

The impact of isolation on the psychological wellness of COVID-19 discharged patients during the pandemic in Jos, North Central, Nigeria

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Abstract

Background: Being isolated by whatever means has profound consequences on an individual. Isolation and COVID-19 are double jeopardy worthy of investigating. We therefore sought to determine how isolation impacted on the psychological wellbeing of discharged COVID-19 patients.

Methods: A cross-sectional study on 116 participants who met the discharge criteria of the NCDC interim guidelines within COVID-19 outbreak. A proforma assessed the age, gender, and educational level, length of stay and presence of symptoms of COVID-19. Others assessed were perception of stigma, modes of admission etc. The General Health Questionnaire-12 (GHQ-12), screened for mental wellness and assessed the impact of isolation on psychological wellbeing of discharged COVID-19 patients.

Results: One hundred and sixteen (116) discharged COVID-19 participants were screened. The mean age and GHQ-12 scores of the participants were 38.7 ± 14.6 years and 2.88 ± 2.1 , respectively. There were more men (59%) with 67.2% of the assessed participants were 'ever married and 43% had tertiary

education. Sixty-two percent (62%) had voluntarily admission. About 14% had symptoms on admission. The mean length of stay was 10.4 ± 4.1 days with 43% having stayed for more than 10 days. Thirty-eight per cent (38%) had psychological problems/ distress. Furthermore, 56% experience a perceived stigma and significantly associated with psychological problems/ distress ($p=0.020$). Fifty-six per cent of the assessed were Christians and were significantly associated with psychological problems/ distress ($p=0.014$). There was a significant negative relationship between 'not being aware of stigmatization' and psychological problems/ distress ($B=-1.566, p=0.018, CI=0.057-0.769$)

Conclusion: Isolation impact considerably on the psychological wellbeing of infected COVID-19 patients.

Key words: COVID-19, Impact, isolation, Pandemic, Psychological wellness, Nigeria

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Introduction

In 2019 the world was disturbed by news of a deadly infectious disease caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2 virus), coded COVID-19. The virus was first isolated on the December 8, 2019 in Wuhan, China and the World Health Organization (WHO) was informed of the cases on the 31 December, 2019. On the 30th January 2020, COVID-19 was considered a disease of public health emergency of international concerns (PHEIC). Subsequently, on March 11th 2020, it was declared a pandemic mainly due to the speed and scale of transmission of the disease.¹ Nigeria recorded an imported case from Italy on February 27, 2020.²

The disease, COVID-19 not only does it has both physical and economic impacts, but has a considerable effect on psychological wellbeing of people who were infected or affected.³ There were diverse psychological symptoms observed in patients who were infected and

isolated.⁴ The constellation of these symptoms includes emotional distress, symptoms of depression, fear of being left alone or being away from family (isolation), fear of dying, feeling of helplessness, insomnia, anxious forebodings.⁵

Human beings are social animals and isolation decrease opportunities for movement and relationship development, which are the ingredient for the development of personal identity and the exercise of reasoning.⁶ Research shows that nourishment and movement are fundamental means for communicating with ourselves and others, even the world in general. They are known to have enormous effect on our biopsychological balance such as in physical and emotional health, sleep and nutrition, and opportunity for movement.⁶

The current protocol for isolating individuals with COVID-19 has brought in a "new normal" where such individuals are viewed as potentially dangerous being to us and their loved ones. This and many more create fear and uncertainty amongst isolated individuals because of the reduced social connections, contacts and decrease reliance on adequate social support and network.^{7,8} Isolation result into feeling of loneliness which is an important public health problem that is detrimental to health.^{7,8} Loneliness is reported to be associated with feelings of emptiness, sadness and shame and subjective perception of stigma and these are worst in individuals that were quarantined or isolated by regulations to prevent the spread of COVID-19. More often than not,

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they are at the risk of being termed “plague -spreaders” and viewed with fear and suspicion.⁶

Earlier researches focused on COVID-19-related mental health issues in the general population, health-care workers, children, pregnant women and in people already having a known mental illness. However, studies are limited on mental health impact of COVID-19 on infected patients. The reasons are not far-fetched. In most infectious units, patient's physical wellbeing has always been the priority than the psychological wellbeing. Due to limited research on the psychological wellbeing of patients in isolation and how they fared during the period of stay, our research focused on finding how isolation impacted on mental health wellness/distress of patients in isolation units in north-central, Nigeria.

Methods

Setting and Study design:

A cross-section descriptive study was conducted from April to August 2020. The participants were COVID-19 discharged patients from two isolation centres in Jos, Nigeria. The two isolation centres were the Plateau State Specialist Hospital (PSSH) and the Jos University Teaching Hospital (JUTH). Both hospitals were located within Jos, the capital of Plateau State in North-Central, Nigeria. These hospitals served other states from the neighbouring geopolitical zones. Jos had estimated population of 895,288 at a growth rate of 2.71% from the 2006 population census.⁹

Inclusion criteria:

1. All adult individuals, initially hospitalized in the isolation centres due to positive test following the stipulated COVID-19 pandemic protocols/guidelines from the Nigeria Centre for Disease Control (NCDC).¹⁰
2. Discharged 18 years and above COVID-19 patients according to the prevailing NCDC guideline for discharge at the time of data collection¹⁰

Exclusion criteria:

1. COVID-19 discharged Individuals living with disabilities.
2. Discharged COVID-19 patient with known pre-existing psychiatric illness

Ethical consideration:

Approval to carry out the study among the discharged patients who tested negative for COVID-19 was sought from and granted by the Institutional Research Ethical Committee of Jos University Teaching Hospital, Nigeria. Informed oral and written consent were sought and received from each discharged participants by the consulting psychosocial team of the isolation centres.

Instruments:

1. **Sociodemographic questionnaires:** A proforma was used to assess the age, gender, educational level, length of stay in isolation and presence of symptoms of COVID-19. Others factors assessed were perception of stigma after discharged (“do you think people around you would stay away from you because you were admitted for COVID-19?” Ans:1. Yes; 2. No; 3. I don't know) and modes of admission (voluntarily, involuntarily, or from the wards) etc.
2. **General Health Questionnaire-12 (GHQ-12):** A useful and quick screening tool to detect those likely to have or be at risk of having psychiatric disorders/distress over the past 7 days.¹¹ It has satisfactory reliability and validity with Cronbach's alpha coefficient of 0.87.¹² Versions 12, 20, 28 and 60 were available online¹¹ and for this study, version 12 was used. The responses were rated from 'not at all', to 'much more than usual' and are scored either using the Likert scale (0123) or binary (0011).¹¹ The binary scoring method was used in this study. A score of 3 and above suggests caseness (psychological problem or distress).¹¹ It is worthy to note that screening with GHQ-12 can also be used as quality-of-life outcome measure.¹²

Data collection and procedure:

All discharged and consenting patients, who were hospitalized at the isolation centres, were recruited for the study. One hundred and sixteen (116) participants within the first three months of the discovery of the first case of COVID-19 in Nigeria in accordance with the attendant protocols for isolating individuals during the pandemic were utilized. These patients' whose first test were positives were hospitalized at the various centres. Prior to hospitalization these patients were brought from their homes to the quarantined centres at border towns and from the wards. Therefore, the mode of admission into isolations were either voluntarily, involuntarily or from the wards.

Participants discharged from the centres were based on a negative test carried out on two separate occasions.

A consecutive sampling method was used to recruit participants who, either the second or third tests, were negative and these were then administered the questionnaires. Other information about individual participant were retrieved from the case notes from the hospital records. Each discharged participant was assessed by a researcher (well kitted in personal protective equipment) in private and the questionnaires were administered face to face and in English language, but for those who do not understand English language, 'Pidgin English' was used to give understanding to the questionnaires.

Statistical analysis:

The collected data was analyzed using the SPSS Version 22. Independent variables were socio-demographics and clinical characteristics, while the dependent variable was the GHQ-12. Descriptive statistics were used to summarize their socio-demographic and clinical-related data. The mean with standard deviation was used for continuous data while chi-square was used for categorical data to test the association of independent variables with dependent variable. Logistic regression was applied to identify independent predictors of psychological problems that were significant at bivariate analysis. All tests were two tailed, and the level of significance was set at a p-value of <0.05.

Results and Tables

The Socio-demographics characteristics of the studied participants: One hundred and sixteen discharged participants were screened for psychological wellbeing/distress. As shown in table 1, the age group 18-35 has the highest percentage among the screened group. Males were more in the isolation centres and the dominant religion was Christianity. Involuntary admission dominates other modes of admission into the isolation centres. More patients were on admission for less than ten days. Almost all were asymptomatic at admission with fewer participants “anticipating” stigma. The prevalence of the presence of psychological problems/distress among participants was 37.9%.

Table 1: The socio-demographics characteristics of the participants

Variables	Frequency (n=116)	Percentage (%)
Age group (years)		
18-35	54	46.6
36-45	24	20.7
46-55	19	16.4
56-65	15	12.9
>65	4	3.4
Gender		
Male	68	58.6
Female	48	41.4
Marital status		
Never married (Single)	38	32.76
Ever Married (married, separated, divorced, Widowed)	78	67.24
Educational level		
Non-formal	9	7.76
Primary	19	16.38
Secondary	38	32.76
Tertiary	50	43.10

Table 1: Cont'd

Variables	Frequency (n=116)	Percentage (%)
Religion		
Christianity	66	56.03
Islam	51	43.97
Length of isolation (days)		
Less than 10 days	66	56.90
More than 10 days	50	43.10
Modes of admission		
Voluntary	39	33.6
Involuntary	72	62.1
From the wards	5	4.3
Covid-19 symptoms at entry		
Presence of symptoms	16	13.8
Absence of symptoms	100	86.2
Perceived stigma		
Yes, I would be stigmatized	65	56.0
No, I would not be stigmatized	34	29.3
I don't know if I would be stigmatized	17	14.7
Past history of psychiatric illness		
Yes, I have mental illness in the past	5	4.31
No, I don't have mental illness in the past	111	95.69
Types of psychiatric illness		
Psychosis	1	0.86
Depression	3	2.59
Others	1	0.86
No psychiatric illness	111	95.69
Past medical history		
Presence	36	31.03
Absence	80	68.97
Types of medical illnesses		
Diabetes	8	6.9
Hypertension	15	12.90
Other medical illnesses	13	11.20
No illnesses	80	69.00
Psychological well being		
Presence of psychological problems	44	37.90
Absence of psychological well being	72	62.10

Discussion

Presented here are our findings on the screening of COVID-19 negative discharged patients for psychological problems/distress and its associated risks factors in two isolations facilities in Jos, North-central Nigeria. The duration of our study was the first three months when the pandemic started in Plateau state, Nigeria and at that time measures were instituted by the government for lock downs, quarantine, isolation and treatment. The treatment comprised of both the physical and psychosocial supports.

Table 2 showed that the mean age of the screened patients was 38.7 and the median duration of isolation and the GQ-12 scored by participants were 9 days and 3, respectively

Table 2: The Mean, Median and Mode Distribution of the Studied Participants

Variables	Range	Min	Max	Mean \pm SD	Median	Mode	Frequency (n)
Age (years)	62.00	18.00	80.00	38.7 \pm 14.59	37.00	21.00	116
Length of stay (days)	20.00	4.00	24.00	10.3707 \pm 4.11	9.00	7.00	116
GHQ-12	9.00	1.00	9.00	2.879 \pm 2.11	3.00	2.00	116

Association between Sociodemographic, Clinical Variables and Psychological Problems/ Distress:

Significant associations were found between the clinical variable, 'psychological distress' and religion ($\chi^2 = 5.983$, $p=0.014$) and perception of stigma ($\chi^2 = 7.855$, $p=0.020$). See table 3.

Table 3: Association between Psychological problem/ Distress and sociodemographic and clinical variables

Variables	Psychological wellbeing		Total (n=116) (%)	Chi-square (x2)	p-value
	Presence of psychological problems (%)	Absence of psychological problems (%)			
Age group (years)					
18-35	19 (32.0)	35 (64.5)	54 (100.0)	2.785	0.594
36-45	9 (37.5)	15 (62.5)	24 (100.0)		
46-55	8 (42.1)	11 (57.9)	19 (100.0)		
56-65	5 (33.3)	10 (66.7)	15 (100.0)		
>65	3 (75)	1 (25)	4 (100.0)		
Gender					
Male	21 (30.9)	47 (69.1)	68 (100.0)	2.469	0.063
Female	23 (47.9)	25 (52.1)	48 (100.0)		
Marital status					
Never married	11 (28.9)	27 (71.1)	38 (100.0)	1.937	0.164
Ever married	33 (42.3)	45 (57.7)	78 (100.0)		
Religion					
Christianity	31 (47.7)	34 (52.3)	65 (100.0)	5.983	0.014
Islam	13 (25.5)	38 (74.5)	51 (100.0)		
Educational level					
Non- formal	2 (22.2)	7 (77.8)	9 (100.0)	2.272	0.518
Primary	9 (47.4)	10 (52.6)	19 (100.0)		
Secondary	16 (42.1)	22 (57.9)	38 (100.0)		
Tertiary	17 (34.0)	33 (66.0)	50 (100.0)		
Perception of stigma					
Yes, I would be stigmatized	27 (41.5)	38 (58.5)	65 (100.0)	7.855	0.020
No, I would not be stigmatized	7 (20.6)	27 (79.4)	34 (100.0)		
I, don't know	10 (58.8)	7 (41.2)	17 (100.0)		
Past psychiatric illnesses					
Presence	3 (60.0)	2 (40.0)	5 (100.0)	1.081	0.278
Absence	41 (36.9)	70 (63.1)	111 (100.0)		
Past medical illnesses					
Presence	17 (47.2)	19 (52.8)	36 (100.0)	1.914	0.167
Absence	27 (33.8)	53 (66.3)	80 (100.0)		

Table 3: Cont'd

Variables	Psychological wellbeing		Total (n=116) (%)	Chi-square (x2)	p-value
	Presence of psychological problems (%)	Absence of psychological problems (%)			
Covid-19 symptoms at entry					
Presence	8 (50.0)	8 (50.0)	16 (100.0)	1.148	0.284
Absence	36 (36.0)	64 (64.0)	100 (100.0)		
Modes of admission					
Involuntary	24 (33.3)	48 (66.7)	72 (100.0)	3.257	0.196
Voluntary	19 (48.7)	20 (51.3)	39 (100.0)		
From the wards	1 (20.0)	5 (80.0)	5 (100.0)		
Length of stay (days)					
<10	26 (39.4)	40 (60.6)	66 (100.0)	0.139	0.709
≥10	18 (36.0)	32 (64.0)	50 (100.0)		

Clinical Predictors of Psychological Distress among Participants

The logistic regression model of the significant socio-demographic and clinical variables associated with decrease psychological wellbeing as shown in Table 4 indicated a model explained by 13.3% (Nagelkerke R^2) of the variance of the impact of isolation on the psychological wellbeing and correctly classified by 64.7% of all cases. Not knowing of being stigmatized negatively correlates with psychological wellness and the association is significant ($B = -1.566$, $p = 0.018$, $CI = 0.057-0.769$) after controlling for confounding variables. See Table 4.

Table 4: Logistic Regression- Predictors of Psychological Distress

Variables	B	SE	Wald	df	Sig	Exp (β)	Confidence interval (CI)
Religion (Islam)	0.848	0.441	3.698	1	0.540	2.338	0.984-5.547
Perception of stigma							
No, I would not be stigmatized	-0.882	0.576	2.341	1	0.126	0.414	0.134-1.281
I don't know if I would be stigmatized	-1.566	0.664	5.667	1	0.018	0.209	0.057-0.769

The Prevalence of Psychological Distress among Isolated COVID-19 Discharged Participants.

The General Health Questionnaire-12 (GHQ-12) screened for 'current psychological wellness or distress' and in our study 38% of the studied group had psychological distress at discharge. This is more than that found in the general population which was reported to be 23%¹³ using the GHQ-12 study in a Dutch population, but comparable to prevalence of psychological distress in health workers who had contact with COVID-19 patients in other studies across the globe.^{14,15,16} For instance, in Nigeria, 47% was found in a study¹⁴, 42% percent in Pakistan^{15,16} and in China the epi-center of COVID-19, about 72% was found.^{15,16} The similarity between our finding and the ones carried out on health workers exposed to patients with COVID-19 could be that the exposure to disease on its own lead to the same magnitude of heighten expression of distress and this could be experienced as same for both groups (patients and health workers). Another plausible reason may be due to the paucity of knowledge on COVID-19 at the time of its outbreak, which brings the fear, usually

associated with recently discovered disease with pandemic proportion, whereby, most infected or affected are termed 'plague spreaders'.⁶

Religion and Psychological Wellness

Among the various socio-demographic and clinical factors we considered in the study, religion and perception of stigma by individual participant were significantly associated with psychological distress or morbidity. Participants who practiced Christianity have more significant psychological distress than those who were Muslims. Religion has been shown to influence behaviour through the control of emotional response to stressors or through modification of social milieu of the stressor itself.^{17, 18} Our study showed a discordance with the above assertion especially on the Christian religion, but comparable to a study elsewhere, which showed that Christians tend to understand illness or events as the outworking of one's inner spiritual condition²¹ especially on discourse surrounding psychological health, which may situate distress as emblematic of sin, demonic activity, or personal sinful behaviour.^{19,20} This belief

system could be the reason the Christians in our study showed heightened expression of psychological distress compared to the Muslims. Being a Muslim showed a positive relationship with psychological wellness but not significant odd in having psychological distress.

The Perception of Stigma and Psychological problems/ Distress

Perception of stigma after discharge was found to be significantly associated with the developing of psychological distress among the participants. Perceived stigma is the fear of being discriminated against, which arises from society's belief.²¹ Stigmatized persons may internalise perceived prejudices and develop negative feelings about themselves and may feel shame and embarrassment about having, being treated or discharged from COVID-19 isolation centres.²¹ 'Not perceiving stigma' or 'not knowing if one would be stigmatized' at discharge correlated negatively with psychological wellbeing with less than one odd fold and more than one and half odds fold of having psychological distress, respectively. The plausible reason for this finding is comparable to being positive in thinking which might reduce stress and distress. Positive thinking induces sense of self-worth and confidence.²²

One of the drawbacks of our study is that we did not have a control group, thus minimizing our ability to estimate the true impact of isolation on the psychological wellness of COVID-19 discharged participants. Another drawback, was that we dwelt on only the impact of isolation and exempted the impact of having the COVID-19. Our study being a cross-sectional design, we also could not attribute causality. However, as far as we know, this is the first study exploring the impact of isolation on the psychological wellness of discharged COVID-19 patients in North-central Nigeria. Our study, highlighted the important risk factors in a multicentre study where data was collected over a 12-week period of the pandemic in Jos, North-central, Nigeria, giving more time to capture more discharged participants. We recommend that prospective and control studies to be carried out to determine the true impact of isolation on the psychological wellness of discharged COVID-19 patients as well as the combined impact of the two on participants.

Conclusion

Isolation impact considerable on the psychological wellbeing of infected COVID-19 patients and emphasis should be geared towards the provision of psychological support and management in order to mitigate self-perception of stigma. Highlighting on negative thinking and the consequences of religious beliefs as an impact on isolation should be given priority in health education.

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