A Cross Sectional Study on the Mental Health Impacts of Covid-19 Pandemic in a Sample of Nigerian Urban Dwellers

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors contributed to the conception, literature review, data collection and proof reading of the manuscript. Author FEO did the analysis; while author GCO did the discussion. Both authors read and approved the final manuscript.

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ABSTRACT

Aim: Corona virus disease (COVID-19) is caused by a new type of corona virus first discovered in China in 2019; hence the name COVID-19. Some of its symptoms include cough, fever, and breathing difficulty. In severe cases the disease can lead to death. This study looked at the mental health impacts of COVID-19 pandemic in a sample of Nigerian urban dwellers.
Study Design: This is a descriptive cross sectional design.
Place and Duration of Study: The study was carried out in Enugu metropolis between the months of January and February 2021.
Methodology: Using the General Health Questionnaire (GHQ-12), The Short Screening Scale for Post traumatic stress disorder, The Generalized Anxiety Disorder Scale (GAD-7) and the Beck Depression Inventory (BDI-2) this study investigated the mental health impacts of COVID-19 pandemic among 520 Nigerian urban dwellers.
Results: Results shows that 29.2%; 13.1% and 1.9% had mild, moderate and sever depressive symptoms respectively. Equally 21.9%, 13.3% and 5.4% had mild, moderate and severe anxiety

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symptoms respectively. Furthermore 37.3% showed signs of psychological distress just as 24.8% manifested symptoms of PTSD. Results further revealed significant associations between psychological distress and gender; PTSD and gender as well as anxiety and gender respectively.
Conclusion: Following the high level of mental health impacts of Covid-19 pandemic noticed among the subjects who took part in the study, it was therefore recommended that psychological testing and psychotherapy be included in the routine testing and management of COVID-19 pandemic in Nigeria.

1. INTRODUCTION

Corona virus disease (COVID-19) is caused by a new type of corona virus first discovered in China in 2019; hence the name COVID-19.

Some of its symptoms include cough, fever, and breathing difficulty. In severe cases the disease can lead to death. Mode of transmission of this disease include direct contact with respiratory droplets of an infected person commonly released through coughing and sneezing, Individuals can also be infected from touching surfaces contaminated by the virus and touching their face (e.g., eyes, nose, mouth) [1]. COVID 19 is more commonly contracted by people with underlying medical conditions and they will likely experience worse outcomes [2]. Since its outbreak in China, the disease has spread to so many parts of the world including Nigeria. The first case in Africa was reported in Egypt in February 2020. [3].

An Italian brought the first case of COVID 19 in Nigeria on February 2020 [4]. In a bid to slow the rate of spread of the virus, the Federal Government of Nigeria, on several occasions, imposed targeted lockdown measures in areas with rapid increase of Covid-19 cases [5]. The World Health Organization declared COVID-19 outbreak as an international public health emergency on January 30, 2020 and characterized it as a pandemic on 11 March 2020 [6].

In addition to its physical impacts, COVID-19 has been reported to have adverse effects on the mental health of the population [7,8].

Furthermore, the fear associated with the spread of this virus due to its highly contagious nature leading to the imposition of isolation, contact restrictions and the shutdown of economic and social activities has further resulted to a complete change in the psychosocial environment. Equally, Anxiety, lack of peer contact, reduced opportunities for stress regulation, induced restrictions on the free movement of people and stress due to future uncertainties regarding the pandemic has posed a great challenge to the mental health of urban dwellers [9]. For instance Sabharwal et al [10] in a cross-sectional study through an online survey using the English version of the Strength and Difficulties questionnaire (SDQ), assessed the effects of lock down / forced quarantine on psychological behaviour of young adults in India at the time of pandemic; and reported that most of their respondents are under significant risk to develop emotional, conduct, hyperactivity, and peer problems. They concluded that irrespective of gender, the prolonged lockdown due to COVID-19 is affecting the psychological behaviour of young adults.

Furthermore, Semo and frissa [11] observed that COVID-19 pandemic has affected the lives of many people around the world and can lead to mental health problems even among people with no previous history of mental illness; it can equally worsen the condition of those with pre-existing mental health problems. Equally, a wide range of mental health impacts have been previously observed during any Virus outbreak both at individual, community, national and international angles [12]. In the same manner Xiang et al [13] posited that COVID-19 has impacted negatively on the public mental health and this can lead to psychological crises [14]. They further posited that fear, anxiety, depression or insecurity are the most common factors that can lead to psychological changes among the population as a result of COVID-19 pandemic [9].

Arguing further, Brooks et al [15] posited that people who are kept in isolation and quarantine experience significant levels of anxiety, anger, confusion, and stress. Recent reports have revealed that mental health symptoms commonly observed among people during the COVID-19 pandemic include emotional distress, depression, stress, mood swings, irritability, insomnia, attention deficit hyperactivity disorder, post-traumatic stress, and anger [16,17,18]. In

Nigeria, in a bid to slow down the rate of spread of the virus, government imposed lockdown, closure of interstate borders and curfews to reduce movement of people from one part of the country to the other. These physical and social restrictions of movement of people enforced mainly in the urban centers can impact negatively on the mental health of the population. For instance, studies on the mental health impacts of quarantine, lockdown and restriction of movements on the population have revealed the presence of depression, anxiety disorders, mood disorders, post-traumatic stress symptoms, sleep disorders, panic, stigmatization, low self-esteem and lack of self-control among such population [19,15]. Equally Dubey et al [20] reported that forced quarantine due to lockdown associated with COVID-19 has increased acute panic, anxiety, obsessive behaviors, hoarding, paranoia, and depression, and post-traumatic stress disorder in the people.

Other studies have equally documented the mental health impacts of covid-19 on different population groups including adults, healthcare workers, COVID-19 patients and children [21,22,23].

Since the out brake of COVID-19, several studies have been conducted on the subject matter but no such study had been documented on the mental health impact of this pandemic within the study area in particular and Nigeria in general. The aim of the present study is therefore to assess the various mental health impacts of Covid-19 out brake in a sample of Nigerian urban dwellers. Furthermore, the study will provide baseline data on the mental health impacts of Covid-19 and also make recommendations on how to mitigate these impacts and prevent people from braking down with full blown mental illness. The following hypotheses were tested in the study. (1) Covid-19 out brake will have a number of mental health impacts among urban dwellers in Enugu metropolis, south east Nigeria.

(2) There will be gender differences in the mental health impact of Covid-19 out brake among urban dwellers.

2. MATERIALS AND METHODS

2.1 Study Location

The study was conducted in Enugu metropolis which was the capital city of Enugu state in south East Nigeria. The state is also called coal city state because of the abundance of coal deposits. It occupies an area of about 7,161 square kilometers with a population of about 5,590,513. Enugu metropolis has four Local government councils; Enugu south, Enugu North, Enugu East and Enugu central. The study was cross sectional and descriptive. The study was carried out in Enugu metropolis between the months of January and February 2021.

2.2 Subjects

By simple random sampling method two local government councils were chosen from the four local government councils in Enugu metropolis. The councils chosen are Enugu south and Enugu North. Subjects for the study were then recruited from the two major markets and government offices within the local government councils using simple random sampling procedure. A total of 520 participants (260 from each council) were recruited to form the subjects of the study and all of them responded fully to the instrument of data collection, thereby given a hundred percent response with no refusal. Inclusion criteria were adults between 19 years old and above, those who lived in the metropolis throughout the duration of the covid-19 lockdown and those who gave their consent to participate. The subjects were assured that their responses will be treated with high level of confidentiality and no respondent will be identified in person. Ethical approval for the study was obtained from the university of Nigeria Teaching hospital Ethics committee.

2.2.1 Data collection and instruments

The authors collected data for the study between the months of January and February 2021. By then Nigerian Government has lifted the lockdown and people have started their normal daily routines while observing the COVID-19 safety guidelines. The data was collected with the help of two research assistants who are post graduate students in clinical psychology and who are very conversant with the data collection instruments. The instruments used to collect the data are: A socio demographic instrument that contains information on age, gender, marital status, educational level, occupation and religion; The General Health Questionnaire version 12 (GHQ-12) [24]. This is a widely used instrument to assess psychological distress in both clinical and non clinical population with over 50 validity studies [25]. The GHQ-12 is a screening and not a diagnostic instrument with positive score

indicating psychological distress. Furthermore, The GHQ-12 has been used for studies in Nigeria [26,27]; The Short Screening Scale for PTSD [28]. It consists of five avoidance items and two hyper arousal items that closely predicted PTSD diagnostic status. The scale has been validated and used for studies in Nigeria and other parts of the world [29,30]. The Generalized anxiety Disorder Scale (GAD-7); this was developed by Spitzer et al [31] to assess generalized anxiety among people who have undergone traumatic experiences. It is a seven item scale with scores ranging from 0-4 indicating no anxiety; 5-9 indicates mild anxiety; 10-14 indicates moderate anxiety while scores ranging from 15 and above indicate severe anxiety. The GAD-7 has been validated and used for studies in Nigeria [32]; and Beck Depression Inventory-version two (BDI-2) [33], this is a 21-item self report questionnaire used to assess depression in both clinical and non clinical population. The items are scored on a 4-point scale ranging from 0-3. The maximum total score is 63. Furthermore, the BDI-2 has been used for various studies in Nigeria [34,35].

2.3 Data Analysis

After data collection, analyses were performed with the Statistical package for social science, SPSS version 16.0. In order to find relationships between the various variables, percentages and chi square test were performed. A significant level of p≤0.05 at 95% confidence interval was chosen for this study.

3. RESULTS

Age of respondents ranged from 19-56 years. (Mean age was 37.05 years; while the standard deviation was 7.35); there were equal number of males and females (50% each); all were Christians; with regards to educational attainment 16.3%; 35.0% and 48.7% respectively had primary, secondary and tertiary educational attainment. Most of them were married (50.2%); furthermore, 78.7% had one form of employment or another. 55.8% of the respondents had no depressive features, as against 29.2%; 13.1% and 1.9% who had mild, moderate and severe depressive symptoms respectively. Equally 21.9%, 13.3% and 5.4% had mild, moderate and severe anxiety symptoms respectively. Furthermore 37.3% showed signs of psychological distress just as 24.8% manifested symptoms of PTSD. (Table1). Results further revealed significant associations between

psychological distress and gender χ^2 = 3.98; P = 0.04; PTSD and gender X^2=7.51; P= 0.00 as well as anxiety and gender χ^2 = 10.36; P = 0.01 respectively (Table 3).

4. DISCUSSION

This study looked at the mental health impacts of COVID-19 pandemic in a sample of Nigerian urban dwellers. The result of the study has revealed that COVID-19 pandemic had a number of mental health impacts on the sample of Nigerian urban dwellers who participated in the study. This finding corroborates previous reports on the mental health impacts of COVID-19 pandemic. For instance in their report Huang and Zhao [7] posited that COVID-19 have adverse effects on the mental health of the population. Furthermore Sabharwal et al [10] argued that Anxiety, lack of peer contact, reduced opportunities for stress regulation, induced restrictions on the free movement of people and stress due to future uncertainties regarding the pandemic has posed a great challenge to the mental health of urban dwellers. The pattern of findings noticed in this study on the mental health impacts of COVID-19 on urban dwellers corroborates Sabharwal et al's findings. 29.2%; 13.1% and 1.9% of the respondents showed signs of mild, moderate and severe depressive symptoms respectively. Equally 21.9%, 13.3% and 5.4% had mild, moderate and severe anxiety symptoms respectively; whereas 37.3% showed signs of psychological distress while 24.8% manifested symptoms of PTSD. This was consistent with previous argument on the mental health symptoms commonly observed among people during the COVID-19 pandemic [16, 17,18]. This trend of findings was equally in line with earlier observations by Semo and Frissa [11] who argued that COVID-19 pandemic has affected the lives of many people around the world and can lead to mental health problems even among people with no previous history of mental illness. Our findings equally support the observations of Ziang et al [13] who reported that fear, anxiety, depression or insecurity are the most common factors that can lead to psychological changes among the population as a result of COVID-19 pandemic; whereas Brooks et al [15] posited that people who are kept in isolation and quarantine experience significant levels of anxiety, anger, confusion and stress.

From the result (Table 2), it was discovered that COVID-19 pandemic impacted more on the mental health of subjects between

Table 1. Distribution of socio demographic variables, psychological distress, depression, post traumatic stress and anxiety symptoms among the respondents

Variable	Frequency	Percentage (%)
Gender		
Male	260	50
Female	260	50
Age (in years)		
19-40	361	69.4
41-56	159	30.6
Religion		
Christianity	520	100
Education		
Primary	85	16.3
Secondary	182	35.0
Tertiary	253	48.7
Marital status		
Single	169	32.5
Married	261	50.2
Divorced	90	17.3
Employment		
Unemployed	111	21.3
Employed	409	78.7
Depression		
Non depressed	290	55.8
Mild	152	29.2
Moderate	68	13.1
Severe	10	1.9
Anxiety		
Non	309	59.4
Mild	114	21.9
Moderate	69	13.3
Severe	28	5.4
Psych DISTRESS		
Absent	326	62.7
Present	194	37.3
PTSD		
Absent	391	75.2
Present	129	24.8

Table 2. Psychological distress, depression, post traumatic stress and anxiety symptoms among age group

Psychological distress	Age group	
	19-40 YEARS	**41-56 YEARS**
Absent	232 (64,3)	94 (59.1)
Present	129 (35.7)	65(40.9)
	N/S	
Post traumatic stress		
Present	101 (27.5)	28 (18.3)
Absent	266(72.5)	125(81.7)
	N/S	
Depression		
None	206 (57.1)	84(52.8)
Mild	100(27.7)	52 (32.7)
Moderate	46 (12,7)	22(13.8)
Severe	9 (2.5)	1 (0.7)
	N/S	

Psychological distress	Age group	
	19-40 YEARS	**41-56 YEARS**
Anxiety		
None	213(59.0)	96(60.4)
Mild	82(22.7)	32 (20.1)
Moderate	46 (12.7)	23 (14.5)
Severe	20 (5.6)	8 (5.0)
	N/S	

Table 3. Psychological distress, post traumatic stress, depression and anxiety symptoms among gender

Psychological distress	Gender	
	Male (n1=260)	Female (n2=260)
Present	86 (33.1)	108 (41.5)
Absent	174 (66.9)	152 (58.5)
	χ^2 = 3.98 ; P = 0.04*	
Post traumatic stress		
Present	78 (30.0)	51(19.6)
Absent	182 (70.0)	209 (80.4)
	X^2=7.51; P= 0.00*	
Depression		
None	145 (55.8)	145 (55.8)
Mild	70(26.9)	82(31.5)
Moderate	38 (14.6)	30 (11.5)
Severe	7 (2.7)	3 (1.2)
	N/S	
Anxiety		
None	171 (65.8)	138 (53.1)
Mild	46 (17.7)	68 (26.2)
Moderate	28 (10.8)	41 (15.8)
Severe	15 (5.7)	13 (4.9)
	χ^2 = 10.36; P = 0.01*	

= Significant; N/S = Non significant

Table 4. Psychological distress, post traumatic stress, depression and anxiety symptoms among education

Psych. Distress	Education Level		
	Primary	Secondary	Tertiary
Present	29 (34.1)	60(32.9)	105(41.5)
Absent	56(65.9)	122(67.1)	148(58.5)
		N/S	
PTSD			
Present	22 (25.9)	49 (26.9)	58 (22.9)
Absent	63(74.1)	133(73.1)	195(77.1)
		N/S	
Depression			
Non	50(58.8)	100(54.9)	140 (55.3)
Mild	24(28.2)	58 (31,9)	70 (27.7)
Moderate	10 (11.8)	21 (11.5)	37(14.6)
Severe	1 (1.2)	3 (1.7)	6 (2.4)
		N/S	
Anxiety	55 (64.7)	108 (59.3)	146 (57.7)
Non	21(24.7)	35 (19.2)	58(22.9)
Mild	8 (9.4)	28 (15.4)	33(13.0)
Moderate	1 (1.2)	11 (6.1)	16 (6.4)
Severe			
		N/S	

N/S = Non significant

19-40 years old than those who were 41 years old and above. This may imply that the fear associated with the spread of the virus due to its highly contagious nature which made government to impose restrictions and shutdown economic and social activities were more pronounced among this population group [10,15]. Furthermore, these physical and social restrictions of movement of people enforced mainly in the urban centers might have impacted more negatively on this group who are more active than the group aged 41 years and above. Equally earlier reports on the mental health impacts of quarantine, lockdown and restriction of movements on the population have revealed the presence of depression, anxiety disorders, mood disorders, post-traumatic stress symptoms, sleep disorders, panic, stigmatization, low self-esteem and lack of self-control among such population [19,20].

Results further revealed significant associations between psychological distress and gender; PTSD and gender as well as anxiety and gender respectively. This apparently shows that gender was a significant factor mediating the mental health consequences of COVID-19 pandemic among urban dwellers. This pattern of finding was similar to a previous report by Rahman et al. [9] who reported that being female was associated with higher psychological distress.

5. CONCLUSION

This study investigated the mental health impacts of COVID-19 pandemic in a sample of Nigerian urban dwellers. It has revealed the various mental health impacts of COVID-19 pandemic on a sample of Nigerian urban dwellers who participated in the study. Using a set of validated assessment instruments administered on a total of 520 male and female urban dwellers aged between 19 years and above, result revealed a number of mental health impacts of covid-19 pandemic among the subjects. The impacts were found to be more pronounced among subjects who fall in the age bracket of 19-40 years than those above this age range. PTSD, psychological distress and anxiety impacted significantly with gender; this therefore calls for the inclusion of psychological testing and psychotherapy in the routine testing and management of COVID-19 pandemic in Nigeria. The collection of data from only two local government councils in Enugu metropolis is a limitation for this study, however more local government councils will be included in a future related research.

CONSENT

The consent of the participants was obtained before they participated in the study.

ETHICAL APPROVAL

Ethical clearance was obtained from the ethics committee of university of Nigeria teaching hospital

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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