

Journal of Current Trends in Infectious Diseases Research and Treatment

Research Article

Effect of Lockdown of COVID-19 and the Impact on People Living in Enugu State, Nigeria

Corresponding Author

Ojielo Nwadiuto Chidinma

University of Nigeria Teaching Hospital,
Ituku Ozalla, Enugu State

 Open Access



Effect of Lockdown of COVID-19 and the Impact on People Living in Enugu State, Nigeria

Nwadiuto C Ojielo*,
Daniel C Onwuliri, Augustine
Onuh, Ada ilo, Ngozi R Njeze

Abstract

When the coronavirus (COVID-19) pandemic struck, countries employed diverse strategies in the control of the virus aimed at preventing, detecting, controlling and mitigating the impact of the pandemic. Initially, there was no known cure for this viral infection so this 'stay-at-home' necessitated the preventive measures to break the chain of transmission. This study aims to examine the different challenges people passed through as a result of this pandemic and the effect of the lockdown on people. This study will serve as the basis for future reference to know if this lockdown could be repeated in the face of another pandemic.

Methodology: The study was carried out in Enugu Metropolis, South East, Nigeria. This is a cross-sectional study among people living in Enugu State. Google forms were dispatched to adults from 18-65 years on social media or the internet. Data entry was to Excel, then to SPSS version 26 and analyzed with student's t-test and Chi-square.

Results: From the study, 35% said there were financial losses, some complained of poor recreation, 52% of people said there was loss of learning opportunities for their children due to school shutdown 23% had a reduction in their income with 35% losing their job, 57.9% of people said the crime rate increased, 26.6% had a mental breakdown, 45.1% of people had relationship/spousal problems and 64.1% of people lost someone during the COVID-19 lockdown and There were also some benefits of the lockdown like 70% said there was reduction in RTA, air pollution, introduction to remote working popularly known as "working from home" and 32% of people claimed it caused family bonding. In all, 73% of people said they would not want or support a repeat lockdown.

Conclusion: The impact of the lockdown on the residents of Enugu State was generally not a palatable experience. From this study, though some good things were achieved, it led to a number of irreversible crises. It also caused serious implications like a decline to access to healthcare, economic effects, political, social and cultural effects, educational impacts, an increase in crime rate, domestic violence, religious impact, and environmental effects. In future, a better method of approach is recommended.

Introduction

Coronavirus disease 2019, abbreviated to COVID-19, is a viral infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is a member of the Corona viridae family. One unique characteristic of this virus is its ability to spread rapidly from a single city to the entire country within a short period [1]. The speed of both the geographical expansion and the sudden increase in the number of cases is capable of overwhelming health services in most countries. The World Health Organization declared it a pandemic and a public health emergency of international concern [2].

Since the coronavirus disease (COVID-19) pandemic, countries have continued to employ diverse strategies in the control of the virus. The focus of these tactics is to thwart, identify, manage, and alleviate the repercussions of the health crisis. The initiatives vary in their differential effectiveness, but one approach that has been adopted by several countries is the lockdown strategy. This is a "stay at home measure" to slow the spread of the virus which started in Nigeria on the 30th March 2020 [3].

Thus, President Muhammadu Buhari, the head of the Federal Republic of Nigeria, initially implemented a two-week lockdown on non-essential operations in Lagos State, the FCT, and Ogun State. The lockdown as a strategy was designed to present

*Corresponding Author:

Ojielo Nwadiuto Chidinma, University
of Nigeria Teaching Hospital, Ituku-
Ozalla, Enugu State
E-Mail: diutoojielo@gmail.com

Received Date: 12-12-2023

Accepted Date: 08-01-2024

Published Date: 12-01-2024

a window of opportunity that would enable the Ministry of Health and National Centre For Disease Control (NCDC) to achieve the following in every state in the Country: Enabling prompt detection and treatment of cases, Limiting transmission in areas where cases had been reported, Limiting the spread of new cases to other geographical areas, enhancing contact tracing activities and efficient use of resources and Improving sample collection (NCDC 2021) [4].

At the outset, there was no identified remedy for this viral infection during that period. Therefore, this necessitated preventive measures to break the chain of transmission. To limit the spread of the disease, people were forced to stay at home. However, this promising preventive measure hurt the health of the people as well as other aspects of their lives such as work, academics religion and even society. The psychological effect of the stay-at-home order has been underestimated. Also, more attention was shifted to COVID-19, while people with other debilitating ailments like cardiac diseases, endocrine disorders and even cancers were given less attention. Other essential routine health care such as routine immunization were neglected [5]. People who suffer from respiratory diseases such as asthma or cardiac failure were mistaken for COVID-19 and were not given adequate attention. Resources for other health system strengthening were diverted to COVID-19 whereas health workers became apprehensive of managing and caring for sick people due to fear of contracting the deadly virus.

This condition impacted on sexual and reproductive health; with a drastic reduction of reproductive health services globally, an infringement on the rights of women and girls. The United Nations has raised fear about the expected impact of COVID-19 on women and girls in the background of their special health needs such as maternal health services, menstrual hygiene and family planning services [6]. Therefore, women and girls are said to be more vulnerable in times of health crises like COVID-19 and are usually denied access to essential commodities such as family planning, menstrual pads and Antenatal care at times like this exposing them to exacerbation of maternal morbidity and mortality. In Latin America and the Caribbean for instance, 18 million women have lost access to regular modern contraceptives [7]. Also, most women lost their jobs because they had to take care of their children who stopped going to school due to the sit-at-home.

Conversely, the female workforce faces increased vulnerability due to their representation in certain professions. It has been stated that women make up seventy percent of the workforce and are also more likely to be the frontline health workers in many countries especially nurses, community health workers and midwives [8]. There was a paucity of academic studies that could guide researchers to study the impact of this pandemic on the health and economies of countries.

Therefore, this study aims to examine the different challenges people passed through as a result of this pandemic and the effect of the lockdown on people. The findings from this study will establish a foundation for future assessments on the feasibility of implementing similar lockdown measures in response to potential future pandemics.

Methods

Study Area

The research took place within the urban area of Enugu, located in the southeastern region of Nigeria. The metropolis is made up of three LGAs in Enugu State (Enugu North, Enugu South

and Enugu East) and is inhabited mostly by Ibo-speaking people. Enugu State's population comprised 1,596,042 males and 1,671,795 females. This state is bordered by Abia State and Imo State to the south, Ebonyi State to the east, Benue State to the northeast, Kogi State to the northwest, and Anambra State to the west.

The state has three senatorial zones Enugu East, Enugu West and Enugu North but the metropolis is in Enugu East zone. The state is noted for its coal deposit, the largest in Africa, giving it its name Coal City State.

Study Design

This is a cross-sectional study of people living in Enugu State who owned smartphones. Surveys via Google Forms were distributed online through social media and internet platforms among individuals aged between 18 and 65 years. Government workers and very ill patients were excluded. The filled forms were sent back through social media and subsequently analyzed. A total of 467 Google forms were sent, after considering inclusion and exclusion criteria. 304 people responded (filled out the forms and sent them back).

Data Collection

Three hundred and four (304) individuals completed and returned the forms, out of a total of 467 Google Forms distributed to individuals possessing smartphones.

Data Analysis

The information was initially inputted into Excel and subsequently transferred to SPSS version 26 for analysis. Quantitative variables were summarized using means and standard deviations and analysed with a student's t-test and paired t-test. The categorical variables were summarised and presented using frequency distributions and percentages.

Ethics declarations

The study and experimental protocols were approved by the Ethics Committee of the University of Nigeria Teaching Hospital, Enugu State, Nigeria on 7th December 2020 (NHREC/05/01/2008B-FWA00002458-1RB00002323). Consent was secured from each participant involved in the study. All activities conducted within studies involving human subjects adhered to the ethical guidelines outlined by the Ethics Commission of the University of Nigeria Teaching Hospital, following the principles of the 1964 Helsinki Declaration and its subsequent revisions, or similar ethical standards.

Results

Table 1- Sociodemographic characteristics

From the sociodemographics, majority of the respondents (60%) were females and between the ages of 31 to 40 years (43%). A high number of them (82.6%) were married and most of them were medical doctors (45.7%), Christians (92.4%) and from Ibo (80.26%).

Socio-demography	Frequency (N=304)	Percentage (%)
Gender		
Male	121	40
Female	183	60
Age		
11 to 20 years	33	11
21 to 30 years	64	21
31 to 40 years	131	43
41 to 50 years	49	16
51 to 60 years	21	7
Above 60 years	6	2
Marital status		
Single	53	17.4
Married	251	82.6
Occupation		
Medical doctor	139	45.7
Business / traders	85	28
Students	47	15.46
Others	33	10.86
Religion		
Christianity	281	92.4
African religion traditional	1	0.33
Islam	22	7.24
Ethnicity		
Igbo	244	80.26
Yoruba	18	5.92
Hausa	11	3.62
Others	31	10.2

Variable (Lockdown outcomes table)	Frequency (N=304)	Percentage (%)
Observed Lockdown		
Yes	97	32
No	73	24
Somehow/ Not really	134	44
Perceived effect of Lockdown		
Positive	36	12
Negative	216	71
Same	52	17
Not known	0	0
Changes in Spousal relationship		
Yes	97	32
No	67	22
Same	140	46
Expectations if Lockdown happened again		
Mental breakdown	81	26.64
Financial Insolvency	79	25.99
Increased Physical Activity	42	13.82
Nothing	102	33.55
Anticipating end of lockdown		
Yes	194	64
No	46	15
Indifferent	64	21
Anticipated Changes Post Lockdown		
Social Life	64	21
School resumption	18	6
Spiritual Life	52	17
Nothing	33	11
Relationship with spouse	137	45
Boredom		
Yes	188	62
No	46	15
Not really / Borderline	70	23
Perception of Happiness		
Happy	55	18
Sad	128	42
Same/ No Change	121	40
Weight Change dining lockdown		
Weight gain due to eating too much	49	16
Weight gain due to eating too much and inactivity	112	37
Weight gain (due to inactivity only)	37	12
Weight loss (I exercise regularly)	52	17

Weight loss (not enough food to eat)	18	6
Weight loss (too depressed to eat)	15	5
Weight loss due to other causes	21	7
Food availability during lockdown		
Yes	237	77.8
The same		
No	67	22.2
Occupation during lockdown		
Internet/Remote work	55	18
In-person Work	12	4
Reading	37	12
Home Management	52	17
Watching TV	91	30
Working	27	9
Teaching Children	30	10
Support Repeat Lockdown		
Yes	55	18
No	222	73
Indifferent	27	9
Current Lockdown Challenges		
Financial losses	106	35
Separation from Family	10	3
Separation from Other Social networks	10	3
1School Shutdown	86	28
Breakdown of Logistics/ Supply networks	58	19
Poor Recreation	34	11

Table 2 - Effects of lockdown

shows the perception of the lockdown, majority (62%) were bored, watching television (30%) and a lot gained weight (37%). Most perception about the lockdown was negative (71%) and the different challenges faced during the lockdown

Perception of loss of learning opportunities for children		
Yes	158	52
No	91	30
Somehow	55	18
Perception of Change in Expenses		
More now	67	22
Less Now	106	35
The same	131	43
Preferred action for government support		
End the lockdown	24	8
Provide social amenities	24	8
Provide security	21	7
Give palliatives	43	14
All of the above	192	63

Table 3- Effects of the lockdown

54% of the respondents used both face masks, hand sanitizers and social distancing, in addition to the lockdown to prevent COVID-19. Internet and social media increased (88%) and 58% of people believed there was an increase in crime rate and 23% said they had reduced income. Majority of people (64%) knew someone that died during this lockdown and 41% got sick while 42% called their doctors for prescription when they were sick. However, a lot of people(70%) acknowledged that there was a reduction in RTAs.

Variable (COVID19 perception and preventive actions)	Frequency (N=304)	Percentage N
COVID-19 Preventive during lockdown actions		
Wash my hands all the time	11	4
Use Alcohol based Hand Sanitizers	21	7
Wear Facemasks	29	10
Social Distancing	17	6
More than 1 of the above	63	21
All the above	163	54
Ill health during lockdown		
Yes	125	41
No	179	59
Perception of Increased crime rate in City during lockdown		
Yes, it increased	176	58
No, it didn't increase	37	12
Remain the same	91	30
Perception of reduced traffic on roads during lockdown		
Yes	213	70
No	15	5
Maybe / Unsure	21	7
Same	55	18
Known COVID-19 deaths amongst relatives, friends or loved ones		
Yes	88	29
No	216	71
Perceived effect of school closures on children and parents		
Healthier relationships	36	12
Concerns about missed school years	119	39
Possible Depression	67	22
Boredom	82	27
Known Death of anyone during COVID-19 pandemic		
Yes	195	64
No	109	36
Choice of health provider if ill during the lockdown		
Physical visit to usual healthcare provider	55	18
Self-medicate	94	31
Call doctor for prescription	128	42
Take herbal drugs	27	9
Volume of internet or social media use during the lockdown		
Increased	268	88
Reduced	3	1
Same- no change	33	11
Change in income during lockdown		
It increased	37	12
It reduced	70	23
No change	197	65

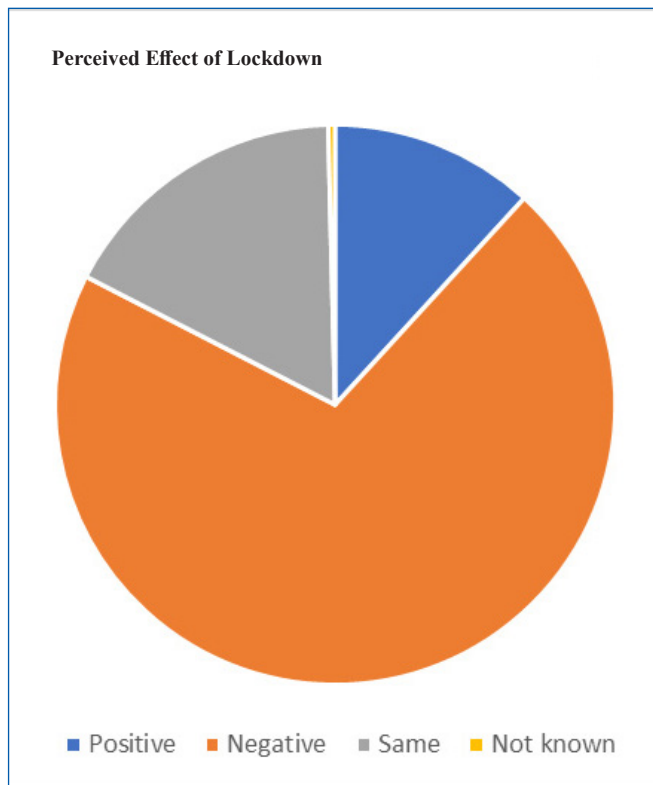


Figure 1: Perceived effect of lockdown

Majority (71%) of people believed the effect of lockdown had a negative impact on them, some believed that there was no effect (17%) while others (12%) believed it had a positive effect on them. A very small amount was undecided

Discussion

The lockdown of cities and countries due to the coronavirus pandemic impacted every aspect of society, and the healthcare system was not exempted.

The lockdown and quarantine that followed this global disease took a toll on the mental health of the populace. The psychologic and psychiatric disturbances include anxiety, post-traumatic stress disorder, stigmatization, depression, panic attacks, and behavioural changes.

From our analysis, only 32% of respondents observed the lockdown fully 24% said they did not while 44% said they observed the lockdown partially.

The effects the coronavirus pandemic has had on Africa's largest economy are starting to show in data. The Nigerian Bureau of Statistics showed that Nigeria's economy contracted by 6.1% year on year in the second quarter of this year. The decline comes after thirteen consecutive quarters of modest yet positive growth rates. The -6.1% decline is also Nigeria's steepest in the last 10 years [9].

The COVID-19 pandemic has had far-reaching consequences beyond the spread of the disease itself and efforts to quarantine it, including political, cultural, and social implications, including world peace, education, religion and social issues such as domestic violence and inequality.

The virus has caused an unparalleled influence on the environment. Some studies estimated a positive indirect impact on the environment. Climate experts anticipated that greenhouse gas (GHG) emissions could drop so low to proportions never

before seen since World War II [10]. This result is mostly due to the social distancing policies directed by the governments due to the onset of the pandemic.

Social distancing measures implemented by governments in response to the pandemic led to a notable impact. An examination of 22 hospitals in France revealed a 26 percent reduction in visits to all emergency departments. This reduction encompassed a decline in cases related to strokes, transient ischemic attacks, unstable angina, and appendicitis, and seizures [11]. These events are unlikely to have reduced within the population, which leaves the authors with the conclusion that these events are occurring with no emergency medical intervention.

Other health challenges besides COVID-19 require treatment even in the wake of the pandemic. One such disease that requires ongoing treatment, follow-up and procedures is cancer. In a study published in *Target Oncology*, it was concluded that contracting the COVID-19 infection along with the breakdown of healthcare, and the economic crisis, will have an unprecedented impact on cancer patients worldwide [12].

From our study, 41% of people got sick during this lockdown, 29% had relatives and loved ones who died due to Covid-19 and 64% of the people they know died during this period due to both Covid-19 and other causes. 31% of people self-medicated, and 42% of people called their doctors. This showed there were reduced hospital visits (walk-in) from non-communicable diseases during the lockdown.

A recent report from the group that has worked on COVID-19 models at Imperial College London has shown that if all malaria-control activities are highly disrupted, the malaria burden for 2020 could more than double that of 2019, resulting in large malaria epidemics across Africa [13]. The prevalence of non-communicable diseases during the pandemic was 39.9% as against 29% [13].

The closure or slowdown in normal clinical services further aggravated the underlying conditions of patients, leading to more severe cases of non-communicable diseases. The highly contagious measles cases continued to increase in Nigeria (Cases in December 2020 were 9,316 compared to 2,064 confirmed cases in November 2019 [5]).

A paper published in the *Lancet* has modelled three scenarios in which coverage of basic life-saving interventions for maternal and child health is reduced for different durations due to various factors such as decreased demand for healthcare services, limitations in the availability of supplies and equipment, and the availability of healthcare personnel. These early estimates show a worrying 9.8 percent to 44.7 percent increase in under-five child deaths per month and an 8.3 percent to 38.6 percent increase in maternal deaths per month [14]. Presently, due to the restrictions on movement and lockdown, commuting to the healthcare facilities when children are sick might be delayed. Childhood immunization, among the routine health services, is experiencing disruption due to the impact of COVID-19. According to the World Health Organization, an estimated 80 million children in 68 countries are at risk of developing vaccine-preventable diseases such as measles, diphtheria, and polio, because of the disruption of routine immunization services [15].

There was additionally a decline in service utilization. Immunization was adversely affected by the coming of

COVID-19 with a decline in several fully immunized children. Comparing the pentavalent performance in 2019 with that of 2020, it shows a decline in performance especially in the COVID-19 months [15].

Another study reported widespread fear, of getting turned away from hospitals, delays in infant immunization, missed immunization opportunities and increasing recourse to traditional treatments as the pandemic spread in Nigeria. There has also been a perceived low quality of care among patients during this period [7].

Increase in endemic diseases because of the focus on the pandemic, many clinical activities have either been halted or reduced to curb COVID-19 transmission. The number of antenatal care services performed also dropped and by January 2021, it was 2.9% compared to 56.8% as of 2018 (NDHS); the number of Postnatal care services performed- was 7.7% by January 2021, compared to 67.0% in 2018 [4].

Wang and colleagues investigated the psychological impact of the pandemic, including anxiety, depression, and stress during the initial stage of the outbreak in China [16]. COVID-19 has already been recognized as a cause of direct and indirect psychological and social consequences that might impact mental health not only during the pandemic per se but also in the future [17]. Indeed, the quarantine effects have already been explored during past outbreaks, such as during the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 and Ebola in 2014, indicating that the mental health impact can be broad, massive and long-lasting. Quarantine can be very stressful; period, especially if one is away from loved ones. Among the consequences of quarantine, are acute stress disorders, anxiety, irritability, poor concentration and indecisiveness, deteriorating work performance, post-traumatic stress disorders, high psychological distress, depressive symptoms and insomnia.

The lockdown was particularly oppressive and caused financial insecurity and subsequently depression because merchants were hoarding their wares as a result of fear of not finding goods to buy and sell. And many people lost their jobs, and as expected depression would arise from this severe financial uncertainty. From our study, 35% of respondents had a financial loss.

The effect on drug addicts was also enormous as they were compelled to stay indoors; so they had withdrawal syndrome since they could not access their illicit drug. It is not surprising that the pandemic and concomitant lockdown are presenting a remarkable increase in psychiatric disorders in health workers and the general public [17].

The researchers suggest that restrictions on movement and fears about COVID-19 transmission might have prevented caregivers from accessing services. In addition to this, the negative impact of the lockdown on the economy has affected the cash reserves of families, rendering them unable to afford healthcare, as the major means of healthcare financing in Nigeria is out-of-pocket payment.

Community participation is essential in the collective response to coronavirus disease 2019 (COVID-19), from compliance with lockdown to the steps that need to be taken as countries ease restrictions, to community support through volunteering. Regrettably, this has been largely untrue for Nigeria. A large number of people have not cooperated with the guidelines due to a lack of sustenance and livelihood [12].

Healthcare workers were impacted physically and psychologically; the lockdown does not apply to them as they are essential workers and are indispensable in the battle against coronavirus disease, but quarantine or self-isolation may be necessary. Healthcare workers are more vulnerable to COVID-19 infection than the general population due to frequent contact with infected individuals. Healthcare workers have been required to work under stressful conditions without proper protective equipment and make difficult decisions involving ethical implications [15]. This breeds frustration. An Italian nurse committed suicide after being traumatized trying to save the lives of those with COVID-19.20 This emphasizes the need for better working conditions for healthcare workers and closer attention to their mental health.

The lockdown has also had an adverse impact on the training of healthcare personnel. Undergraduate medical training particularly in Nigeria has been put on hold as universities closed down. For post-graduate medical training, there have been delays such as postponed examinations and workshops. The West African and National Postgraduate Medical Examinations all failed to be held in April/May 2020. Local and international conferences, trainings, workshops and seminars have been delayed or cancelled altogether, thereby putting a strain on medical training. Hospitals suffered from the decline in other patients. The private healthcare sector witnessed an 80% fall in patient visits, leading to salaries of clinical staff being reduced or frozen, and some staff being furloughed or even laid off [18].

Black individuals are among those most significantly impacted by the COVID-19 pandemic, unlike in Western nations where there's a lesser reliance on out-of-pocket spending for healthcare. In Nigeria, healthcare is predominantly funded through out-of-pocket expenses. A notable and ongoing drawback of the nation's healthcare system is the inadequate operation of its health financing framework. This is marked by low levels of public expenditure, exceedingly high rates of out-of-pocket payments (among the highest globally), a substantial occurrence of catastrophic health spending, and instances of impoverishment due to healthcare expenses. With the worsening of the economy during the lockdown, the state of health financing in Nigeria is catastrophic indeed. Increased hospital bills due to additional PPE charges and low accessibility of cash during the period of the lockdown further worsened the condition.

The lockdown in Nigeria and its management was a policy decision of the federal government in conjunction with the state governments. The enforcement was however poorly coordinated and sometimes subject to the whims and caprices of the security agencies. Some healthcare workers were at various times and in various places harassed by security agencies on their way to or from work, while some patients were turned away or unduly delayed on their way to access healthcare. From our study, 63% of respondents expected government intervention by giving palliatives, providing security, providing social amenities and if possible, ending the lockdown.

The supply of essential medicines and supplies was threatened by the lockdown. This includes antibiotics, vaccines, consumables like gloves, masks, and resuscitation fluids. This is felt most acutely in developing countries. The COVID-19 pandemic triggered several challenges that have led to shortages and price hikes, and could potentially fuel an epidemic of fake and substandard medicines [19].

The increased demand and strain on supply chains have caused significant limitations in the availability of raw materials, particularly for N95 masks, surgical masks, and medical gowns, which are the products in highest demand (given their importance for frontline healthcare workers). This has led to a shortage and therefore increase in the costs of PPE.

Ventilators are essential to support lung function, especially for patients with the most severe cases of COVID-19 infection. As the COVID-19 pandemic spread, the demand for ventilators increased worldwide. With limited stock, governments and health systems around the world enlisted the help of various companies to produce medical ventilators. 100 more ventilators were purchased (in addition to the existing 350), although these too, were not enough, considering the growing caseloads [4].

Maintenance of equipment already owned by healthcare centres was also put on hold or difficult to access. Medical Equipment maintenance in Nigeria took a hit during the pandemic due to restricted local and international travel. The spares and technical know-how for the maintenance of most medical devices, normally scarce in Nigeria were exacerbated by the restrictions of the lockdown.

It is estimated that during the lockdown periods Nigeria's GDP suffered a 34.1 percent loss due to COVID-19, amounting to USD 16 billion, with two-thirds of the losses coming from the services sector [20]. The agriculture sector, which serves as the primary means of livelihood for most Nigerians, suffered a 13.1 percent loss in output (USD 1.2 billion). Similar to numerous other global economies, Nigeria experienced a substantial decline in GDP growth primarily due to the reduction in economic activity following the implementation of a lockdown in April aimed at curbing the virus's spread. In the wake of the pandemic, the World Bank forecast a decline of -3.2% for 2020—a five percentage point drop from its previous projections [20].

Furlough and layoff of staff employment. Salaries were slashed. Businesses were closed. The aviation sector suffered losses. Banks closed branches. The service sector was the hardest hit. However, some sectors saw a boom in sales (Pharmaceuticals, Medical consumables specifically Hand sanitisers, soap and detergents, plastic industries, chemical markets, home delivery services like Amazon). Rice boom (huge sales due to bulk buying).

Emergency Palliatives Committee (EPC) was set up as a COVID relief strategy for the masses, a bailout for businesses and food support for the people.

Nigeria's economy has also been crippled by external factors such as the near-total shutdown of economic activity around the world during the lockdown. The accompanying steep drop in oil prices amid a drop in global demand left Nigeria drastically short of earnings given its dependence on the commodity as its biggest revenue source. To provide context, the United States reduced its import of Nigerian crude oil by 11.67 million barrels during the initial five months of 2020 compared to its procurement in the corresponding period of 2019. In fact, in the second quarter of 2020, local oil production dropped to its lowest since 2016—when Nigeria endured a full year of negative growth [21].

Current economic data indicates that Nigeria's government is persistently failing to meet the targets outlined in its Economic Recovery and Growth Plan, formulated in response to the 2016

recession. According to the World Bank, the most populous country in Africa is anticipated to undergo its most severe recession in four decades.

From this study, 22.2% of respondents said there was not enough food available during the lockdown. However, 37% of people gained weight due to inactivity and eating too much, out of boredom, even though 6% of people claimed they lost weight due to lack of food during the lockdown.

Twenty-two (22%) of respondents said they were spending more during the lockdown. Eight-eight (88%) of participants believed internet usage increased during this lockdown. Fifty-four (54%) of people observed all the infection prevention protocols like the use of hand sanitisers, and face masks, washing hands frequently and maintaining social distancing.

We estimate that households lost on average 33 percent of their incomes during the period, with the heaviest losses occurring for rural non-farming and urban households. This study shows that 23% of respondents said their income/source of income was reduced during this lockdown period and 35% of respondents had a financial loss.

The dynamics of conflict seem to have exacerbated due to the coronavirus pandemic. Additionally, this situation prompted a resolution from the United Nations Security Council, calling for a worldwide ceasefire. On March 23, 2020, United Nations Secretary-General Antonio Guterres issued an appeal for a global ceasefire as part of the United Nations' response to the COVID-19 coronavirus pandemic and calling for greater international cooperation to address the pandemic [22].

According to data released by UNESCO on 25 March, school and university closures due to COVID-19 were implemented nationwide in 165 countries. Including localized closures, this affects over 1.5 billion students worldwide, accounting for 87% of enrolled learners.30. From this study, 30% of respondents occupied their time with watching television. 52% of respondents thought their kids were missing out on school, even with internet schooling and 39% of respondents felt that their children missing school would hurt them like depression and increase in crime rate.

Churches were forced to close because of the coronavirus. The pandemic impacted religion in various ways, including the cancellation of the worship services of various faiths, as well as the cancellation of pilgrimages surrounding observances and festivals. During the pandemic, numerous places of worship, including churches, synagogues, mosques, and temples, have provided worship services through livestreaming. Relief wings affiliated with religious organizations have also dispatched medical supplies and aid to affected regions. In the United States, President Trump designated March 15, 2020, as a National Day of Prayer, seeking “God's healing hand to be placed on the people of our Nation” [23]. The impact on gatherings was profound, as health experts recommended and local authorities frequently enforced stay-at-home orders to prevent gatherings of any size, not solely larger events. These gatherings have been substituted with teleconferencing or, in some instances, innovative methods to maintain social distancing, like organizing balcony sing-alongs for concerts, or a “birthday parade” for a birthday party.

Many countries have reported an increase in domestic violence and intimate partner violence attributed to lockdowns amid

the COVID-19 pandemic. Financial insecurity, stress, and uncertainty have led to increased aggression at home, with abusers able to control large amounts of their victims' daily lives. United Nations Secretary-General António Guterres has called for a domestic violence "ceasefire". From this study, 45% of respondents said there would be a change in their relationships with their spouses by the time the lockdown is over.

Older people are particularly affected by COVID-19. They need special attention during the COVID-19 crisis. While the number of older persons is relatively and smaller in developing countries, particularly in Africa, this coincides with other serious structural risks. Countries with the fewest older persons have the fewest health resources, limited experience caring for older patients (including few geriatric specialists), less institutional care for older persons, and far diminished public or non-governmental organization (NGO) support systems for reaching out, screening, and providing community-based care for older individuals.

Older persons living in long-term care facilities, such as nursing homes and rehabilitation centres, are particularly vulnerable to infection and adverse outcomes from COVID-19. Elderly individuals living alone might encounter challenges in accessing accurate information, essential supplies like food and medication during quarantine situations, necessitating the need for community outreach efforts.

Older persons, especially those in isolation, those with cognitive decline, and those who are highly care-dependent, need a continuum of practical and emotional support through informal networks (families), health workers, caregivers, and volunteers.

There are Decreased concentrations of NO₂ and PM 2.5. 91% of the world's population live in places where poor air quality exceeds the permissible limits [24]. The consequences of air quality degradation are demonstrated in a significant percentage of global mortality each year. China implemented strict traffic restrictions and self-quarantine measures to control the spread of SARS-CoV2. These actions generated a change in air pollution. Due to quarantine, NO₂ was decreased by 22.8 µg/m³ and 12.9 µg/m³ in Wuhan and China, respectively. PM 2.5 fell by 1.4 µg/m³ in Wuhan but decreased by 18.9 µg/m³ in 367 cities [25].

Additionally, the Copernicus Atmosphere Monitoring Service (CAMS) of the European Union observed a drop of PM 2.5 last February about the previous three years. In China alone, all of these air quality improvements generated human health benefits that have outnumbered confirmed SARS-CoV2 deaths thus far [26].

Additionally, 58% of respondents believed that crime increased during this lockdown period but 52% believed that Road traffic accidents reduced due to the lockdown (even though domestic violence increased). However, 70% of respondents observed that traffic, with its effects reduced during this period of lockdown.

Coastal areas possess beaches, which stand as significant natural assets in terms of natural capital. They provide services (land, sand, recreation, and tourism) that are critical to the survival of coastal communities and possess intrinsic values that must be protected from over-exploitation [27]. The lack of tourists, as a result of the social distancing measures, has caused a notable change in the appearance of many beaches in the world. For

example, beaches like those of Acapulco (Mexico), Barcelona (Spain), or Salinas (Ecuador) now look cleaner and with crystal clear waters [28].

Excessive environmental noise remains a primary source of discomfort for both the population and the environment, leading to health issues and disrupting the natural balance of ecosystems.

With the enforcement of quarantine measures, the use of private and public transportation has decreased significantly. Also, commercial activities have stopped almost entirely [29]. These changes have caused noise levels to drop considerably in most cities in the world. 58% of people believed that crime increased during this lockdown period but 52% believed that Road traffic accidents reduced due to the lockdown (even though domestic violence increased). However, 70% of people observed that traffic, with its effects reduced during this period of lockdown [30,31].

There were also negative impacts on the environment like increased waste. The generation of organic and inorganic waste is indirectly followed by a wide range of environmental issues, such as soil erosion, deforestation, and air, and water pollution [32].

The quarantine policies, established in most countries, have led consumers to increase their demand for online shopping for home delivery [33]. Consequently, organic waste generated by households has increased. Also, food purchased online is shipped packed, so inorganic waste has also increased [34].

Medical waste is also on the rise. During the outbreak, hospitals in Wuhan generated an average of 240 metric tons of medical waste daily, a stark increase from their previous average of fewer than 50 tons. In other countries such as the USA, there has been an increase in garbage from personal protective equipment such as masks and gloves [33].

Recycling stands as a widespread and efficient method to curb pollution, preserve energy, and safeguard natural resources. Due to the pandemic, certain countries like the USA have halted recycling programs in select cities over concerns regarding the potential spread of COVID-19 within recycling centers. In heavily impacted European nations, there have been limitations placed on waste management practices. As an illustration, Italy has prohibited residents who are infected from sorting their waste [34]. Additionally, the industry has capitalized on the situation by advocating for the revocation of bans on disposable bags, despite the fact that single-use plastic can still harbor viruses and bacteria [35].

In Nigeria, the lockdown led to the generation of enormous domestic wastewater and solid waste within the residential areas and along major streets. Wastewater in the form of sewage is seen in gutters, drainage channels, along streets and in open spaces [36]. Similarly, hospitals, clinics and medical stores during this pandemic have increased amounts of medical waste and infectious waste [37]. Healthcare workers are encouraged to wear. Personal protective equipment (PPE). Medical waste may be carelessly managed in this critical period of the COVID-19 pandemic [18]. COVID-19 and Challenges of Management of Infectious Medical Waste in Nigeria). Some of the waste is disposed of at dumpsites or burnt without compliance with the rules stipulated by the National Environmental Standard and Regulation Enforcement Agency (NESREA) [38].

Similarly, amid the lockdown, numerous underprivileged families unable to afford gas or kerosene for cooking fuel

resorted to cutting down trees within their communities for fuel. NESREA issued guidelines for managing infectious waste during the pandemic alongside other waste types [39]. The COVID-19 lockdown has contributed to the decrease in air pollution [40].

COVID-19 Lockdown has aided the reduction of Air Pollution. A study sought the opinions of 180 residents in the metropolis through the administered questionnaires and found out that 86% agreed that the lockdown has greatly reduced air pollution and greenhouse gas production [41].

Similarly, an assessment of pollution by the National Aeronautics and Space Administration and the European Space Agency showed that the reduced transport activities have led to limited consumption of energy and less oil demand. These changes have had an important impact on the environmental air quality [42,43].

It is important to note that while emissions of certain Greenhouse Gases (GHGs) have decreased due to the pandemic, this reduction might have limited impact on the total concentration of GHGs that have accumulated in the atmosphere for decades [44]. For a significant decline, there should be a long-term structural change in the countries' economies [45]. This result can be attained by fulfilling the environmental commitments made. Moreover, the decline in greenhouse gas (GHG) emissions witnessed in certain nations is transient or temporary at present. Once the pandemic ends, countries will most likely revive their economies, and GHG emissions will skyrocket again.

Finally, from this study, 71% of people perceived the effect of this lockdown to be negative, with 62% saying they were bored, and 42% being sad. Many of the respondents (35%) had a financial loss and 32% had a negative change in their relationship with their spouse 64% of people were anticipating the end of the lockdown, 27% of respondents said they would have a mental breakdown if this lockdown happens again. Nevertheless, 73% of people did not support a second/repeat lockdown.

Conclusion

This Covid-19 pandemic has limited social freedom for all. It also caused serious implications like a decline in access to healthcare, thus causing a rise in non-communicable diseases, mental health, economic effects- increase in financial expenditure and global economic crises, recession, issues of unemployment and "laying-off", political, social and cultural effects, educational impact like closing of schools with increase in crime rate, coronavirus and inequality, increase in domestic violence, religious impact, environmental effects like increased waste, reduction in waste recycling, reductions in greenhouse gas emissions were observed due to significantly reduced road transport, reduced industrial amongst others. In future, a better method of approach is recommended after considering all these.

References

1. M Helter, Ross G White, Catharina van der Boor & Agata Łaszewska (2021) Impacts of the Covid-19 lockdown and relevant vulnerabilities on capability well-being, mental health and social support: an Austrian survey study Judit Simon, Timea BMC Public Health 21: 314.
2. Global Carbon Project, 2020 <https://www.globalcarbonproject.org/carbonbudget/index.htm>

3. WHO <https://www.who.int/health-topics/air-pollution> 2016
4. National Centre For Disease Control(NCDC) 2021 <https://covid19.ncdc.gov.ng/data/>
5. WHO (2020) WHO Coronavirus Disease (COVID-19) Dashboard. <https://covid19.who.int/>.
6. Impact of COVID-19 on people's livelihoods, their health and our food systems (2020) Joint statement by ILO, FAO, IFAD and WHO: 13.
7. Kazeem Bello, Ajidea Ridwan, Lanre Ibrahima, Olorunfemi, Yasiru Alimiab (2020) Estimating the impacts of lockdown on Covid-19 cases in Nigeria University of Lagos, Lagos State, Nigeria Lead City University, Ibadan, Oyo State, Nigeria 6.
8. Prajapati N, Łaszewska A, Franco D, Ericson R, Leroy S, Lindert J, et al. (2020) What are the COVID-19 Lockdown-induced illnesses and why should European public health systems be investigating their epidemiology, treatment, and prevention? The Association of Schools of Public Health in the European Region.
9. Ani PN, Eze SN, Abugu PI (2021) Socio-demographic factors and health status of adults with disability in Enugu Metropolis, Nigeria. *Malawi Med J* 33: 37-47.
10. S Partelow, H von Wehrden, O Horn (2015) Pollution exposure on marine protected areas: a global assessment *Mar Pollut Bull* 100: 352-358.
11. M Mourad (2016) Recycling, recovering and preventing "food waste": competing solutions for food systems sustainability in the United States and France *J Clean Prod* 126: 461-477.
12. B Bir (2020) <https://www.aa.com.tr/en/health/single-use-items-not-safest-option-amid-covid-19/1787067>
13. ESA (2020) Coronavirus Lockdown leading to Drop in Pollution across Europe https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel5P/Coronavirus.
14. Shivam Khaddar, Mahmudur Rahman Fatmi (2021) COVID-19: Are you satisfied with traveling during the pandemic? 100292
15. WHO (2020b) Water, sanitation, hygiene and waste management for the COVID-19 virus. Geneva: World Health Organisation
16. K Chen, M Wang, C Huang, PL Kinney, AT Paul (2020) Air pollution reduction and mortality benefit during the COVID-19 outbreak in China *medRxiv*.
17. Serafini G, Parmigiani B, Amerio A, Aguglia A, Sher L, et al., (2020) The psychological impact of COVID-19 on the mental health in the general population. *QJM* 113: 531-37.
18. Oruonye ED, Ahmed YM (2020) Covid-19 and Challenges of Management of Infectious Medical Waste in Nigeria: A Case of Taraba State. *International Journal Waste Resource* 10: 1-5.
19. NESREA (2020) Guidelines for Handling Infectious Waste within the Context of Corona virus (Covid-19).
20. Impact of COVID-19 on people's livelihoods, their health and our food systems; Joint statement by ILO, FAO, IFAD and WHO 2020.

21. P Sharma, A Dhar (2018) Effect of hydrogen supplementation on engine performance and emissions Int J Hydrog Energy 43: 7570-7580.
22. Impact of COVID-19 on people's livelihoods, their health and our food systems ; Joint statement by ILO, FAO, IFAD and WHO 2020.
23. Kazeem Bello, et al. (2020) Estimating the impacts of lockdown on COVID-19 cases in Nigeria.
24. Q Zhang, X Jiang, D Tong, SJ Davis, H Zhao, et al., (2017) Transboundary health impacts of transported global air pollution and international trade Nature 543: 705-709.
25. CAMS (2020) <https://atmosphere.copernicus.eu/amid-coronavirus-outbreak-copernicus-monitors-reduction-particulate-matter-pm25-over-china>
26. S Lucrezi, M Saayman, P Van der Merwe: An assessment tool for sandy beaches
27. MA Zambrano-Monserrate, CA Silva-Zambrano, MA Ruano (2018) The economic value of natural protected areas in Ecuador: a case of Villamil Beach National Recreation Area Ocean & Coastal Management 157: 193-202.
28. Yousif Abulhassan, Gerard A. Davis (2021) Considerations for the transportation of school aged children amid the Coronavirus pandemic 100290.
29. Shivam Khaddar, Mahmudur Rahman Fatmi (2021) COVID-19: Are you satisfied with travelling during the pandemic? 100292.
30. Karl Kim (2021) Impacts of COVID-19 on transportation: Summary and synthesis of interdisciplinary research 100305.
31. UN <https://www.unenvironment.org/news-and-stories/press-release/waste-management-essential-public-service-fight-beat-covid-19> (2020)
32. ARCplus (2020) <https://www.acrplus.org/en/municipal-waste-management-covid-19>.
33. M Koivusalo, T Vartiainen (1997) Drinking water chlorination by-products and cancer Rev Environ Health 12: 81-90.
34. NASA (2020) <https://earthobservatory.nasa.gov/images>
35. J Calma (2020) <https://www.theverge.com/2020/3/26/21194647/the-covid-19-pandemic-is-generating-tons-of-medical-waste>
36. Cutler S (2020) Mounting Medical Waste from COVID-19 Emphasizes the Need for a Sustainable Waste Management Strategy. Online blog.
37. National Environmental Standards and Regulations Enforcement Agency (NESREA). (2017)
38. K Schanes, K Dobernig, B Gözet (2018) Food waste matters-a systematic review of household food waste practices and their policy implications J Clean Prod 182: 978-991.
39. A Varotto, A Spagnolli (2017) Psychological strategies to promote household recycling.
40. A Varotto, A Spagnolli (2017) Psychological strategies to promote household recycling. A systematic review with meta-analysis of validated field interventions J Environ Psychol 51: 168-188.
41. S Lucrezi, M Saayman, P Van der Merwe (2016) An assessment tool for sandy beaches: a case study for integrating beach description, human dimension, and economic factors to identify priority management issues Ocean & coastal management 121: 1-22.
42. MA Zambrano-Monserrate, MA Ruano (2019) Does environmental noise affect housing rental prices in developing countries? Evidence from Ecuador Land Use Policy 87: 104059.
43. M Liu, S Tan, M Zhang, G He, Z Chen, et al., (2020) Waste paper recycling decision system based on material flow analysis and life cycle assessment: a case study of waste paper recycling from China J Environ Manag 255: 109859.
44. Roland R (2020) Covid-19 and Challenges in the Provision of Solid Waste Services.
45. Bianca M, Sally H, Claire M (2020) The impact of the coronavirus on the renewable energy industry—Center for American Progress. Centre for American Progress.