

Original Research Article

Effect of COVID-19 lockdown on the psycho-socioeconomic health of families in Enugu metropolis, Enugu state

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ABSTRACT

Background: The aggressive COVID-19 restrictive mitigation measures of lockdown by nations are with consequent effects on the populations. This study aimed to assess the psychological and socio-economic effects of COVID-19 lockdown among families in Enugu metropolis, Enugu state, Nigeria.

Methods: This was a cross sectional descriptive study of 409 household heads in Enugu metropolis. Data were analyzed using IBM statistical package 23.0 and test of significance set at 0.05.

Results: The mean age of respondents was 37.2±8.7 years. Majority, 83.1% were restricted in movement. Stress (5.9%) and sexual abuse (6.5%) were noted psychological effects. About 44.3% were not satisfied with life, basic social services of market (34.2%), banking (23.5%) and educational services (9.3%). Also 44.5% were not satisfied with their economic situation as 35.2% had their working conditions affected, 30.3% complain of price increase and 20.0% had restriction to basic needs. Coping strategies adopted were reduced food ration (27.9%), low wages (22.5%) and sale of assets (6.8%).

Conclusions: The psychological and socio-economic effects of COVID-19 lockdown significantly affected quality of life. Population will benefit from economic subsidies, psychotherapy and information, communication and technology (ICT) skills for learning and working from home.

Keywords: COVID-19, Economic effects, Lockdown, Nigeria, Psychological effects, Social effects

INTRODUCTION

COVID-19 also called coronavirus is an infectious viral disease caused by SARS-COV-2 virus. It was first believed to have originated in Wuhan China in 2019 and was declared a disease of public health emergency in January 2020 by the World Health Organization (WHO).¹ The human to human mode of transmission occurs through close or direct contact with infected persons, exposed to coughing, sneezing, respiratory droplets or aerosols and indirect contact with body fluids or

contaminated surfaces or objects by infected persons.² The incubation period ranges from 2-24 days with an average estimated to be 5.2 days and a case fatality rate from 0.1% to 25%.^{3,4} The infection is capable of asymptomatic spread while in symptomatic cases presents with mild to severe cases with fever, chills, cough, coryza, sore throat, breathing difficulty, myalgia, nausea, vomiting, diarrhoea. Etc.^{5,6} The severe cases were commonly noted among the elderly with comorbidities.⁵ Due to the fast contagious and fatality rate of the disease, aggressive mitigation measures of quarantine and restrictions of activities called lockdown and social/

physical distancing respectively were instituted by most countries to slow down the spread. These measures were followed by increased testing, surveillance, hand washing with soap and water or use of alcohol-based sanitizers, face masks, personal protective equipment and vaccination.^{7,8} These mitigation measures were not without consequent effects on the population as psychological, social and economic effects were reported in many countries.

Globally, by July 2020, WHO reported about 13,824,739 confirmed cases of COVID-19 and 591,666 confirmed deaths.⁹ The fatality by age revealed that “80+ years old (21.9%), 70-79 years old (8.0%), 60-69 years old (3.6%).¹⁰ The worldwide spread of the novel coronavirus has further led to neuropsychiatric issues such as fear, anxiety, depression, panic attacks, psycho-motor excitement, suicidal and a general decrease in overall wellbeing.¹¹ It is associated with increased parenting stress and, in turn, increased risk of harsh parenting.¹² Studies in Spain and Italy found that 85.7% of parents reported changes in their child’s emotional state during school closures and lockdown with difficulty concentrating, boredom, irritability, restlessness and nervousness the most common.¹³ Lockdown and social distancing measures increased levels of physical, emotional and sexual abuse.¹⁴ There were increased in the prevalence of stress (29.6%), anxiety (31.9%) and depression (31.9%) in Asia and Europe.¹⁵ The social restrictions affected over 60% of world’s student’s population and 87.6% of world’s total enrolled learners discontinued their traditional learning in schools, university, vocational training institutions.^{16,17} The economic effects were from domestic and international travel and trade ban, shutting down of factories and many manufacturing companies had untold consequences on the declining consumption of consumer goods.¹⁸ There were reported severe food insecurity from lower household incomes.¹⁹

Understanding the effects of psychological, social and economic effects of COVID-19 restrictions will help provide vital information for academicians, policy makers and stakeholders of the burden faced by the population. It will help to develop evidence-based interventions including awareness campaign, education and palliatives that will mitigate the impacts of restrictions from pandemics. The study was aimed to ascertain the psychological, social and economic effects of COVID-19 lockdown among families in Enugu metropolis.

METHODS

This study was conducted in Enugu metropolis the capital of Enugu state, south east Nigeria from May to October 2023. The State is an administrative and educational State with an estimated population of 3,267,837 (1,596,042- males and 1,671,795- females).²⁰ Economically, the state is predominantly rural and agrarian, others are farming, trading (18.8%) and services (12.9%).²¹

A cross sectional descriptive study was used to assess the psychological, social and economic effects of COVID-19 lockdown on families in Enugu metropolis. Parents or caregivers with at least a child who were living in the metropolis during the lockdown were selected while those who were critically ill and unwilling to participate were excluded.

The minimum sample size for study was determined using Cochran formula for single proportion. A prevalence of 41% was used.²² The minimum of 409 respondents were studied.

A multistage sampling technique was used to select the respondents for the study. The first stage was the selection of Enugu north and south from the three local government areas (LGAs) that constitute the metropolis by simple random sampling. The second stage was the selection of 2 wards each from the 20 wards in the 2 selected LGAs by simple random sampling. The third stage is the selection of 2 communities otherwise called layouts among the 10 communities each in the selected wards in the 2 LGAs by simple sampling. Lastly using cluster method, 50-55 households were selected from each community giving a total of 205 and 204 households per each LGA.

An interviewer administered structured questionnaire adapted from the literature based on the objectives of the study was used to collect data from the respondents.²³

The questionnaire was validated using face and content validity method and pre-tested among 41 households in Enugu east LGA not selected for the study. The shortcomings were corrected before commencement of data collection.

Data were clean, entered and analyzed using IBM statistical package version 23.0. Analyses was done based on the objectives of the study. Categorical variables were analyzed using frequency and proportion while mean and standard deviation was used for continuous variables. The bivariate analysis of Chi-square was done for the association between independent and dependent variables. The test of significance was set at 0.05.

Ethical approval was from the human research ethics committee (HREC) of the University of Nigeria Teaching Hospital, Enugu Nigeria. Informed consent was obtained from participating parents voluntarily. The principles of ethics were followed in the course of the research.

RESULTS

The mean age of the respondents was 37.2±8.7 years. Two-thirds, 67.2% of respondents were females. More than four-fifth, 85.3% were married. Less than half, 45.5% attained tertiary education, about two-thirds, 64.3% were engaged in business/trading (Table 1).

Table 1: Socio-demographic characteristics of respondents.

Variables	Frequency	Percentage
Age groups (years)		
20-29	70	17.1
30-39	211	51.6
40-49	86	21.0
50-59	30	7.3
60 and above	12	3.0
Mean±SD (years)	37.2±8.7	
Gender		
Male	134	32.8
Female	275	67.2
Place of residence		
Rural	19	4.6
Urban	390	95.4
Marital status		
Single	33	8.1
Married	349	85.3
Separated/divorced	13	3.2
Widow/widower	14	3.4
Occupation		
Student	57	13.9
Public/civil servant	49	12.0
Business/trading	263	64.3
Unemployed	8	2.0
Retiree	2	0.5
Farming	7	1.7
Professional	18	4.4
Others*	5	1.2
Education level		
Primary	18	4.4
Secondary	192	46.9
Tertiary	186	45.5
None	13	3.2
Religion		
Christianity	381	93.2
Muslim	27	6.6
Traditional	1	0.2
Monthly income		
≤N100,000	342	83.6
N100,001-N200,000	42	10.3
N200,001-N300,000	12	2.9
>N301,000	13	3.2
Mean monthly income	65,668.73±73218.8	

Almost, 97.6% of the respondents were aware of COVID-19 with the commonest source of information on COVID-19 as SMS (58.9%) and the least was from community (42.3%). Majority, 92.9% believed in the existence of COVID-19 and majority, 74.1% noted that touching of the mouth is the commonest route of transmission. Loss of smell (50.9%), cough (47.2%), fever (47.2%) were the commonest symptoms noted (Table 2).

Table 2: Knowledge of COVID-19 among respondents.

Variables	Frequency	Percentage
Awareness of COVID-19 pandemic		
Yes	399	97.6
No	10	2.4
Source of awareness*		
Television	205	50.1
Radio	208	50.9
Community	173	42.3
SMS	241	58.9
Rumours	215	52.6
Social media	228	55.7
Belief in the existence of COVID-19		
Yes	380	92.9
No	29	7.1
How COVID-19 is contracted*		
Touching of eyes	192	46.9
Inhaling droplets	264	64.5
Touching the mouth	303	74.1
Touching of nose	210	51.3
Symptoms of COVID-19*		
Cough	193	47.2
Fever	193	47.2
Sore throat	142	34.7
Difficulty in breathing	166	40.6
Tiredness	161	39.4
Loss of smell	208	50.9
Loss of taste	185	45.2
Kidney failure	12	2.9
All of the above	185	45.2
None	1	0.2

Majority, 83.1% were restricted in movement. The commonest psychological experience reported was stress (5.9%) and the least experienced was nervousness (1.7%). Among the spouse, most notable change in behavior was change in intimacy (4.2%) and least was change in emotion (2.0%). Physical abuse (38.7%) was the commonest abuse experienced while sexual abuse (6.5%) was the least experienced (Table 3).

Less than half, 44.3% were not satisfied with life and a little above one-third, 37.9% were not satisfied with their personal relationship. Markets (34.2%), financial services (23.5%) and education (9.3%) are some of the basic services affected by lockdown. More than half, 52.8% noted that lockdown had strong impact on education (Table 4).

Less than half, 44.5% were not satisfied with their financial situation. Low pricing (21.3%), high cost of production (13.4%) and poor demand (12.5%) were effects on business operation. A little above a third (35.2%) had their working conditions affected. About 30.3% and 20.0% of respondents respectively noted

increase in prices and restriction to basic needs. The coping strategies adopted by majority of the respondents were reduced food rations (27.9%) and acceptance of low wages (22.5%) (Table 5).

Age and marital status were respectively found to be associated with social effects ($\chi^2=13.593$, $p=0.009$, $\chi^2=8.195$, $p=0.042$) and economic effects ($\chi^2=13.206$, $p=0.010$, $\chi^2=13.909$, $p=0.003$) (Table 6).

Table 3: Psychological effects of COVID-19.

Variables	Always	Sometimes	Rarely	Never
Ever felt depressed/downhearted	10 (2.4)	113 (27.6)	216 (52.8)	70 (17.2)
Ever felt nervous	7 (1.7)	104 (25.4)	215 (52.6)	83 (20.3)
Ever felt lonely	13 (3.1)	106 (25.9)	219 (53.5)	71 (17.4)
	Not at all	Somewhat	Very	
Stress from home confinement	335 (81.9)	50 (12.2)	24 (5.9)	
Physical violence in home	379 (92.7)	18 (4.4)	12 (2.9)	
	Yes	No		
Restriction in movement	340 (83.1)	89 (16.9)		
Experienced changes before lockdown	31 (7.6)	378 (92.4)		
Experienced abuse before lockdown	11 (2.7)	398 (97.3)		
Experienced abuse since lockdown	29 (7.1)	380 (92.9)		
Form of abuse experienced (n=31)	Frequency	Percent		
Sexual abuse	2	6.5		
Exploitation	2	6.5		
Extortion	7	22.6		
Ill-treatment	8	25.8		
Physical violence	12	38.7		
Ways spouse changed				
Intimacy	17	4.2		
Emotion	8	2.0		
Finance	14	3.4		
Fighting	11	2.7		
Verbal abuse	16	3.9		
None	343	83.9		
Type of distress faced* (409)				
High stress levels	23	5.6		
Loss of happiness	58	14.2		
Feelings of insecurity	82	20.0		
Reduced family interaction	21	5.1		
Loss of leisure	113	27.6		
Stigmatization	7	1.7		
Anxiety	56	13.7		
Fear	156	38.1		
Interaction with children				
Good	227	55.5		
Somewhat	12	2.9		
The same	170	41.6		
Concern for children's safety				
Yes	184	45.0		
No	225	55.0		

Table 4: Social effects of COVID-19 lockdown on families.

Variables	Frequency	Percentage
Satisfaction with life		
Not satisfied	181	44.3
Completely satisfied	228	55.7

Variables	Frequency	Percentage
Satisfaction with personal relationship		
Not satisfied	155	37.9
Completely satisfied	254	62.1
Non-material help received from others		
Yes	223	54.5
No	186	45.5
Basic services affected*		
Education	38	9.3
Housing	1	0.2
Water supply	8	2.0
Health	28	6.8
Power	22	5.4
Markets	140	34.2
Financial services (e.g. banks)	96	23.5
Others*	6	1.5
Impact of interrupted education on children		
Strong impact	216	52.8
Somewhat	101	24.7
Not at all	92	22.5

Table 5: Economic effects of COVID-19 lockdown on families.

Variables	Frequency	Percentage
Satisfaction with financial situation		
Not satisfied	182	44.5
Completely satisfied	227	55.5
Effect on business operation		
High cost of production	55	13.4
Poor demand	51	12.5
Low pricing	87	21.3
Loss of capital investment	36	8.8
No effect	181	44.3
Effect on working conditions		
Yes	144	35.2
No	265	64.8
Working conditions affected*		
Reduced pay	76	52.8
Reduced workload	9	6.3
Unstable working hours	64	44.4
Increased stress	55	38.2
Others	17	11.8
Challenges faced during lockdown*		
Increase in prices	124	30.3
Lack of food	72	17.6
Lack of shelter	2	0.5
Restriction to basic needs	82	20.0
Coping strategies for challenges*		
Sales of assets	28	6.8
Accepting lower wages	92	22.5
Child labour	8	2.0
Reduced food ratios	144	27.9
Monthly income before lockdown		
≤N100,000	343	83.9
N100,001-N200,000	43	10.5

Continued.

Variables	Frequency	Percentage
N200,001-N300,000	12	2.9
≥N400,000	11	2.7
Monthly income during lockdown		
≤N100,000	346	84.6
N100,001-N200,000	35	8.6
N200,001-N300,000	13	3.2
≥N400,000	15	3.7

Table 6: Association between Socio-economic characteristics and psychological, social and economic effects of COVID-19 lockdown.

Variables	Psychological effects		Social effects		Economic effects	
	Experienced	Not experienced	Experienced	Not experienced	Experienced	Not experienced
Age (in years)						
20-29	1 (1.5)	66 (98.5)	40 (59.7)	27 (40.3)	33 (49.3)	34 (50.7)
30-39	3 (1.4)	208 (98.6)	129 (61.1)	82 (38.9)	133 (63.3)	77 (36.7)
40-49	6 (6.8)	82 (93.2)	36 (40.9)	52 (59.1)	39 (44.3)	49 (55.7)
50-59	0 (0)	31 (100.0)	19 (61.3)	12 (38.7)	39 (44.3)	13 (41.9)
60 and above	0 (0)	12 (100.0)	4 (33.3)	8 (66.7)	4 (33.3)	8 (66.7)
	$\chi^2=9.315$, p=0.05		$\chi^2=13.593$, p=0.009*		$\chi^2=13.206$, p=0.010*	
Gender						
Male	4 (3.0)	130 (97.0)	77 (57.5)	57 (42.5)	81 (60.4)	53 (39.6)
Female	6 (2.2)	269 (97.8)	151 (54.9)	124 (45.1)	146 (53.3)	128 (46.7)
	$\chi^2=0.023$, p=0.879		$\chi^2=0.146$, p=0.702		$\chi^2=1.592$, p=0.207	
Marital status						
Single	0 (0)	33 (100.0)	25 (75.8)	8 (24.2)	21 (65.6)	11 (34.4)
Married	9 (2.6)	340 (97.4)	192 (55.0)	157 (45.0)	200 (57.3)	149 (42.7)
Separated/divorced	0 (0)	13 (100.0)	6 (46.2)	7 (53.8)	3 (23.1)	10 (76.9)
Widow/widower	1 (7.1)	13 (92.9)	5 (35.7)	9 (64.3)	3 (21.4)	11 (78.6)
			$\chi^2=8.195$, p=0.042*		$\chi^2=13.909$, p=0.003*	
Educational level						
Primary	0 (0)	18 (100.0)	9 (50.0)	9 (50.0)	11 (61.1)	7 (38.9)
Secondary	8 (4.2)	184 (95.8)	104 (54.2)	88 (45.8)	104 (54.2)	88 (45.8)
Tertiary	2 (1.1)	184 (98.9)	108 (58.1)	78 (41.9)	108 (58.4)	77 (41.6)
None	0 (0)	13 (100.0)	7 (53.8)	6 (46.2)	4 (30.8)	9 (69.2)
	$\chi^2=4.626$, p=0.201		$\chi^2=0.859$, p=0.835		$\chi^2=4.207$, p=0.240	
Monthly income						
≤N100,000	8 (2.3)	335 (97.7)	189 (55.1)	154 (44.9)	182 (53.2)	160 (46.8)
N100,001-N200,000	2 (4.8)	40 (95.2)	23 (54.8)	19 (45.2)	27 (64.3)	15 (35.7)
N200,001-N300,000	0 (0)	12 (100.0)	10 (83.3)	2 (16.7)	9 (75.0)	3 (25.0)
>N300,001	0 (0)	12 (100.0)	6 (50.0)	6 (50.0)	9 (75.0)	3 (25.0)
	$\chi^2=1.565$, p=0.667		$\chi^2=3.937$, p=0.268		$\chi^2=5.730$, p=0.125	
Occupation						
Student	1 (1.8)	56 (98.2)	30 (52.6)	27 (47.4)	32 (56.1)	25 (43.9)
Public/civil servant	0 (0)	49 (100.0)	30 (61.2)	19 (38.8)	27 (55.1)	22 (44.9)
Business/trading	9 (3.4)	254 (96.6)	147 (55.9)	116 (44.1)	154 (58.8)	108 (41.2)
Unemployed	0 (0)	8 (100.0)	5 (62.5)	3 (37.5)	2 (25.0)	6 (75.0)
Retiree	0 (0)	2 (100.0)	0 (0)	2 (100.0)	0 (0)	2 (100.0)
Farming	0 (0)	7 (100.0)	3 (42.9)	4 (57.1)	2 (28.6)	5 (71.4)
Professional	0 (0)	18 (100.0)	11 (61.1)	7 (38.9)	8 (44.4)	10 (55.6)
Others	0 (0)	5 (100.0)	2 (40.0)	3 (60.0)	2 (40.0)	3 (60.0)
	$\chi^2=3.397$, p=0.846		$\chi^2=4.674$, p=0.700		$\chi^2=10.096$, p=0.183	

DISCUSSION

The study revealed that families experienced the psychological, social and economic effects of COVID-19 lockdown. The consequences of COVID-19 lockdown on the psychological wellbeing of families ranged from loneliness to depression. This agreed with review studies on psychological impact of quarantine.¹¹ Study in China found that fear was commoner among confirmed cases compared to boredom, loneliness and anger among those in lockdown.²⁴ However it was noted that the proportion of those with psychological effects of COVID-19 lockdown were lower compared to those found in studies in Spain and Italy where 85% of families reported negative mental effects among the youths.¹³ This could be due to difference in the population studied. These psychological effects could be explained by the high degree of restriction in movement imposed on the population. Restriction of movement was noted to have deleterious consequences of loneliness, anger and depression.¹⁰ Psychological abuse including sexual and other forms of domestic abuse were noted which agreed with studies in America and China.^{14,25} However, despite the forms of abuse that were experienced by the participants in this study, about 2.7% of them revealed that the abuse was not peculiar to the lockdown as they had experienced it before the lockdown. These findings suggest that the COVID-19 lockdown only heightened the psychological abuse that the households were experiencing in their homes. Also following the lockdown, many households experience lots of disruptions characterized by fear, reduced family interactions, insecurity and anxiety. This agreed with other studies which noted that continual close contact under stress is a risk factor for aggressive behaviours and violence.^{11,26} This study found no significant differences between socio-economic characteristics and the psychological effect of depression. This mean that each of the socio-economic variables does not differ between or among their categories in their ability to exhibit the psychological effects of COVID-19 lockdown.

The social effects on families noted from this study showed that most of the respondents lack access to basic services needed to sustain the functioning of life. These include access to education, banking, health, power and necessitated seeking help from friends, relatives and neighbours. The effect on education was in agreement with a study that found education to be hard hit by COVID-19 pandemic.¹⁷ These effects implied that majority of the world students were out of school as almost all schools were closed as a result of lockdown. The implication was reliance on online learning platforms to help improve knowledge but lags in the benefits of physical interactions to students. The age and gender of respondents were found to be significantly associated with social experiences of COVID-19 lockdown.

This study also found that lockdown had serious disruptions on the economic activities of residents in the

metropolis. This include low income, loss of jobs, high prices of goods and services which had threatened the security of the city and agreed with previous studies.^{11,26} This result is very worrisome as upsurge in unemployment would not only have negative effects on the economy but also increase the likelihood of social vices or criminal activities which portends grave danger for the city, state and the country at large.

Commendably, it was found that some households in Enugu metropolis used coping strategies to ameliorate the effect of the lockdown. Reduced food rations, lower wages, child labour and sales of assets were adopted due to unavailability of aid and assistance from the government and other humanitarian actors. The age and marital status were found to be associated with economic experience of the respondents. This agreed with previous study.^{27,28}

CONCLUSION

The commonest psychological effects of COVID-19 were stress and physical abuse while the least experienced were nervousness and sexual abuse. The social effects were poor satisfaction with life and personal life. Markets, financial services and education were some of the basic social services affected by lockdown. The economic effects were poor financial situation, low pricing of goods, high cost of production and poor demand. The majority of families adopted coping strategies of reduced food rations and acceptance of low wages. The study showed that in conditions of serious disaster like COVID-19 pandemic, the psychological, social and economic effects of lockdown or restriction are significant and directly affects the quality of life of people and communities. It is recommended that government should act fast with palliatives of tax cuts and subsidies to improve the socio-economic conditions of the society. There should be some level of social gatherings to boost relationships to cope with loneliness, depression and provide psychotherapy for victims of psychological effects. Individual are advised to equip themselves with information, communication and technology (ICT) skills for effective online learning.

Limitation of this study is that the findings are from sample therefore should not be generalized.

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