An assessment of anxiety towards COVID-19 among Nigerian general population using the Fear of COVID-19 scale

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Summary

Background: The study sought to assess the fear of COVID-19 among the general population and suggested ways to reduce anxiety levels.

Materials and Methods: A web-based cross-sectional survey was designed using Google forms to collect data. Participants were recruited using a convenience snowballing technique. The questionnaire contained 3 sections on Socio-demographic data, the Fear of COVID-9 scale, and an open-ended question on suggested ways to mitigate anxiety towards COVID-19. For the open-ended question, scores were grouped based on the similarity of thematic content. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 21.0.

Results: A total of 1011 respondents completed the survey. The Mean Sum Fear of Corona was 18.28±5.909 out of a possible maximum score of 35. More than half (53.6%, n = 542) of the respondents had 'Low fear' of COVID-19. There was an increasing fear of COVID-19 with increasing educational qualification, however, this was not statistically significant. Respondents with health-related occupations had less anxiety towards COVID-19 compared to people in non-health related occupations (17.83±5.85 Vs. 18.54±5.91). When respondents were asked to suggest ways anxiety towards COVID-19 could be reduced, one-third of them (34%, n =344) responded that public enlightenment programs with accurate information on the virus should be embarked on.

Conclusion: Overall, there was a low fear of COVID-19 among the general Nigerian population surveyed in this study. Public enlightenment and limited consumption of news on COVID-19 were the most suggested ways to abate fear of the virus.

COVID-19, fear, anxiety, media, Nigeria

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INTRODUCTION

Globally, coronavirus disease 2019 (COVID-19) is currently causing devastating effects, particularly among the elderly and those with concomitant medical problems [1]. COVID-19 was first diagnosed in Decembaer 2019 in a Chinese city of Wuhan, Hubei province, and has long spread to many countries [2]. As of May 5, 2020, the

disease has spread to about 213 countries, with 3,517,345 confirmed cases and 243,401 deaths worldwide [3]. COVID-19 is a deadly disease caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2). It has become a public health emergency because there is no proven effective treatment or vaccine to date [4,5]. Also, it is highly contagious, hence easily transmitted from one person to another [2,4,6]. Consequently, virtually all affected countries have implemented total lockdowns to control the spread of the disease [7].

In Nigeria, the first case of COVID-19 was reported on February 27, 2020. Since then, the number of individuals testing positive to COVID-19 is on the rise [8,9]. As of July 10, 2020, the disease has spread to almost all the states of the federation, including the federal capital territory. The total number of confirmed cases and deaths is 30,748 and 689, respectively. Nevertheless [12,5,4,6] persons infected with COVID-19 have been treated successfully and discharged [10]. However, due to fear of possible escalation of the disease, the federal and state governments, like in many countries, have long announced complete or partial lockdown [11,12]. This implies the restriction of movement, quarantine, closure of schools and businesses, and shutdown of religious centers. Unfortunately, media reports on COVID-19 pandemic and policies deployed by the government to manage the pandemic could have severe negative psychological impacts. For example, it could lead to increased anxiety, depression, and suicidal ideation [13].

Like in previous disease outbreaks, the COVID-19 pandemic could elevate anxiety levels among the general public, especially at-risk persons [13–15]. Anxieties could arise because of the fear of contracting the disease, loss of employment, financial insecurity, and loss of educational opportunities [16]. Also, restricted freedom, physical distancing, and the fear of losing loved ones to the pandemic could equally heighten anxiety and other psychological effects [16]. Social media, on the other hand, have been fraught with misinformation, myths, and fake news about the COVID-19 pandemic [17]. This experience might further create unwarranted anxiety among unsuspecting victims in the populace. A potential increase in anxiety among Nigeri-

ans would likely aggravate the untold hardship caused by the COVID-19 pandemic [18]. However, in Nigeria, there is limited data on anxiety towards COVID-19 among the general population. Therefore, this study aimed to evaluate the level of anxiety towards COVID-19 in the general Nigerian population and to explore its associated demographic factors. The study also explored respondents' opinions on ways to mitigate anxiety towards the virus. The findings of this research would be valuable for possible interventions and special considerations because of the ongoing COVID-19 pandemic in Nigeria [19,20].

METHODS

Study design and Participants

To maintain safety and reduce social contact, a web-based cross-sectional survey was designed using Google forms to collect data. A convenient snowball sampling technique was employed. In the first stage, the link to the survey was broadcasted via WhatsApp platform and members of various WhatsApp groups were invited to be part of the study. Participants were also encouraged to rebroadcast the link on other WhatsApp groups they belonged to. To encourage participation, weekly reminders were pasted to remind people who may have missed the invitation to participate in the survey. Participation was voluntary and respondents were required to give informed consent electronically before participating in the survey. Data was collected from April 4 till June 10, 2020. People with WhatsApp, the ability to understand and read English, residing in Nigeria, and being aged 18 and above were inclusion criteria for the study. Ethical committee approval was obtained from the Ethics Research Committee of the Faculty of Pharmaceutical Sciences, University of Nigeria Nsukka (FPSRE/UNN/20/0006.).

Data collection

Study participants responded to the survey anonymously on google forms. The questionnaire contained 3 sections on Socio-demographic data, the Fear of COVID-19 scale, and an open-

ended question on suggested ways to mitigate anxiety towards COVID-19. The Fear of COVID-19 Scale (FCV-19S) is a 7-item instrument developed by Ahorsu et al. (2020) to be used for assessment of fear regarding COVID-19. The Fear of COVID-19 Scale (FCV-19S) was used in the current study because it has been shown to have good psychometric properties 1920. Each question has responses recorded on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). A total score is calculated by adding up each item score (ranging from 7 to 35). Higher Sum FCV-19S scores indicate a greater fear of COVID-19

Data analysis

Data was retrieved from the google forms, cleaned, and exported to SPSS. The Socio-demographic characteristics and individual responses to the items on the COVID-19 scale were represented as frequencies and percentages. ANOVA tests and Independent Sample T-test were carried out to determine differences in Sum FCV-19S scores among the different socio-demographic groups. The Mean Sum FCV-19S score was obtained and respondents who got higher than the mean score were categorized as having a 'High fear of COVID-19' while individuals with scores equal or lower than the mean score were categorized as having 'Low fear of COVID-19'. For the open-ended question, scores were broadly categorized based on the similarity of thematic content. Gender differences in suggested ways to reduce anxiety towards COVID-19 were tested. The themes were presented as frequencies and percentage. All data were analyzed using Statistical Package for Social Sciences (SPSS) version 21.0. P-values of less than 0.05 were considered statistically significant.

RESULTS

Socio-demographic characteristics of respondents

A total of 1011 respondents completed the survey. Most of the respondents were female (62.8%), and the dominant age group was 18-25 years. A good majority of the respondents were single (75%), and about 67.1% were employed

with a good number of them in non-health related occupation (59.4%). (Table 1)

Table 1. Sociodemographic characteristics of respondents

Variable	Percentage	Frequency
Gender		
Male	37.4	378
Female	62.6	633
Education Qualification		
FSLC	0.5	5
O'Level	19.0	192
B.Sc.	54.8	554
Masters	18.6	188
PhD	7.1	72
Age		
18-25	36.6	370
25-30	30.5	308
31-40	20.0	202
41-50	9.1	92
51-60	2.8	28
61-70	1.1	11
Marital status		
Single	75.0	758
Married	24.0	243
Divorced	0.3	3
Widowed	0.3	3
Cohabit	0.3	3
Employment		
Employed	67.1	678
Unemployed	32.1	325
Retired	0.4	4
Occupation		
Non health related	59.4	601
Health related	34.9	353

Fear of COVID-19

A total of 49.1% (n = 496) of the population agreed that they were most afraid of the coronavirus. It made about 43% (n =435) of the respondents uncomfortable to think about COVID-19. On the other hand, about 40.8% (n =412) agreed they were afraid of losing their life because of coronavirus. When watching news and stories about

coronavirus-19 on social media, a total of 43.9% (n =444) of the respondents become nervous or anxious. About one-fifth of the respondents reported that their heart raced when they thought about getting COVID-19 respectively (19.8%, n = 200). (Table 2). The Mean Sum Fear of Corona was 18.28±5.909. More than half (53.6%, n = 542) of the respondents had 'Low fear' of coronavirus.

Table 2. Fear of COVID-19

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	F (%)	F (%)	F (%)	F (%)	F (%)
I am most afraid of Coronavirus	106 (10.5)	240 (23.7)	169 (16.7)	373 (36.9)	123 (12.2)
It makes me uncomfortable to think about Covid-19	92 (9.1)	242 (23.9)	145 (14.3)	435 (43.0)	97 (9.6)
My hands become clammy when I think about Covid-19	289 (28.6)	461 (45.6)	114 (11.3)	121 (12.0)	26 (2.6)
I am afraid of losing my life because of Covid-19	182 (18.0)	278 (27.5)	139 (13.7)	298 (29.5)	114 (11.3)
When watching news and stories about Covid-19 on social media, I become nervous or anxious	137 (13.6)	281 (27.8)	149 (14.7)	357 (35.3)	87 (8.6)
I cannot sleep because I'm worrying about getting Covid-19	489 (48.4)	416 (41.1)	54 (5.3)	36 (3.6)	16 (1.6)
My heart races or palpitates when I think about getting Covid-19	327 (32.3)	366 (36.2)	118 (11.7)	158 (15.6)	42 (4.2)

Anxiety towards COVID-19 among different socio-demographic groups

There was an increasing fear of COVID-19 with increasing educational qualification, however, this was not statistically significant. Respondents with the least educational qualification had the least Fear of COVID-19 (14.20±6.50) compared to respondents who had a PhD (18.71±5.96). Males (17.9312) had less fear of COVID-19 compared to females (18.50±5.96), however, this difference was not statistically significant. Respondents with health-related occupations had less anxiety towards COVID-19 compared to people in non-health related occupations (17.83±5.85 Vs. 18.54±5.91). (Table 3).

Table 3. Anxiety towards COVID-19 among different socio-demographic groups

Variable	Mean ±SD	F	p-Value
Education Qualification		1.335	0.255
FSLC	14.20±6.50		
O'Level	17.67±6.16		
B.Sc.	18.41±5.69		
Masters	18.49±6.24		
PhD	18.71±5.96		
Age			
<25	18.05±6.02	1.269	0.275
25-30	18.17±5.76		
31-40	19.07±5.94		

41-50	17.59±5.89		
51-60	19.07±6.28		
61-70	19.27±4.10		
Marital status		1.788	0.129
Single	18.01±5.92		
Married	18.95±5.81		
Divorced	23.67±9.61		
Widowed	20.00±3.46		
Cohabit	16.30±4.04		
Employment		0.865	0.422
Employed	18.22±5.78		
Unemployed	18.37±6.20		
Retired	22.00±6.20		
		*t	
Occupation		3.235	0.072
Non-health-related	18.54±5.91		
Health-related	17.83±5.85		
Gender		0.879	0.349
Male	17.93±5.81		
Female	18.50±5.96		

*independent sample t-test (t-value)

Suggested ways to mitigate Anxiety towards COVID-19

When respondents were asked how they thought anxiety towards COVID-19 could be reduced, about one-third of them (34%, n =344) responded that public enlightenment programs with accurate information on the virus should be embarked on. About one fifth (21.4%, n = 174) of the respondents suggested limiting the consumption of news and information about COVID-19 a measure to reduce COVID-19-related anxiety. A greater proportion of female respondents compared to male respondents advocated for this measure (25.7% Vs 14.4%). About fifty-one respondents (6.2%) advocated for prayers to God to reduce COVID-19-related anxiety (Table 1). Chi-Square tests showed a statistically significant difference in suggested ways to reduce anxiety towards COVID-19 between males and females ($X2 = 26.46$, $p = <0.001$)

Table 4. Gender differences in suggested ways to mitigate Anxiety towards COVID-19

Ways	Male n (%)	Female n (%)	Total n (%)
	n = 313	n = 509	n = 822
Education/ Accurate Information	153 (48.9)	191 (37.5)	344(34.0)
Limit exposure to COVID-19 related news	45 (14.4)	131 (25.7)	176(21.4)
Prayers	16 (5.1)	35 (6.9)	51(6.2)
Adherence to recommended guidelines	66 (21.1)	85 (16.7)	151 (14.9)
Government Palliatives	6 (1.9)	24 (4.7)	30 (3.0)
COVID-19 Cure/Vaccine	18 (5.8)	34 (6.7)	52(5.1)

| Counselling/Therapy | 2 (0.6) | 3 (0.6) | 5 (0.5) |
| Nothing | 7 (2.2) | 6 (1.2) | 13 (1.3) |

DISCUSSION

The outbreak of a deadly disease is not a new occurrence in Nigeria as the country has faced so many outbreaks of emerging and reoccurring diseases such as malaria, avian influenza, Ebola virus, HIV/AIDS, meningitis, Lassa fever, tuberculosis, monkeypox and many more and has thrived in spite of them [21]. However, the country seemed overwhelmed with the COVID-19 pandemic because of the rapid spread, novelity of the virus and the shortage of health care resources. Other countries have reported various psychological effects of the pandemic on the population [22, 23], the current survey contributes to the sparse literature available on the anxiety towards COVID-19 among the Nigerian general population. The study sheds light on the extent to which Nigerians are afraid of coronavirus and ways they think anxiety towards the virus can be mitigated.

The overall mean score of fear of COVID-19 among the sample surveyed was 18.28±5.909. The score is comparable to the mean score obtained in a similar study among the general population in India [24]. The score indicates a mild to moderate fear of the virus. A mild fear of the virus among the Nigerian populace may be because of previous experiences with similar outbreaks and the relatively lower mortality associated with COVID-19 compared to Western countries. Studies in China however, showed that more than a quarter of participants experienced moderate to severe anxiety symptoms and also suffered from psychological distress and stress, anxiety, and depression [7,25,26]. This may be due to the high incidence and mortality from the disease in China.

Our study also sought to identify socio-demographic factors associated with anxiety towards COVID-19. More than three-quarters of the study population had at least a bachelor's degree and about 7.1% of them had a doctorate degree. This high level of education may explain why the fear of COVID-19 was mild among them since educational level has been shown to be associated with increased knowledge and understanding of disease states [27,28]. This result is however in contrast with findings of the Indian survey where individuals with lower educational status had a greater fear and anxiety towards COVID-19 [24]. Also contrary to the Indian study on anxiety towards COVID-19, respondents who had a health-related profession had a lower fear of COVID-19 score compared to their counterparts who had non-health-related occupations. The heightened anxiety among respondents with health related occupations has been attributed to a greater understanding of the disease progression and higher risk of contracting it through contact with patients [24]. However, a greater understanding may also mean a better knowledge of precautions against contracting the disease, and consequently, less anxiety towards the disease.

Consistent with findings from a Chinese study which reported that more than a third of the general population were psychologically affected by media stories about the pandemic [29], the current study also shows that more than one-third of the Nigerians surveyed become worried and anxious when watching news and stories on social media about COVID-19. The sudden and constant stream of news reports about an outbreak may aggravate anxiety about the pandemic. The media and press should find opportunities to amplify positive and hopeful stories and positive images of local people who have experienced COVID-19. Stories of people who have recovered or who have supported a loved one and are willing to share their experience should be promoted [3]. While less than a tenth of the study respondents reported losing sleep over COVID-19, more than a third of the study sample in a Greek study reported having insomnia due to worry over COVID-19 [30]. Stress levels rise are likely to increase during pandemics due to worry about health, financial consequences, changes in social life and the daily routine. Reduced physical fatigue and exposure to the sun, as well as increased use of electronic devices may also affect sleep homeostasis [30].

When respondents were asked to suggest ways to reduce anxiety towards COVID-19, majority of them advocated for public enlightenment campaigns with accurate data on the pandemic. About a fifth of them suggested limiting the consumption of information on COVID-19 and reduced social media usage to avoid coming across news related to COVID-19. A greater proportion of females advocated for this limited exposure to COVID-19 related news. This is interesting as previous literature have shown that more females employ avoidant coping strategies for anxiety [31,32]. A recent study on the impact of Social Media on panic during the COVID-19 Pandemic in Iraqi Kurdistan found that found a significant positive statistical correlation between self-reported social media use and the spread of panic related to COVID-19 [33]. Thus, reduced exposure to media stories and news on COVID-19 may indeed reduce anxiety and fear towards the virus. More males than females suggested a strict adherence to precautionary measures recommended by the government/healthcare professionals to mitigate fear of COVID-19. A few respondents believed improve government welfare packages could serve to reduce anxiety towards the virus. This is particularly relevant in the Nigerian context as the economic impacts of the COVID-19 induced Government sanctions have been severe on almost half of the population who are daily wage earners [34]. Poverty, hunger, and crime are known to induce high levels of stress and anxiety [35]. Overall, there was a statistically significant difference between males and females in the advocated measures to reduce fear of COVID-19.

The strength of the study lies in the large population size and the use of a standard validated instrument to assess the fear of COVID-19 among the Nigerian general population. The cross-sectional nature of the study however limits inferences on the temporal precedence of fear of COVID-19 and sociodemographic variables. The study instrument relies heavily on subjective assessments of fear of COVID-19 and may not accurately depict the anxiety in the respondents surveyed. The findings of the current survey may not be generalizable to Nigerians since a convenience sampling technique was employed. However, important insights on anxiety levels of the general population towards the virus have been explored in this paper. Targeted interventions to reduce anxiety levels among demographics more susceptible to being anxious towards the virus should be embarked on. Furthermore, the need for correct and reliable information on the virus has been emphasized by many of the respondents in this survey.

CONCLUSIONS

Overall, there was a low fear of COVID-19 among the general Nigerian population surveyed in this study. Females, more educated respondents, and people with non-health related occupations had a greater fear of the virus. Public enlightenment and limited consumption of news on COVID-19 were the most suggested ways to abate fear of the virus. There is need for targeted interventions to reduce anxiety levels and provide psychosocial support for vulnerable populations in Nigeria.

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