

## A Brief Communication: Anxiety and Depression Levels in the Staff of a Nigerian Private University during COVID 19 Pandemic Outbreak

Ochilbek Rakhmanov<sup>1</sup>, Abdullah Demir<sup>2</sup>, Senol Dane<sup>3\*</sup>

<sup>1</sup>Department of Computer Science, Faculty of Natural and Applied Sciences, Nile University of Nigeria, Abuja, Nigeria

<sup>2</sup>Faculty of Law, Nile University of Nigeria, Abuja, Nigeria

<sup>3</sup>Department of Physiology, Faculty of Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria

### ABSTRACT

*Introduction: At present, to prevent the spread of the epidemic, the Nigerian government has enforced strict quarantine measures across the country. In the present study, the anxiety and depression levels of academic and non-academic staff and their unemployment relatives of an African university towards COVID-19 during the epidemic outbreak was investigated.*

*Method: Sixty-nine subjects were included in the study. Participants were 49 men and 20 women who were 17-21 years of age. To get their anxiety scores, the questions selected by referencing previous and current epidemic studies were used and Self Reporting Questionnaire, SRQ-20 to collect the data on depression.*

*Results: The anxiety and depression levels were higher in women than in men. Academic staff had lower anxiety and depression scores than unemployed relatives of academic and non-academic staff. There was significant correlation between anxiety and depression scores.*

*Conclusion: The low anxiety and depression levels in academic staff may be attributed to a piece of high and correct knowledge related to COVID 19. The correlation between anxiety and depression was weak in academic staff, but strong in non-academic and unemployed subjects. The present study and literature show that the knowledge levels of people should be increased to decrease their anxiety and depression by means of online systems.*

**Key words:** COVID 19, Anxiety, Depression, Academic staff

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**Corresponding author:** Senol Dane

**e-mail**✉: senol.dane@nileuniversity.edu.ng

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### INTRODUCTION

2019-nCov is the Coronavirus first named in 2019 that originated in the city of Wuhan in Hubei province China in December 2019. The clinical disease is called COVID-19 by the World Health Organization. The virus enters the cell via the ACE-2 receptor. COVID-19 rapidly evolved into a pandemic by late February 2020. The epicenter of the pandemic rapidly moved from China to Europe, with Italy being the most severely

affected; it has since moved to the USA, with New York State as the most severely affected. It is transmitted via aerosols and fomites. It causes severe upper and lower respiratory infections. The symptoms are fever, dry cough, and malaise. These often rapidly progress to respiratory failure needing aggressive respiratory support. Confirmation of the diagnosis is usually by using Reverse Transcriptase Polymerase Chain Reaction (RT-PCR). Some of the WHO recommended preventive measures include, among others, using alcohol-based sanitizers, N95 face mask and strict quarantine of patients and contacts [1].

The fighting against COVID-19 pandemic is still carrying on across the world. To access success,

people's positive approaches to the control precautions is important, which is largely affected by their psychologies towards COVID-19. The SARS outbreak in 2003 educated us that knowledge and attitudes against viral infectious outbreaks are closely related with the panic emotion level of people, because the panic fear can foreclose the governmental precautions [2,3].

The epidemic outbreak and then lockdown having the risk of death from the viral infection increase the psychological stress on people [4,5]. The constantly spread of the disease, the official hard isolation applications and closings of schools is expected to affect the mental health of all people. There are many studies on the possible bad effects of the infectious epidemics on the general public, patients, medical staff, children, and older adults [6,7]. In a previous study, it has been reported that having relatives infected with COVID-19, its economic effects and effects on daily life, as well as delays in academic activities, increases anxiety levels in college students [8]. Also, in a previous COVID 19 study of Nigerian university students, 24% of the university students were experiencing severe anxiety, 22% moderate anxiety, and 30% mild anxiety [9].

In the present study, the anxiety and depression levels towards COVID-19 of university academic and non-academic staff and their unemployed relatives in a private Nigerian university during the pandemic outbreak was investigated.

## METHODS

### Participants

An online survey (questionnaire) was created and shared only with participants, the academic and non-academic staff and their families of the Nile University of Nigeria. The survey was conducted during the lockdown period of COVID 19 when all participants were self-isolated at homes. This was to ensure the results obtained from the probing were valid and reliable. In the survey, the questionnaires for the anxiety and depression levels towards COVID-19 disease were posted online for volunteers to fill out. To keep the confidentiality and privacy of the survey, a secured internet link for the survey was produced and shared only with participants to fill out. A total of 69 volunteers participated in this survey (20 women, mean age=37.55, SD=8.274;

49 men, mean age=40.163, SD=10.129). All subjects completed the study voluntarily. The age of the participants was not different statistically by gender and duty.

### Inclusion criteria

1. Willingness to participate.
2. Only university staff and their families were permitted to attend.
3. Only undergraduate students studying were included in the study.

### Exclusion criteria

1. The study excluded participants that were not willing to be involved.
2. Subjects with psychiatric or central and autonomic nervous system disturbance that might change the anxiety and depression scores were not involved.

### Procedure

The experimental protocol was by following international ethical standards. The study was performed per under the Helsinki Declaration (1975, revised in 1996-2013) [10]. It was a descriptive cross-sectional study. The aims and objectives of the study were explicitly explained to the participants before the commencement of the study. All participants voluntarily gave written informed consent to participate in the study.

The survey questionnaire consisted of 3 parts.

Part 1. Demographic information: Demographic information like age, gender, level, faculty, etc was asked to participants.

Part 2. Anxiety level detection: All seven questions to measure anxiety level proposed by Spitzer et al (2006) were asked [11]. All questions had rating scale options to choose from, ranging from 0 to 3. The total score for each participant was calculated and the minimum total score was zero, while the several students got the maximum possible score of 21.

Part 3. Depression level detection: The English version of a structured self-administered World Health Organization's questionnaire (Self Reporting Questionnaire, SRQ-20) was used to collect the data on depression [12,13]. The SRQ-20 is developed and validated for international use. Compared to other scales for analysis of depression, the SRQ-20 has better

validity and is widely used to assess depression among University students [14,15]. Different investigations on depression or mental illnesses conducted in low- and middle-income countries including Nigeria, using the SRQ-20, have used varying cut-offs ranging from 5 to 11 and found a sensitivity of 73%-100% and specificity of 62%-94% [16,17]. SRQ results were compared to those obtained with the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) [15]. The SRQ-20 scale includes 20 dichotomous (yes/no) questions asking whether participants experienced symptoms of anxiety, depression, or somatic symptoms during the last 10 days before the study [14,15].

**Statistical analyses**

Measured values are given as a mean +/- standard deviation (SD). Statistical analysis was performed using SPSS for Windows version 18. The Student's t-test and one-way ANOVA and post-Hoc Tukey test were used to compare the anxiety and depression levels in the participants. A p-value of less than 0.05 was considered statistically significant.

**RESULTS**

Both anxiety and depression scores against COVID 19 disease were statistically significantly higher in women than in men in African university staff and their relatives (anxiety:  $t=2.678, p=0.009$ ; depression:  $t=2.241, p=0.028$ ) (Table 1).

Three participants (2 women and 1 man) had high depression scores who should be treated by a psychiatrist. Two of them were non-academic and 1 was unemployed person.

There was a statistically significant difference in terms of anxiety of COVID 19 among the staff of the same university as determined by one-way ANOVA ( $F(2, 66)=5.925, p=0.004$ ). The academic staff had statistically significantly lower anxiety scores than people who were un-employed relatives of academic and non-academic staff (difference = 4.7) at the  $p<0.05$  level in post-Hoc Tukey test (Table 2 and Figure 1).

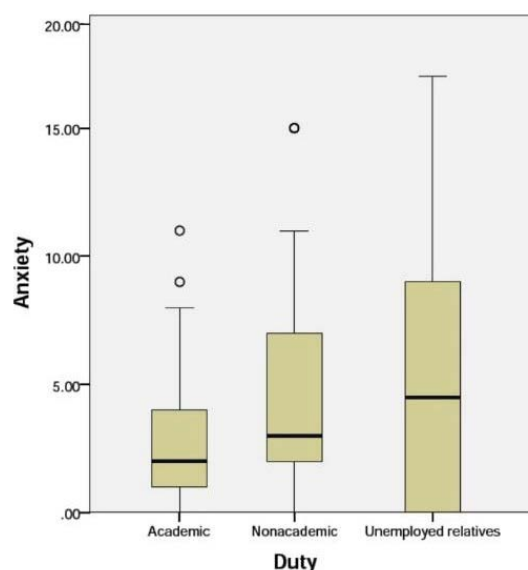
There was a statistically significant difference in terms of depression of COVID 19 among the staff of the same university as determined by

**Table 1. The anxiety and depression scores against COVID 19 disease in university staff by gender.**

	Men (N=49)	Women (N=20)	t	p
Anxiety score	3.653±3.821	6.6±4.871	2.678	0.009
Depression score	8.592±3.246	10.7±4.207	2.241	0.028

**Table 2: The anxiety and depression scores against COVID 19 disease in university staff by their duties.**

	Academic (N=34)	Non-academic (N=25)	Else (N=10)	F	p
Anxiety	3±2.902	5.28±4.756	7.7±5.376	5.925	0.004
Depression	8.029±2.405	9.88±3.961	11.5±5.017	4.615	0.013



**Figure 1: Box plot distribution of the anxiety levels by the duties of participants.**

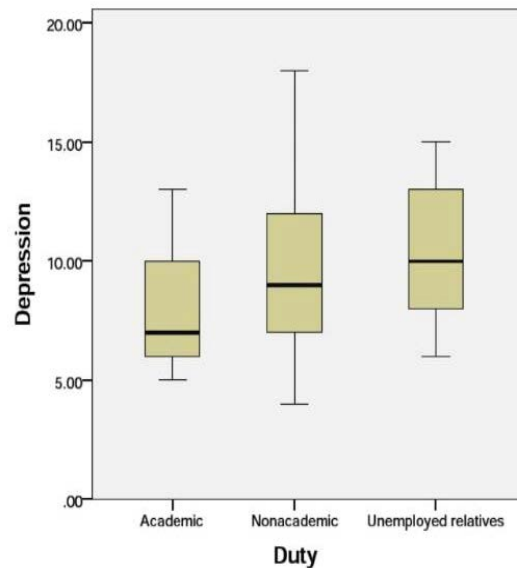


Figure 2: Box plot distribution of the depression levels by the duties of participants.

one-way ANOVA ( $F(2, 66) = 4.615, p = 0.013$ ). The academic staff had statistically significant lower depression scores than people who were un-employed relatives of academic and non-academic staff (difference=3.47) at the  $p < 0.05$  level in post-Hoc Tukey test (Table 2 and Figure 2).

There were statistically significant Pearson correlations between anxiety and depression scores (total sample:  $N = 69, r = 0.702, p = 0.00$ ; men:  $N = 49, r = 0.643, p = 0.00$ ; women:  $N = 20, r = 0.726, p = 0.00$ ; academic staff:  $N = 34, r = 0.382, p = 0.026$ ; non-academic staff:  $N = 25, r = 0.729, p = 0.00$ ; unemployed:  $N = 10, r = 0.781, p = 0.008$ ).

## DISCUSSION

At present, to prevent the spread of the epidemic, the Nigerian government has implemented strict self- and forced-quarantine measures across the country. The very 1st case of COVID-19 infected in Nigeria was recorded on March 20, 2020. With a constant increment in numbers, all tertiary educational institutions were closed with order of Ministry of Education by March 20, 2020, and the government announced the initial lockdown of big cities on March 30, 2020. This measure may continue for an unpredictable long time. The survey was conducted during the lockdown period when all academic and non-academic staff were in self-isolated at homes. The epidemic brought to people not only the risk of death of virus infection but also big psychological pressure [4,5]. People are prone to various psychological

and mental problems. The long-term quarantine conditions for infectious viral outbreaks increases the possibility of psychological stress and problems. Because quarantine decreases the connections among people and blocks helpful conversations to decrease their psychological stress. In the absence of face to face interpersonal communication, depression and anxiety are more likely to take place and worsen. In addition to, long-term quarantine prevents the availability of timely psychological intervention, and routine psychological counseling is difficult to carry out in the current situation.

In the present study, the anxiety and depression scores towards COVID 19 disease was higher in women than in men in African university staff and their un-employed relatives. This gender difference supports the previous studies in which anxiety [9], depression [18, 19] and alexithymia [20] scores were high in women compared to men.

In the present study, the academic staff had lower anxiety and depression scores than both non-academic staff and the un-employed relatives of academic and non-academic staff. This difference may be attributed to the possible high knowledge level about COVID19 disease of academic staff.

A strong relationship between depression and anxiety is well known. Depression and anxiety disorders take place together more than 25% of patients with psychiatric problem. Approximately 85% of patients with depression

have also anxiety, and 90% of patients with anxiety disorder have also depression [21]. In the present study, there was a high significant correlation between anxiety and depression levels. The results supported previous studies. However, this correlation was weak in academic staff, but strong in non-academic and unemployed subjects. This difference may be also attributed to the possible high knowledge level about COVID19 disease of academic staff. Also, the severe depression scores in three participants (2 women and 1 man or 2 non-academic and 1 unemployed) was likely due to COVID 19 pandemic outbreak.

### CONCLUSION

The low anxiety and depression levels in academic staff may be attributed to a piece of high and correct knowledge related to COVID 19. The present study and literature show that the knowledge levels of people should be increased to decrease their anxiety and depression by means of online education applications.

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