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Assessment of the perception of the public on the impact of the lockdown due to the Coronavirus Disease 2019 (COVID-19)

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Abstract

Background: Coronavirus Disease 2019 (COVID-19) caused by SARS-CoV-2 started in Wuhan, China in December 2019 and was declared pandemic by the World Health Organization (WHO) in March 2020. Globally, majority of nations worldwide with Nigeria inclusive were on lockdown. Variations exist in the way the public responded to the lockdown.
Objective: The study is to determine the public perception on the impact of the lockdown due to COVID-19
Methods: Pretested survey form prepared using the Google form app and distributed via social media - WhatsApp, Facebook, email and Instagram. Sample size was determined as 510. The data collected was exported to Microsoft Excel. Descriptive and inferential statistics were used. Inferential analysis was done using chi square, and fisher exact test at 95% confidence interval. Ethical approval was obtained from the University of Uyo Teaching Hospital Health Research and Ethics Committee, Uyo, Akwa Ibom State, Nigeria.
Results: A total of 510 respondents participated in the study. The results revealed 52.2% female respondents. The data revealed 60% were employed with majority residing in the South Western part of Nigeria and are in a relationship. While self-employed participants comprised 25.9%. Respondents aged between 40-49 years were 28.6%, while 61.57% were postgraduate degree holders. The current data showed that 59.6% of the respondents think that the lockdown, irrespective of the dimension taken prevented the spread of the disease
Conclusion: A significant percentage of the public are of the opinion that the lockdown was effective.

Keywords: COVID-19; Lockdown; Impact; Coronavirus disease 2019; Perception; General Public Study

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Introduction

Coronavirus Disease 2019 (COVID-19), a novel respiratory disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first identified and reported in Wuhan, China on

the 8th of December 2019.[1–3] The massive spread was mediated by the aviation industry and continued to increasingly spread through human-to-human transmission causing severe respiratory disorder[4–7] such that it was recognized as a Public Health Emergency of International Concern (PHEIC)" by the World Health Organization (WHO).[2,8,9]

Consequently, following its high fatality rate,[8,10–13] WHO on March 11, 20202,[8,9] (about two months after its first report) declared the virus a global pandemic.[6,14,15] The unavailability of an identified definitive therapeutic substance (drugs and/or vaccines) to combat the virus prompted the global community to adopt non pharmaceutical interventions including lockdown measures, in accordance with an earlier strategic measure instituted by the Central Government of China in Wuhan on January 23, 2020.

Lockdown is regarded as an emergency response concept and measure imposed by the government in the event of an outbreak of a disease of public concern, mandating people to stay indoors to contain such disease transmission.[16] This move became an inevitable option owing to both the anticipated and unanticipated macroeconomic shocks that could be triggered by the evolving virus. The lockdown measure and declarations were widespread as over 100 countries between April and June 2020 undertook this strategic measure to contain the pandemic. This action was globally commended particularly by the World Health Organization (WHO), who tagged the pandemic as "unprecedented in public health history.[17]

The lockdown measures were characterized by the closure of all population activities-based organizations such as schools, hotels, clubs, workplaces, transportation garages, and religious houses as well as enforcement of movement restrictions (intra and inter cities) such that people stayed at home and only people on essential duties such as healthcare providers and media personnel were allowed tailored or scheduled movements. The ultimate goal was to flatten the transmission curve through reduction of human-to-human contact. In addition, other interventions including hand hygiene through washing or sanitization, social and physical distancing, banning of congregation or assemblage of more than 20 persons and compulsory use of the face masks particularly in public places were put in place.[17–20] The advent of the pandemic and haphazard involvement of pharmacists, the perception of their roles and involvement in managing outbreaks was somewhat tested.[21]

After the initial case in the country, pockets of COVID-19 infections were reported among those who had history of recent travel and those that had contacts with the initially infected persons. The country thereafter experienced increasing incidence and transmission in spite of the instituted measures undertaken by the Federal Government on immigrants and international travels. Before long was evident that community transmission of the disease was on-going in the country. Thus, on the heels of the persistent increase and spread of the virus in Nigeria, the Federal government instituted lockdown measures (total or partial) with immediate effect in three states of the Federation, i.e. Lagos, Ogun and Abuja which were the epicenters of the pandemic in the country on the 30th March 2020. This action was applauded by the generality of the Nigerian populace most importantly the healthcare providers who reasoned that it would help to flatten the transmission curve as well as save the fragile healthcare delivery system from being overwhelmed or total collapse.[22] The Federal Government of Nigeria directives for the lockdown included curfew imposition from 8pm (later from 10pm) to 4am; closure of schools at all levels from primary to tertiary; suspension of all religious gatherings and meetings; closure of international and domestic airports; limitation of any form of gathering including burials, birthday parties and weddings to a maximum of 20 persons; reduction of market days to a few days in a week; reduction in public transportation carrying capacity to a maximum of 70%; closure of state borders to reduce inter-state transmission and reduction in weekly working hours in the Public Service.[23] The nature and intensity of these lockdowns were State dependent over the first three months. Furthermore, many States had intermittent lockdowns for three to four days a week. In some others, the lockdowns restricted movements at night. Literature shows that the drastic control measures implemented in China at the early stage of the epidemic in the country substantially mitigated the spread of COVID-19.[24] It was therefore expected that the COVID-19

lockdown measures put in place by the Nigerian government would have similar effect on the spread of the disease. Thus, this study was instituted to assess the perception of the populace on the effectiveness of the lockdown on the spread of the pandemic in the country.

Method

A nation-wide cross-sectional survey directed to the Nigerian public to assess their perception of effectiveness of the lockdown was carried out. The Federal Republic of Nigeria, a sovereign country, located in West Africa is bounded by Niger in the north, Chad and Cameroon in the east; Benin in the west; while the Gulf of Guinea of the Atlantic Ocean bounds south.[25] As a Federation, Nigeria comprises 36 states, a Federal Capital Territory and 774 Local Government Areas.[26] She is the most populous country in Africa with population estimate of 214,028,302 as at July 2020 and GDP of $447 billion as at 2019. Nigeria is a middle-income country and has economic freedom score of 57.2.[27] More than 60% of Nigerians live in extreme poverty.[28] The research instrument for this study was a structured questionnaire developed using Google Forms®. The questionnaire contained items that were used to obtain information about the socio-demographic characteristics of respondents and the perception of impact of the lockdown on the spread of COVID-19 in Nigeria. Raosoft Sample Size Calculator was used to determine the sample size for the study.[29] A minimum sample size of 384 study participants was obtained based on 5% margin of error, estimated proportion of 50% and 95% level of confidence. But in order to improve the power of the results, more responses were allowed up to a maximum of 6 weeks of data collection. The survey tool was posted on different social media platforms such as WhatsApp, Telegram and Facebook. There were regular reminders for participants to fill the questionnaire and send the survey tool to their contacts on social media platforms to ensure wide distribution. The collected data were checked for completeness and pre-analysed using the Google Forms® tool. Further data analyses which involved both descriptive and inferential statistics were done after data export to Microsoft Excel. Ethical approval for the study was obtained from the Health Research and Ethics Committee, Uyo, Akwa Ibom (UUTH/AD/S/96/Vol.XXI/552).

Results

Table 1 below shows that most of the respondents were from the South West zone (73%) and access to the survey was via WhatsApp (96%). Most of the respondents were in the 40 to 49 age range (29%), female (62%), in a relationship (71%) with postgraduate educational qualification (62%).

Table 1: Socio-demographic characteristics of respondents

ITEMS	FREQUENCY	PERCENT
Zone of Residence		
SW	372	73.1
NC	57	11.2
SS	42	8.3
SE	19	3.7
NW	13	2.6
NE	6	1.2
Survey access		
WhatsApp	489	95.9
Telegram	12	2.4
Facebook	6	1.2
Others	3	0.6
Age at last birthday (years)		
Below 18	10	2.0
18 - 29	85	16.7
30 - 39	93	18.2
40 - 49	146	28.6
50 - 59	134	26.3
Above 59	42	8.2
Gender		
Female	266	52.2
Male	244	47.8
Occupation Status		
Employed	311	61.0
Self Employed	132	25.9
Student	29	7.7
Unemployed	28	5.5
Marital Status		
In a relationship	362	70.8
Single	118	23.1
Divorced/Separated	20	3.9
Widowed	11	2.2
Highest Education		
Pre-First Degree	14	2.8
First Degree	182	35.7
Postgraduate	314	61.6

Figure 1 below shows that 6.1% of the respondents on total lockdown and 51.4% of the respondents on partial lockdown believe they are at risk of contracting COVID-19

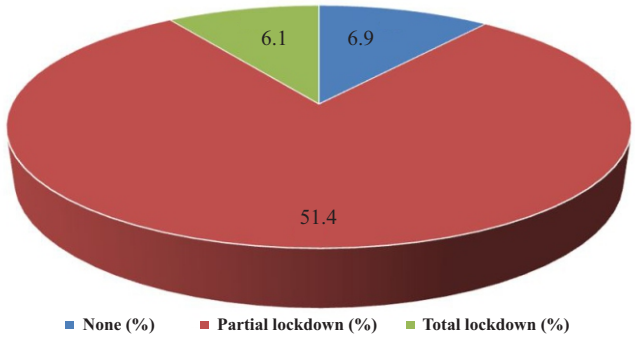

Figure 1: Status of lockdown and respondents' COVID-19 risk perception

Table 2 shows that 60% of the respondents believe that the lockdown was effective in stopping the spread of COVID-19. However, none of the variables were statistically significantly different with respect to gender, occupational status, marital status, highest education or zone of domicile.

Table 2: Analysis of socio-demographic data and perception of effectiveness of lockdown

Items	Variables	No	Yes	Total	Chi-Square	p-value
Gender	Female	107	159	266	0.0064	0.9362
	Male	99	145	244		
Occupation Status	Employed	127	184	311	0.103	0.9914
	Self employed	53	79	132		
	Student	15	24	39		
	Unemployed	11	17	28		
Marital Status	Divorced/ Separated	13	7	20	5.7446	0.1247
	In a relationship	139	222	361		
	Single	49	69	118		
	Widowed	5	6	11		
Highest Education	Pre-First Degree	6	8	14	0.5069	0.7761
	First Degree	77	105	182		
	Postgraduate	123	191	314		
Zone of domicile	NC	19	38	57	9.862	0.5429
	NE	3	3	6		
	NW	6	7	13		
	SE	12	7	19		
	SS	23	19	42		
	SW	143	229	372		

Table 3: Analysis of status of lockdown and movement of respondents during the lockdown

Items	Variables	None	Partial lockdown	Total lockdown	Total	Chi-Square	p-value
Do you think the lockdown was effective in stopping the spread of COVID-19	No	20	174	12	206	8.98	0.011*
	Yes	40	225	39	304		
Did you have reason(s) to leave your location during the lockdown?	No	41	222	36	299	6.807	0.033
	Yes	19	177	15	211		
Do you have contacts that embarked on journeys during the lockdown?	Maybe	13	71	9	93	17.158	0.02*
	No	11	99	25	135		
	Yes	36	229	17	282		
Did you have neighbourhood meetings during the lockdown?	No	46	306	43	395	1.528	0.466
	Yes	14	93	8	115		
Did you attend any burial during the lockdown?	No	54	352	47	453	0.801	0.67
	Yes	6	47	4	57		
Did you need to travel outside your LGA during this lockdown?	Maybe	5	18	3	26	8.383	0.79
	No	38	212	34	284		
	Yes	17	169	14	200		
Did you receive guests from other LGAs during the lockdown?	No	44	300	45	389	4.579	0.101
	Yes	16	99	6	121		
Did you receive guests from other state (s) during the lockdown?	No	45	359	45	453	3.646	0.162
	Yes	11	40	6	57		

Table 3 shows that 60% of the respondents believe that the lockdown was effective in stopping the spread of COVID-19 though not all the respondents were actually on lockdown. This result is statistically significant. Most of the respondents did not leave their location (57%) during the lockdown though they knew some contacts that did (55%), the result that was also statistically significant.

Discussion

In Nigeria, the first index case of COVID-19 was announced on 27th February, 2020.[30] By 30th March 2020, the Federal Government took some drastic measures part of which was the 14-day lockdown of the three States viz a viz Abuja, Lagos and Ogun considered as the epicenters of COVID-19 in the country.[31] The rationale for the lockdown measures which were enforced in many other countries across the globe is to reduce the spread of the pandemic.[32]

According to media reports, lockdown had its own regulations which varied from country to country.[33] In some countries, total lockdown was implemented across the nation while some countries imposed partial lockdown with restrictions on leaving the home to go out.[34–36] Nigeria implemented both total and partial lockdown in order to arrest the spread of the infection and flatten its curve.

The results are in agreement with an earlier study by Bello et al[37] which has estimated and proved that the lockdown policy has been quantitatively confirmed to be effective in combating the spread of COVID-19 cases in Nigeria. This is relevant for implementing future policies. In a developing clime like Nigeria where full benefits online trading and introduction of cashless policy are yet to be realized. It is also in agreement with the study by Sagiru Mati in which the lockdown caused the Active COVID Cases [ACC] to reduce by 14.30% immediately the lockdown was implemented and 33.26% in the long run.[38] Although variations exist in various sub Saharan African countries like Nigeria, Ghana, Uganda, Tanzania, South Africa, Sudan, Sierra Leone, Zimbabwe and Zambia with respect to design, timing and implementation of the lockdown measures, it has helped to ease community transmission.[38] This finding is in agreement with reported data of lower number of COVID-19 cases during partial lockdown compared to total lockdown in some countries.[39] Also, related studies on lockdown irrespective of the dimension taken and the spread of COVID-19 have been reported in literature. A study conducted in India reported that a reduction in transmission rate through lockdown may have substantial impact on the spread of the virus.[40,41] Musinguzi and Asamoah[42] also reported that social distancing and lock down may prevent local and global spread of contagious diseases such as COVID-19. Similarly, an observational analysis of different world regions including African region which is aimed at assessing the impact of lockdown on COVID-19 prevalence reported a declined trend in the daily cases of COVID-19 and the growth factor[43]. An estimated report of the impact of lockdown on COVID-19 cases in Nigeria suggested the need to direct efforts toward ensuring total compliance to the lockdown rules as it holds the key to keeping the virus under check.[44]

An important aspect of this study was to assess how compliance with lockdown rules impacted the total and partial lockdown. During the period of lockdown, people were expected to stay at home and neither pay visit to friends or family nor receive visitors. Also, social gatherings involving more than 20 people were prohibited and economic activities that involve physical interaction were halted.[22,43,45] However, a significant ($p < 0.05$) percent (55.29%) of the respondents are aware of friends, neighbours or relatives that embarked on journey outside their local government areas of residence during the partial and total lockdown. Comparison of response to other considered factors from partial and total lockdown did not provide any significant difference but showed that people indeed flouted the rules. The majority of respondents (88.8%, 76.3%) did not receive guest from other states and local government areas of their state of residence during the partial and total lockdown respectively. A similar study on compliance with the "stay-at-home" order, and limitation of visits to non-essential places, thus reducing the chances of being infected by COVID-19 was conducted in Nigeria[23] and found that there was a reduction in the cases reported.

Conclusion

The results obtained from our survey show a generally good perception of lockdown measure in form of governmental response to the COVID-19

pandemic by the public. The lockdown was perceived by the public to be effective in curbing the spread of the novel Coronavirus disease. The Federal Government can therefore formulate a lockdown policy in case of future occurrence of viral pandemics.

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