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ORIGINAL ARTICLE

Behavioural Responses to the COVID-19 Pandemic among Nigerians: A Nationwide Survey

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ABSTRACT

Background: COVID-19 being a new disease has been fraught with poor public social responses. This survey described the behavioural responses to COVID-19 from individuals in a multi-ethnic and multi-cultural society like Nigeria.

Methods: The study used a web-based descriptive cross-sectional design to recruit Nigerian adults, 18 years and above from all the geopolitical zones in the country, by snowball sampling technique. A 6-page Google form survey tool was used to administer the questionnaire via emails, WhatsApp groups and other social media platforms. Data analysis was done using descriptive statistics with percentage frequency distribution.

Results: A total of 1841 respondents (45.8% females) were finally analyzed. The age range was 18-84years with mean of 31±11years. Overall, 1079 (58.6%) expressed at least one element of fear of disclosing their COVID-19 status. There were 1047 (56.7%) respondents who expressed worry about being discriminated against if they get COVD-19 and 1087 (59.1%) agreed that family members of COVID-19 patients may be rejected by the community. Majority 1749 (95%) stated willingness to present to the healthcare facility, though 932 (50.6%) stated they will not be attended to if suspected to have COVID-19. Of the respondents, 794 (43.1%) indicated that COVID-19 was caused by the Chinese and 1202 (65.3%) indicated that healthcare workers should be kept in a hotel separate from the rest of the community. Majority 1679 (91.2%) however, disagreed that COVID-19 was a death sentence.

Conclusion: The study revealed that there were elements of fear of disclosure, with discrimination and stigmatization being the major causes of concern.

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INTRODUCTION

The outbreak of the novel coronavirus, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2), has had a detrimental effect on every aspect of human life.[1] The virus, has since spread round the world and on 30th January 2020, the World

Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern and a pandemic on 11th March 2020.[2] As of 15th June 2021, there has been close to 200 million confirmed cases worldwide with over 3 million deaths.[3] In Africa, COVID-19 outbreak continues to evolve, with several African countries reporting confirmed cases.[4,5,6] Nigeria recorded her first case on 27th February 2020 and as of 15th June 2021, had over 150,000 confirmed cases with more than 2,000 mortalities.[3]

To end the pandemic, public support for non-pharmaceutical interventions (NPIs) like social distancing, use of face mask, respiratory etiquette, and hand hygiene, is very important. However, COVID-19 being a new disease has been fraught with poor social responses like confusion, ignorance, fear, and anxiety among the general populace.[7,8] In addition, constant exposure to news and updates about the pandemic, accurate or otherwise, can generate different behavioural responses such as denial, self-preservation, mass fear, etc. Unfortunately, these responses act as signals of danger, threat, or motivational conflict,

triggering maladaptive responses that fuel discrimination, stigmatization, fear of disclosure of status, under-reporting, and late reporting, all of which are barriers to testing and access to care.[9] As a result, the damage caused by the disease is further exacerbated, affecting those infected, their caregivers, family members, friends, communities and even the healthcare workers involved in treating patients.

Due to its novelty and contagious nature, the behavioural responses of the public to the disease may be difficult to predict. In addition, in a multicultural country like Nigeria, it is impossible to assume a common behavioural response from all sections of the society. This survey therefore aimed to understand the differential behavioural responses to COVID-19 from individuals in a country that is known as a multicultural and multilingual country. The behavioural responses of interest are fear of disclosure, stigmatization, and discrimination. This we believe will contribute to a better understanding of public behaviour and inform strategies that will reduce transmission of the disease.

METHODOLOGY

The study was a national survey, involving the six geopolitical zones of Nigeria: namely north-west, north-central, north-east, south-west, south-east, and south-south regions. Nigeria, with her capital in Abuja, is situated in West Africa and has an estimated population of 170 million, with about 126,078,999 (61.2% of the national population) being internet users.[10] The survey was a web-based descriptive cross-sectional study involving participants from all the geopolitical zones. The online survey, which was conducted between 7th March 2020 and 30th June 2020, included only Nigerians, 18 years and above who were internet users and who were resident in the country at the time of the survey. Non-Nigerians resident in the country were excluded from the survey.

The sample size was determined using the formula: n= N/1+Ne 2 Where n= sample size, N= population size (number of internet users in Nigeria). As of December 2019, the internet users in Nigeria were 126,078,999 (61.2% of National population), e= margin of error (5%). Therefore, n= 385 Being a web-based survey, a non-response rate of 50% brings minimum sample size to 577 participants.

Eligible participants were recruited through social media platforms using a snowball sampling technique. Respondents were selected by sharing the survey in internet groups and by requesting others to share the survey. Upon selection, respondents were invited to take the survey by active means (inviting respondents to take the survey on an individual basis) and passive means (inviting respondents on a collective basis; for instance, including a message like, "Please click here to take our survey").

Google forms survey tool was used to administer the questionnaire via emails, WhatsApp groups and other social media platforms. The survey tool was a 6-page pretested questionnaire designed by the researchers in English language. By clicking on the link:

https://forms.gle/Mia9jRN2DZnGauxu8, participants were directed to the survey page which contained concise information on objective of the survey, informed consent, data privacy, and time it will take to fill the survey form. The data collected were aggregated, stored electronically and anonymized.

The measures used in this study were: the socio-demographic details (age, sex, geo-political zone of residence, marital status, highest educational level, occupation, and religion), participant's fear of disclosure of COVID-19 symptoms, stigmatization, and discrimination of people with COVID-19 by participants. Responses were graded using Likert scale. The fear of disclosure scale (5 items) and the discrimination scale (8 items) were based on a 4-point Likert scale (strongly disagree-1, disagree-2, agree-3 and strongly agree-4). The stigmatization scale contained 8 items based on a 2-point Likert scale (disagree-1 and agree-2). The prevalence of fear of fear of disclosure was ascertained by counting the number of participants who indicated fear of disclosure to any of the five statements under that segment.

Ethical approval was obtained from the Health and Research Ethics Committee of the Bingham University Teaching Hospital, Jos, Plateau State, Nigeria NHREC/21/05/2005/00710). Informed consent was obtained from each participant before commencement of the survey. A participant who declined to participate was automatically logged out.

Data was collected and stored automatically in real time. Data were downloaded from the central server and pre-processing activities were done using Python programming language and Microsoft Excel. Final analysis was done using IBM SPSS (Statistical Package for Social Science) software (version 25.0.) using descriptive statistics with percentage frequency distribution.

RESULTS

Socio-demographic characteristics

A total of 1895 Nigerians clicked on the survey link. Ten (0.5%) declined participation. Of the 1885 respondents who agreed to participate, 1841 (97.7%) were analyzed, 44 (2.3%) respondents did not meet the inclusion criteria and were excluded from the final analysis. Table 1 summarizes the socio-demographic characteristics of the study population. The age range was 18-84 years with mean age of 30.9±11.0 years. Majority, 1047 (56.9%) of the participants were 18-28 years of age. Male to female ratio was 1.2:1. Majority, 1730 (93.9%) had tertiary education

Table 1: Socio-demographic characteristics of respondents

Characteristic	Frequency (n=1841)	Percent
Age group (years)		
18-27	979	53.2
28-37	448	24.3
38-47	219	11.9
48-57	140	7.6
58-67	45	2.4
68+	10	0.5
Sex		
Male	998	54.2
Female	843	45.8
Geographical location		
North central	494	26.8
South west	472	25.6
North east	317	17.2
North west	313	17.0
South south	141	7.7
South east	104	5.6
Highest educational status		
Tertiary	1730	93.9
Secondary	110	6.0
Primary	1	0.1
Marital status		
Single, never married	1196	65.0
Married	618	33.6
Divorced/Separated, Widowed	27	1.5
Occupation		
Student	692	37.6
Health worker	389	21.1
Civil servant	298	16.2
Unemployed	195	10.6
Business/ Entrepreneurs	85	4.6
Artisan	32	1.7
Clergy	27	1.5
Farmer	17	0.9
Others*	106	5.8
Religion		
Christianity	1400	76.1
Islam	437	23.7
Traditional	2	0.1
Atheism	2	0.1

Others - Aviator, digital marketer, analyst, writer, contractor, etc.

and 1196 (65%) were single, never married. Majority, 494 (26.8%) of the respondents were in the North central geopolitical zone of the country. Students formed the highest proportion 692 (37.6%) followed by health workers 389 (21.1%).

Fear of disclosure

Table 2 shows participants' responses to the questions related to fear of disclosure of COVID-19 status.

Table 2: Item responses showing fear of disclosure of COVID-19 status by respondents

Item	Strongly agree	Agree	Disagree	Strongly disagree
I will present myself willingly to the health facility if I have symptoms	975 (53.0)	774 (42.0)	54 (2.9)	38 (2.1)
I will never feel the need to hide the fact if I have symptoms of COVID-19	840 (45.6)	799 (43.4)	124 (6.7)	78 (4.2)
I will be worried people will tell others if I have COVID-19	176 (9.6)	583 (31.7)	641 (34.8)	441 (24.0)
If I am positive for COVID-19, I would prefer to manage myself quietly at home than go into a treatment/isolation centre	104 (5.6)	311 (16.9)	758 (41.2)	668 (36.3)
I will keep my COVID-19 status to myself as it might affect my job or how people relate with me	44 (2.4)	156 (8.5)	771 (41.9)	870 (47.3)

n=1841

Overall, 1079 (58.6%) expressed a fear of disclosure. There were 975 (53%) who strongly agreed to willingly present themselves to health facility if they had symptoms of COVID-19. Only 176 (9.6%) strongly agreed that they will be worried people will tell others if they have COVID-19. Similarly, only 44 (2.4%) strongly agreed to keep their COVID-19 status to themselves as it might affect their jobs or how people related with them.

Stigmatization

The participants' responses concerning stigmatization against COVID-19 are detailed in Table 3. Among the specific responses, 1202 (65.3%) agreed that healthcare workers who treat COVID-19 patients should be kept in a hotel separate from the rest of the community to prevent spread. A little over half, 951 (51.7%) agreed that naming COVID-19 "Wuhan virus disease" is discriminatory. There were 441 (24%) respondents who agreed that they would be afraid to relate normally with survivors of COVID-19 even if they later tested negative. Majority 1651 (89.7%) disagreed to evicting any healthcare worker treating COVID-19 patients from their house assuming they were the landlord. Similarly, majority 1794 (97.4%) disagreed that COVID-19 patients should be killed.

Discrimination

Table 4 shows the various level of discrimination: individual, community and institutional discrimination.

Table 3: Participants' responses to stigmatization against COVID-19

Item	Agree	Disagree
Healthcare workers who treat COVID-19 patients should be kept in a hotel separate from the rest of the community to prevent spread	1202 (65.3)	639 (34.7)
All Chinese in the country should be screened for COVID-19	1036 (56.3)	805 (43.7)
Naming COVID-19 "Wuhan virus disease" is discriminatory	951 (51.7)	890 (48.3)
Chinese should not be allowed into the country	808 (43.9)	1033 (56.1)
I will be afraid to relate normally with survivors of COVID-19 even if they now test negative	441 (24.0)	1400 (76.0)
If I were a landlord, I will evict any healthcare worker treating COVID-19 patients from my house	190 (10.3)	1651 (89.7)
All COVID-19 patients should be killed to avoid spread	47 (2.6)	1794 (97.4)

n=1841

Table 4: Participants' responses to discrimination against persons with COVID-19

Item	Strongly agree	Agree	Disagree	Strongly disagree
Individual level				
There is no need to feel ashamed of having COVID-19	993 (53.9)	637 (34.6)	64 (3.5)	147 (8.0)
There is need to be worried of discrimination if I have COVID-19	371 (20.2)	676 (36.7)	448 (24.3)	346 (18.8)
If I have COVID-19 I will feel set apart and isolated from the rest of the world	337 (18.3)	747 (40.6)	516 (28.0)	241 (13.1)
I feel COVID-19 is a death sentence	53 (2.9)	109 (5.9)	735 (39.9)	944 (51.3)
Community level				
People's attitude makes infected people feel worse	719 (39.1)	913 (49.6)	138 (7.5)	71 (3.9)
People with COVID-19 are treated as outcasts	255 (13.9)	774 (42.0)	631 (34.3)	181 (9.8)
Family members of COVID-19 patients may be rejected by the community	193 (10.5)	894 (48.6)	531 (28.8)	223 (12.1)
Institutional level				
Hospitals do not attend to you once you tell them you might have COVID-19	267(14.5)	665(36.1)	644(35.0)	265(14.4)

n=1841

There were 993 (53.9%) who strongly agreed and 637 (34.6%) who agreed that there is no need to feel ashamed of having COVID-19 while 337 (18.3%) strongly agreed and 747 (40.6%) agreed that if they had COVID-19, they would feel set apart and isolated from the rest of the world. At the community level, 719 (39.1%) strongly agreed and 913 (49.6%) agreed that people's attitude makes infected people feel worse.

There were 193 (10.5%) respondents who strongly agreed and 894 (48.6%) who agreed that family members of patients with COVID-19 may be rejected by the community. At the institutional level, 265 (14.4%) strongly disagreed that hospitals do not attend to them once they tell them that they may have COVID-19.

DISCUSSION

This study takes an in-depth look into the behavioural responses towards the COVID-19 pandemic in Nigeria. Knowing little or nothing about a disease makes people feel more vulnerable and at increased risk and this can weigh heavily on the physical and mental wellbeing of the individuals, making their responses unpredictable.[11,12] From the survey, it was observed that majority of Nigerians felt there was no need to hide the fact if they had COVID-19 symptoms and there was no need to be worried people will tell others. This is quite reassuring as disclosure of an infectious disease is considered an anxious and stressful process because the outcome can lead to a stigmatizing situation if the recipients of the information are unaccepting and misunderstanding of the condition.[13] Such a positive result,

apart from being vital to reducing transmission of a disease, is indicative of a people with a rich social character who value social support in the wake of uncertainty related to the disease. People who disclose are more likely to gain social support, experience more warmth and affection, adopt positive coping strategies to handling the disease and adhere more to preventive measures than those who have less social support.[14,15,16] A previous study in China showed that gaining social support for the family was one of the important reasons given by confirmed patients for disclosure of their COVID-19 status.[17] While the survey did not determine who they will prefer to disclose to or the preferred source of social support, people tend to make such choices based on relationship and an assurance of support they are likely to get after disclosing.[18] Such sources include family and friends who provide effective support based on close relations, co-workers with positive impact on work stress, and support groups who complement medical treatment through mutual care, sharing information and helpful exchange of experiences, providing emotional support especially for those who feel stigmatized and have

difficulties talking about their condition.[18]

Aside the public health concerns, the COVID-19 pandemic which was first reported in Wuhan, China, triggered exaggerated reactions like social anxiety, phobia, failure to adopt healthy behaviours and preventive measures, stigmatization, and discrimination particularly towards the Chinese people, those with history of recent travels and healthcare workers.[19-23] More than half of the respondents answered in the affirmative that all Chinese in the country should be screened for COVID-19 and almost a quarter of the participants agreed that COVID is caused by the Chinese, and they should not be allowed into the country. Previous reports from the United Kingdom, United States of America, and Egypt have documented similar negative reactions towards people of Asian descent as a result of the pandemic.[24-27] A study conducted in cities throughout the USA and Canada also observed similar findings towards Chinese people.[28] While the study[28] was conducted in the early days of the outbreak of the virus in the country (February/March 2020), the occurrence of similar findings at the time of our study (four months after the commencement of the outbreak in the country) suggests that information about the cause of the disease had not been well circulated among the people and most people were still holding on to the conspiracy theory about China being responsible for COVID-19. Additionally, given the magnitude of the pandemic, the non-pharmaceutical interventions (NPIs) instituted by various governments to contain the virus, might have caused unintended, unlawful social and political consequences such as discrimination and stigmatization. The triggers of such negative social responses are multifactorial though fear and misinformation have been the common recurrent denomi-nators.[29,30,31] The importance of sharing accurate information about spread of the virus and raising public awareness of a novel disease like COVID-19, without raising fear cannot be overemphasized. There is also the need to ensure that people are aware that this is a pandemic, affecting everyone, irrespective of race, ethnicity, religion, or even social class.

Although not every pandemic leads to violence, disease threat can

nonetheless lead to discrimination and stigmatization against patients and even those who care for the patients. Majority of our survey participants affirmed that healthcare workers should be kept in a hotel separate from the rest of the community. Documented reports revealed the occurrence of such discrimination and stigmatization against health workers in Malawi and Mexico who were denied access to public transport during the COVID-19 pandemic.[32] Previous studies have also shown how patients of infectious diseases such as leprosy, AIDs, tuberculosis, SARS, and Ebola; and the healthcare workers who battle against these diseases face stigmatization and discrimination in various societies.[33,34,35,36] It was however encouraging to see that, unlike reports from India and Malawi,[32] a huge majority indicated that if they were landlords, they would not evict a tenant who was a healthcare worker treating COVID-19 patients. Likewise, almost all the participants disagreed with the statement that COVID-19 patients should be killed to avoid transmission. This is reflective of a sense of shared identity and concern for others, which often arises from

shared experience of being in similar difficult circumstance.

The survey showed that majority of the participants did not see the need to feel ashamed of having COVID-19. Likewise, majority did not see it as a death sentence. Shame and fatalistic thinking can act as impediments to willingness to disclose COVID status, and to get treatment. Shame often elicits strong self-deprecating reactions which may trigger self-aggressive and suicidal behaviors.[37] Fatalistic thinking likewise has been widely found to undermine preventive behaviors in diseases like HIV, cancers, and other diseases in which vaccines are currently not available.[38,39] The near absences of feeling of shame and fatalistic perception of COVID among the participants should raise the expectations that preventive measures will be adhered to. A remarkable improvement on the level of health literacy among the general populace is therefore vital to maintain this.

From the survey, a large proportion expressed fear of being isolated from the rest of the world if they had COVID-19. Being quarantined or isolated requires that a person be

separated from loved ones, normal activities, and routines for the purpose of infection prevention. Such changes can have psychological impact that can affect the individual's mental health.[40] Additionally, an expression of such fear of disconnection from loved ones may be reflective of a community with an interdependent culture, committed to collectives like tribe and family, as opposed to an independent culture that endorses individualism.[41,42] Such fears therefore need to be anticipated and addressed actively in situations like a pandemic.

Majority of the participants in this survey agreed that people's attitude make infected people feel worse and they (infected people) are treated as outcasts with the possibility of their families also being rejected by the community. Discrimination and stigmatization exhibited by the community can create a non-supportive environment which adds to the burden on the healthcare providers and the administrators and drives negative behaviors such as failure to seek health, ultimately leading to more severe complications, increased number of cases, and deaths due to COVID-19. Of more

concern is that half the study participants believe that the healthcare facility would not attend to a person who presents with COVID symptoms. While this may be a function of perception, as many healthcare workers were confronted with ethical dilemmas and conflicts that they were not prepared for, this response brings to fore the conflict between community expectations, on one hand, and on the other hand, obligation to give care in the face of uncertainty and inadequate resources.[43] Nevertheless, healthcare workers have an obligation to care for their patients and at the same time attend to their own health.

Strengths and Limitations of Study: The strengths of this study include the representative sample of all the geopolitical zones of the country, the ability to achieve our sample size quickly and the ability to still carry out a national survey amid a lockdown by using online survey method. The survey was also most likely the true measure of the behavioural responses of the population as the lockdown had started and people had the experience of isolation enough to understand it as it relates to the pandemic. Being a

web-based study, however, the sample selection was biased towards internet users. The large sample size and sampling across all geopolitical zones attempted to reduce the effect of this bias.

Conclusion: In conclusion, COVID-19 being a new and widespread pandemic, has led to varying behavioural responses as participants in this study have expressed elements of fear of disclosure, and a tendency towards stigmatization and discrimination against people with COVID-19. The study also revealed a concern from the community members to the healthcare providers for an assurance of reception in the health facility. This can foster early presentation, reduce mortality, and significantly reduce stigmatization and discrimination against people with COVID-19. There was clear evidence of the social support and empathy of participants towards healthcare providers caring for COVID-19 patients. The positive outlook towards recovery from COVID-19 is an indication of the willingness to combat this pandemic.

There must therefore be joint efforts from the community, the healthcare providers, and the policy makers to create awareness that will encourage persons with COVID-19 to present to the nearest healthcare facility and receive the care needed. Dissemination of precise, non-discriminatory information about COVID-19 by appropriate agencies like the Ministry of Health and Ministry of Information will also go a long way to thwart discrimination and stigmatization against COVID-19. There will also be need to review the NPIs to see which of them has an unsuspecting untoward effect such as creating global discrimination against the country of origin.

Authors' contributions: JAO and JO conceived the study and contributed to study design, implementation, co-ordination of the study, analysis and writing of the draft. OAM, OCI, EBE, OMS and AJM were involved in study design, data collection, and review of the manuscript. OAT was involved in study design, implementation, data

collection, and review of the manuscript. All authors have read and agreed to the final draft.

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