal with them as a result of their education, hence stand a better chance of being less distressed as a result of knowing what to expect and how to prevent the disease.

In contrast however, the findings of [40] revealed that a higher proportion of male healthworkers had anxiety symptoms than female healthworkers studied. The work of [37] among health care workers also revealed that females had lower odds of having severe anxiety symptoms than males. However, categorizing anxiety, [37] reported that the prevalence of moderate anxiety was higher in females, unlike males whose anxiety was mild. This was attributed to the fact that most nurses are females, and the anxiety symptoms were heightened among nurses probably because they were always in close contacts with the patients who had covid-19. However, in an interesting turn of events, [37] reported higher proportions of males with severe depressive symptoms than females among the health workers studied. The present study also contradicts the findings of [22], who found that both boys and girls were affected equally by Covid-19 lockdown in terms of mental health.

Furthermore, the outcomes of this study revealed that the health effects of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State differed significantly depending on their age. This indicated that residents of various ages were the influenced differently by Covid-19 lockdown. Residents in Ilorin South Local Government Area of Kwara State who were 15 - 20 years old and 31 - 40 years old had significant health consequences as a result of the Covid -19 Lockdown. [24] found that age is an important factor for many activities (i.e., physical activity requirement) that could reduce residents' obesity risk, and that it may disproportionately affect residents' activity patterns and weight status during the lockdown period. This discovery could be due to the fact that people between the ages of 15-20 were isolated from their friends and peers; they had no one with whom to relate and share their experiences, making them vulnerable to mental breakdown. Also, [37] reported that higher age groups had higher odds of having severe anxiety symptoms than those aged less than 25 years among the studied participants. [39] work revealed that based on age, 19.59.6% of participants whose age lies under 30 years were distressed, 58.7% of 30-45 years, and 76.8% of age above 45 years had a similar response. This is however in contrast with the study of [40] where specifically being in the age groups,  $\leq 25$ and 41-60 is statistically associated with a higher prevalence of anxiety and depression among healthcare workers in the study.

Furthermore, the findings of this study revealed that there was a significant difference in the health consequences of Covid-19 lockdown on residents of Ilorin South Local Government Area of Kwara State based on educational status, with residents with OND, Postgraduates, and B.Sc. educational status experiencing more of the health consequences of Covid-19 Lockdown in Ilorin South Local Government Area of Kwara State. This finding supports [41], who found that people were

affected by the virus's transmission regardless of their educational status, demonstrating that people's dread of the virus's unknown origin can lead to mental illnesses. According to the findings, most first-degree holders were either waiting for their compulsory national service call-up letters before the lockdown or were sent back from the orientation camps due to the lockdown or were job seekers; thus, they had low self-esteem, as did postgraduate and OND degree holders, some of whom had no source of income. This gang was thrown into a world of uncertainty, with little or no money, as a result of the lockdown. From the study of [35] among Myanmar residents, results revealed that the prevalence of distress was highest among those with middle school and lower level of education (91.3%), which was followed by high school level (79.1%), vocational school (61%), and graduate/post-graduate level of education (56.2%, p<0.001). In [39] study among adult population across 13 countries, it was reported that those with tertiary education were less likely to report psychological distress compared to those with lower educational attainment who had an increased risk of developing psychological distress

Furthermore, the findings of this study revealed that the health consequences of Covid-19 lockdown on people of Ilorin South Local Government Area in Kwara State differed significantly depending on their occupational position. Residents in the Ilorin South Local Government Area of Kwara State who were self-employed unemployed, students, or suffered significant health consequences as a result of the Covid-19 shutdown. This conclusion contradicts [25] report, which concluded that occupational position had no significant impact on mental health during the Covid-19 epidemic. However, the current data revealed that individuals who were employed were able to deal effectively since they had money in their bank accounts and were earning money, however modest, at every chance. The increased stress and low self-esteem of the

unemployed could be explained by their failure to meet their fundamental daily requirements, particularly food, during the pandemic lockdown. This could put them at a higher risk of having a serious mental breakdown. [37] revealed that among the health workers studied, there were higher proportions of doctors with anxiety symptoms than nurses, but the doctors mostly had mild anxiety while the nurses suffered moderate anxiety symptoms. However, there were lower proportions of doctors with depressive symptoms than nurses [37]. Based on occupational status, [39]'s worked revealed that the prevalence of distress was higher among non-healthcare personnel (67.4%) than those who are healthcare personnel (45.5%). The study of [42] across 31 countries however revealed that occupation was not associated with the anxiety and depression after adjusting all the demographic factors in the logistic regression model. The work of [40] too revealed no statistical difference in psychological consequences based on occupation.

### Conclusion

It was concluded as a result of the findings of this study that residents of Ilorin South Local Government Area in Kwara have reported an increase in substance use, loneliness, sadness, and anxiety as a result of the Covid-19 lockdown; the female residents of Kwara State's Ilorin South Local Government Area were more affected by Covid-19 lockdown than the male citizens; the Covid-19 Lockdown had a negative impact on the health of both children and adults in the Ilorin South Local Government Area of Kwara State; residents of the Ilorin South Local Government Area of Kwara State who have a BSc, MSc, or OND have been particularly affected by the Covid-19 shutdown and that Covid-19 lockdown had a greater impact on the health of students, the unemployed, and the selfemployed in Ilorin South Local Government Area of Kwara State.

Given that the Covid-19 lockdown has been relaxed since August 2020, and that the

pandemic is still prevalent as people are being reported to be infected on a daily basis by NCDC, another lockdown is possible, it was therefore suggested based on the conclusions that health educators should inform people about the dangers of using hard drugs and alcohol to stabilize or keep themselves company during the lockdown via radio jingles, television, and social media, among other outlets; Governance frameworks for female residents should be put in place to address mental health literacy, Covid-19 lockdown difficulties, and coping techniques in the event of another lockdown; telemedicine should be used to deliver high-quality healthcare to teenagers and adults while preserving the practice of physical separation to prevent the transmission of diseases during the lockdown; in the event of another lockdown, people should try to keep active by engaging in and occupying themselves with acquiring new digital skills to generate money online while the lockdown is in effect and Governments at all levels (local, state, and federal) should provide enough palliative measures for the unemployed, students, and selfemployed, keeping in mind that the lockdown would result in individuals not having enough money, causing anxiety and sadness.

# Acknowledgement

The authors wish to thank the residents of Ilorin South Local Government area of Kwara State, the Staff of Kwara State Ministry of Health and the Staff and students of Department of Health Promotion and Environmental Health Education, University of Ilorin for their time and support in carrying out this study.

#### **Conflict of Interest**

The authors declare that there was no conflict of interest while carrying out this research.

#### References

[1] World Health Organization. (2021, April 16). Health system responses to Covid-19. Retrieved from:

https://apps.who.int/iris/rest/bitstreams/1313868/retrieved.

[2] Shereen, A., Khan, S., Kazmi, A., Bashir, N., & Siddique, R. (2020). Covid-19 infection: Emergence, transmission, and characteristics of human coronaviruses. *Journal of Advanced Research*, 24(8), 91-98.

https://doi.org/10.1016/j.jare.2020.03.005.

[3] National Centre for Disease and Control. (2020, March 23). Covid-19 Outbreak in Nigeria Situation Report. Retrieved from ncdc.gov.ng: https://ncdc.gov.ng/themes/common/files/sitreps/3ae f9fe7df17ea80bee09604aa641994.pdf.

[4] Goldstein, J. R. & Lee, R. D. (2020). Demographic Perspectives on Motality of Covid-19 and other Epidemics (No. w27043). Proc National Academic Science, USA. 2020:117:22035-41.

[5] Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Ahmed, K., Al-Jabir, A., Iosifidis, C., & Agha, R. (2020). World Health Organization declares global

emergency: A review of the 2019 novel coronavirus (Covid-19). *International Journal of Surgery (London, England)*. 76(4) 71-76. doi: 10.1016/j.ijsu.2020.02.034.

[6] Haider, N., Osman, A. Y., Gadzekpo, A., Akipede, G., Asogun, D., Ansumana, R., Lessels, R. J., Khan, P., Abdel Hamid, M. M. et al (2020). Lockdown measures in response to Covid-19 in nine sub-Saharan African countries. BMJ Global Health 5(10) http://dx.doi.org/10.1136/bmjgh-2020-003319. [7] Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G. & Joshi, G. (2020). Impact of Covid-19 and lockdown on mental health of children and adolescents: narrative review with recommendations. Psychiatry Res. 2020 Nov; 293: 113429. Published online 2020 Aug 24. doi: 10.1016/j.psychres.2020.113429 PMCID: PMC7444649.

[8] Shen K., Yang Y., Wang T., Zhao D., Jiang Y., Jin R., Zheng Y., Xu B., Xie Z., Lin L., Shang Y., Lu X., Shu S., Bai Y., Deng J., Lu M., Ye L., Wang X., Wang Y *Diagnosis, Treatment, And Prevention Of 2019 Novel Coronavirus Infection in Children: Experts' Consensus Statement.* World Journal of

- Pediatrics: WJP; 2020. Global Pediatric Pulmonology Alliance; pp. 1–9. PubMed.
- [9] Brooks, S. K., Webster, R. K., Smith, L. E., et al. (2020). The Psychological Impact of Quarantine and How to Reduce it. Rapid Review of the Evidence. Lancet, 395(10227). Pp 912-920. 10.1016/S0140-6736(20)30460-8.
- [10] Osuagwu, L., Emwinyore, K. & Oloruntoba, R. (2021). what Nigerians told us about their mental health under covid-19 lockdown. The Conversation. https://theconversation.com/what-nigerians-told-us-about-their-mental-health-under-covid-19-lockdown-166760 accessed 15 June 2022
- [11] Jahanbegloo, R. (2020, July 16). Cosmopolitan citizenship and non-violence. *Contours Journal, Institute for the Humanities, Simon Fraser Univeristy*. Retrieved from https://www.sfu.ca/humanities-institute/contours/issue1/issue1\_p4.html.
- [12] Yao, H., Chen, J. H., and Xu, Y. F. (2020). Patients with mental health disorders in the Covid-19 epidemic. *Lancet Psychiatry* 7: e21. doi: 10.1016/S2215-0366(20)30090-0.
- [13] Dooley, D., Bandealy, A., & Tschudy, M. (2019). Low-Income Children and Coronavirus Disease 2019 (Covid-19) in the US. *JAMA Pediatric*. *174*(10):922-923. doi: https://10.1001/jamapediatrics.2020.2065.
- [14] Matias, T., Dominski, F. H., and Marks, D. F. (2020). Human needs in Covid-19 isolation. *J. Health Psychol.* 25, 871–882. doi: 10.1177/1359105320925149.
- [15] Jia, Li, Xue, Lu, Xu and Wang (2020). Updated diagnosis, treatment, and prevention of Covid-19 in children: experts' consensus statement (condensed version of the second edition). *National Library of Medicine 16*(3), 232–239. doi: 10.1007/s12519-020-00362-4.
- [16] Zemrani, B., Gehri, M., Masserey, E., Knob, C., & Pellaton, R. (2021). A hidden side of the Covid-19 pandemic in children: the double burden of undernutrition and overnutrition. 20(1) 44-48. doi: https://10.1186/s12939-021-01390-w.
- [17] Msherghi A, Alsuyihili A, Alsoufi A, Ashini A, Alkshik Z, Alshareea E, Idheiraj H, Nagib T, Abusriwel M, Mustafa N, Mohammed F, Eshbeel A,

- Elbarouni A & Elhadi M (2021) Mental Health Consequences of Lockdown During the Covid-19 Pandemic: A Cross-Sectional Study. *Front. Psychol.* 12:605279. doi: 10.3389/fpsyg.2021.605279.
- [18]Kawohl, W., & Nordt, C. (2020). *Covid-19, unemployment, and suicide*. 7(5):389-390. doi: https://10.1016/S2215-0366(20)30141-3.
- [19] Chen, H. W. J., Marzo, R. R., Anton, H., Abdalqader, M. A., Rajasekharan, V., Baobaid, M. F., Hamzah, H., Tang, H. C. & Omar, H. (2022). Dietary Habits, Shopping Behaviour and Weight Gain during Covid-19 Pandemic Lockdown among Students in a Private University in Selangor, Malaysia. Journal of Public Health Research. 10(2) https://doi.org/10.4081/jphr.2021.2921 Accessed 24/07/2022.
- [20] Panagiotis, N., Konstantinos, P., Vasiliki, P., Eleni, G., &Ioannis, A., (2020). Response to Covid-19 in Cyprus: Policy changes and epidemic trends. *Journal of Affective Disorders*, doi: http://10.1016/j.jad.2020.10.061.
- [21] Holmes, E., O'Connor, R., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C. G., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafran, R., Sweeney, A., ... Bullmore, E. (2020). Multidisciplinary research priorities for the Covid-19 pandemic: A call for action for mental health science. *The Lancet Psychiatry*. 7(6), 547-560. https://doi.org/10.1016/S2215-0366(20)30168-1.
- [22] Salari, N., Amin, H., Jalali, R., Vaisi-Raygani, A., Shna, R., Masoud, M., ... Behnam, K. (2020). Prevalence of stress, anxiety, depression among the general population during the Covid-19 pandemic: a systematic review and meta-analysis. *Journal of Globalization and Health*, 22(6), 27-31. doi: https://doi.org/10.1186/s12992-020-00589-w.
- [23] Alexander, S., & Benedikt, H. (2020). Impact of the Covid-19 Pandemic on Loneliness Among Older Adults. *Frontiers in Sociology*. *30*(5):590935. doi: https://10.3389/fsoc.2020.590935.
- [24] Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during Covid-19 outbreak in China: a webbased cross-sectional survey. *Psychiatry Research*

288, 112954 doi: https://doi.org/10.1016/j.psychres.2020.112954.

[25] Pietrobelli, A., Pecoraro, L., Ferruzzi, A., Heo, M., Faith, M., Zoller, T., ... Heymsfield, B.(2020). Effects of Covid-19 Lockdown on Lifestyle Behaviors in Children with Obesity Living in Verona, Italy: A Longitudinal Study. 28(8) 1382-1385. doi: https://10.1002/oby.22861.

[26] Dubey, S., Ghosh, R., Chatterjee, S., Biswas, P., Chatterjee, S., Dubey, M., ...Lavie, C. (2020). *Psychosocial impact of Covid-19. Diabetes & Metabolic Syndrome: Clinical Research & Reviews.* 14(5) 779-788. doi: https://doi.org/10.1016/j.dsx.2020.05.035.

[27] Ornell, F., Moura, H., Scherer, J., Pechansky, F., Kessler, F.,& Diemen, L.(2020). The Covid-19 pandemic and its impact on substance use: Implications for prevention and treatment. doi: http://10.1016/j.psychres.2020.113096.

[28] Madzorera, I., Ismail, A., Hemler, E. C., Korte, M. L., Olufemi, A. A., Wang, D., Assefa, N., Workneh, F., Lankoande, B., Chukwu, A., Ourohire, M., Mattei, J., Soura, A., Berhane, Y., Sie, A., Oduola, A., & Fawzi, W. W. (2021). Impact of Covid-19 on Nutrition, Food Security, and Dietary Diversity and Quality in Burkina Faso, Ethiopia, and Nigeria. *The American journal of tropical medicine and hygiene*, 105(2), 295–309. https://doi.org/10.4269/ajtmh.20-1617.

[29] Federal Ministry of Health (FMoH). (2020). Nigeria Food and Nutrition Response Plan for Covid-19 Pandemic. Nutrition. Humanitarian Action Plan. [30] Shweta, S., Roy, D., Sinha, K., Parveen, S., Sharma, G& Joshi, G. (2020). Impact of Covid-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. Elsevier Public Health Emergency 293, 113429. Collection, doi: https://doi.org/10.1016/j.psychres.2020.113429.

[31] Adebowale, N. (2021). How Covid-19 pandemic threatened mental health of Nigerians- MANI- Mentally Aware Nigeria Initiative. Reported by Premium Times, September 9, 2021.

[32] El-Abasiri, R. A.; Marzo, R. R.; Abdelaziz, H.; Boraii, S.; Abdelaziz, D. H.. (2020). Evaluating the psychological distress of the coronavirus disease

2019 pandemic in Egypt European Journal of Molecular and Clinical Medicine; 7(5):1-12, 2020. Artigo em Inglês | Scopus | ID: covidwho-958727. [33] Marzo, R. R., Quilatan Villanueva III, E., Martinez Faller, E., & Moralidad Baldonado, A. (2020). Factors Associated with Psychological Distress among Filipinos during Coronavirus

Macedonian Journal of Medical Sciences, 8(T1),

Crisis.

Open

Access

309–313. https://doi.org/10.3889/oamjms.2020.5146.

Pandemic

Disease-19

[34] Respati, T.; Irasanti, S. N.; Sartika, D.; Akbar, I. B.; Marzo, R. R.. (2021). A nationwide survey of psychological distress among Indonesian residents during the Covid-19 pandemic *International Journal of Public Health Science; 10(1):119-126, 2021.* Artigo em Inglês | Scopus | ID: covidwho-1068001. [35] Marzo, R. R., Aye, S. S., Naing, T. W., Kyaw, T. M., Win, M. T., Soe, H. H. K, Soe, M., Kyaw, W. Y., Soe, M. M. & Lin, N. (2022). Factors Associated with Psychological Distress among Myanmar Residents during Covid-19 Pandemic Crises Journal of Public Health Research. 0(2). https://doi.org/10.4081/jphr.2021.2279 1.

Kyeremateng, R., Seth, R., & Lonne, B. (2020). Where do we go from here? A child rights-based response to Covid-19.*BMJ Paediatrics Open, 4*(1), e000714. doi: https://10.1136/bmjpo-2020-000714. [37] Marzo, R. R., Villanueva, E. Q., Chandra, U., Htay, M. N. N., Shrestha, R. & Shrestha, S. (2022). Risk Perception, Mental Health Impacts and Coping

[36] Raman, S., Harries, M., Nathawad, R.,

Strategies during Covid-19 Pandemic among Filipino Healthcare Workers. *Journal of public health research*, *10*(s2), 10.4081/jphr.2021.2271. https://doi.org/10.4081/jphr.2021.2604.

[38] Frontini, R., Rebelo-Gonçalves, R., Amaro, N., Salvador, R., Matos, R., Morouço, P., & Antunes, R. (2020). The Relationship Between Anxiety Levels, Sleep, and Physical Activity During Covid-19 Lockdown: *An Exploratory Study. Front. Psychol.* 12:659599. doi: 10.3389/fpsyg.2021.659599.

[39] Marzo, R. R., Ismail, Z., Htay, M. N., Bahari, R., Ismail, R., Villanueva, E. Q., Singh, A., Lotfizadeh, M., Respati, T., Irasanti, S. N., Sartika, D., Mong, P., Lekamwasam, S., Thapa, B. B., Bicer, B. K., Aye, S.

S., Songwathana, K., El-Abasiri, R. A., Ahmad, A., Nikmat, A., Mirani, S. Z. T., Mukti, R. F., Mehnaz, S. & Su,T. T. (2021). Psychological distress during pandemic Covid-19 among adult general population: Result across 13 countries, Clinical Epidemiology and Global Health, 10. Elsevier. 100708, ISSN 2213-3984, https://doi.org/10.1016/j.cegh.2021.100708. Accessed 27/07/22 from https://www.sciencedirect.com/science/article/pii/S2 213398421000129.

[40] Kamberi, F., Sinaj, E., Jaho, J., Subashi, B., Sinanaj, G., Jaupaj, K., Stramarko, Y., Arapi, P., Dine, L., Gurguri, A., Xhindoli, J., Bucaj, J., Serjanaj, L. A., Marzo, R. R., & Nu Htay, M. N. (2021). Impact of Covid-19 pandemic on mental health, risk perception and coping strategies among health care

workers in Albania - evidence that needs attention. *Clinical epidemiology and global health*, *12*, 100824. https://doi.org/10.1016/j.cegh.2021.100824.

[41] Hossain, S., & Akhter, M. (2020). The outbreak of novel coronavirus disease (Covid-19) pandemic: Consequences on public mental health. Journal of Sciences, 3(1), 1-15.https://doi.org/10.18488/journal.83.2020.31.1.15. [42] Htay, M., Marzo, R. R., AlRifai, A., Kamberi, F., El-Abasiri, R. A., Nyamache, J. M., Hlaing, H. A., Hassanein, M., Moe, S., Su, T. T., & Abas, A. L. (2020). Immediate impact of Covid-19 on mental health and its associated factors among healthcare workers: A global perspective across 31 countries. global health, Journal of 10(2),020381. https://doi.org/10.7189/jogh.10.020381.