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***A Publication of the Faculty of Nursing Sciences,
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Ladokpe Akintola University of Technology, Ogbomosho, Nigeria***

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Faculty of Nursing Sciences,
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The Editor-in-Chief
doctoradeyemo@yahoo.com or lautechjournal@gmail.com

LIST OF CONTRIBUTORS

- ABAZIE OGECHI H.** Department of Nursing Science,
Faculty of Clinical Sciences,
College of Medicine, University of Lagos, Nigeria.
Email address: habazie@unilag.edu.ng;
Phone No: 08034568662
- AFOLABI YAKIBI AYODELE** Department of Business Administration,
Federal University Oye-Ekiti, Nigeria
Email address: yakibiafolabi@yahoo.com,
Phone No: 08033196599
- AHMED S.** Department of Nursing Science,
Bayero University, Kano
Email address: ayemy1074@gmail.com,
Phone No: 08063166331
- AJAGBE, O. R.** Faculty of Nursing, College of Health Sciences,
Oyo State, Nigeria
Email address: ajagbeolawumi7@gmail.com
Phone No: 08030480952
- AKIN-OTIKO BRIDGET OMOWUMI** Faculty of Nursing Science
University of Medical Sciences
Laje, Ondo-City, Ondo State Nigeria
Email address: bakinotiko@unimed.edu.ng,
wumiakinotiko@yahoo.com
Phone No: 08037213522
- AMOO, P. O.** Faculty of Nursing, College of Health Sciences,
Ladoke Akintola University of Technology,
Ogbomosho,
Oyo State, Nigeria
Email address: amooapatience@gmail.com
Phone No: 08033987442
- AYANYINKAADEBAMIKE ADENIKE** Ladoke Akintola University Of Technology Teaching
Hospital, Ogbomosho
Email address: aaaynyinka@lautech.edu.ng
Phone No: 08034624645
- BELLO, M. ADEMOLA** Crescent University Abeokuta,
Email address: ademolabello2007@gmail.com
Phone No: 08035779434

FALETI DANIEL DURODOLUWA

Ocid - 0000-0003-4484-681X)
Department of Health,
University of Essex, Essex, United Kingdom
Email address: faletidd@gmail.com
Phone No: +44 7479 327132

FALETI DAMILOLA M.

(0000-0002-3479-8909)
Department of Nursing,
Spire Healthcare – Spire Gatwick Park Hospital,
Horley, United Kingdom
Email address: ajayidamilola34@gmail.com
Phone No: +447878896199

DUKE EMON

Department of Nursing Science,
Faculty of Allied Medical Sciences,
University of Calabar, Calabar, Nigeria
Email address: emonduke2005@gmail.com
Phone No: 08035693783

CHIEJINA EDITH NKECHI

Department of Nursing Science,
Faculty of Health Sciences and Technology,
Nnamdi Azikiwe University, Nnewi Campus,
Anambra State, Nigeria.
Email address: nkechichiejinga@yahoo.com,
Phone No: 08037463279

ELEMILE, M. G.

Department of Community Health Nursing
Faculty of Nursing Sciences
University of Medical Sciences, Ondo
Email address: melemile@unimed.edu.ng,
Phone No: 08063166331

EMMANUEL O. O.

Department of Nursing Sciences,
Ahmadu Bello University, Zaria.
Email address: omeizaoe@yahoo.com,
Phone No: 07063449167

EZENDUKA P. O.

Department of Nursing Science,
Faculty of Health Science,
Nnamdi Azikiwe University Nnewi Campus, Nigeria
Email address: ezendukap@gmail.com
Phone No: 08033476403, 08088657141

GBAHABO DOOSHIMA. D.

Department of Nursing Science,
Faculty of Clinical Sciences,
College of Medicine, University of Lagos, Nigeria
Email address: dooshima@gbahabo.com.mx
Phone No: 08036546500

HASIMIYU ADEMOLA ADELE

Department of Management and Accounting,
Ladoke Akintola University of Technology
Ogbomoso, Nigeria
Email address: adeleademola@gmail.com
Phone No: 08089920302

IBRAHIM A. H.

Department of Nursing Science,
Bayero University, Kano.
Email address: ahibrahim.nur@buk.edu.ng,
Phone No: 08063166331

IHUOMA ANTHONIA OBI

Department of Nursing Science,
Ebonyi State University, Abakaliki, Nigeria.
Email: ladyihuomaobi@gmail.com
Phone No: 08035980988

IGBINLADE ADEWUMI SEGUN

Department of Nursing,
Faculty of Health Science,
National Open University of Nigeria, Jabi Abuja
Email: sigbinlade@noun.edu.ng
Phone No: 08037252203

KANIKWU PHOEBE NWAMAKA

Department of Nursing Science,
Faculty of Applied Health Sciences,
Edo State University, Uzairue, Edo State, Nigeria.
Email address: kanikwu.phoebe@edouniversity.edu.ng,
nwakanikwu@gmail.com;
Phone No: +2348068769343

LADAN M. A.

Department of Nursing Science,
Bayero University, Kano.
Email address: maladan.nur@buk.edu.ng
Phone No. +2348037040794

LAWAL B. K.

Department of Obstetrics and Gynaecology,
Ahmadu Bello University, Zaria.
Email address: bilkisu.lawal@nmpcn.edu.ng,
Phone No: 08037122952.

MAKINDE, O. Y.

Faculty of Nursing, College of Health Sciences,
Ladoke Akintola University of Technology,
Ogbomosho, Oyo State, Nigeria
Email address: oymakinde@lautech.edu.ng
Phone No: 08060053753

**MOBOLAJI-OLAJIDE,
OLUWAFUNMILOLA. M.**

Department of Nursing Science,
Faculty of Clinical Sciences,
College of Medicine, University of Lagos, Nigeria
Email address: omobolaji-olajide@unilag.edu.ng;

Phone No: 08039241620

MUSA-MALIKKI AISHA U.

Department of Nursing Science
Ahmadu Bello University, Zaria, Nigeria
Email address: aishaudu@yahoo.com
Phone No: 07038159582

NDIE E. C.

Department of Nursing,
Faculty of Health Science,
National Open University of Nigeria, Jabi Abuja
Email address: chubike05@yahoo.com
Phone No: +2349120048771

ODIKPO_LINDA C.

Department of Nursing Science,
Nnamdi Azikiwe University Nnewi Campus, Awka Nigeria
Email address: lc.odikpo@unizik.edu.ng;
Phone No: 08136705878

OGINIA. N.

College of Nursing, Iheala, Anambra State Nigeria
Email address:
Phone No.

OLADAPO M. M.

Department of Community Health Nursing
Faculty of Nursing Sciences
University of Medical Sciences, Ondo
Email address: moladapo@unimed.edu.ng,
Phone No: 08033894437; 07065423969

OLADELE PATRICK OLAJIDE

Department of Business Administration,
Federal University Oye-Ekiti, Nigeria
Email address: otunbagbobaniyi@yahoo.com,
Phone No: 08033009401

OLARINDE OLUWATOSIN COMFORT

OCID - 0000-0003-0734-4669
Faculty of Nursing, College of Health Sciences,
Ladoke Akintola University of Technology,
Ogbomosho, Oyo State, Nigeria
Email address: ocolarinde@gmail.com
Phone No: +2348105197649

OLAWALE, F. OLUWAKEMI

Osun State school of Nursing, OSOGBO
Email address: favourolawale400@gmail.com
Phone No: 0808551694

OJO IBIRONKE. CECILIA.

Department of Community Health Nursing
Faculty of Nursing Sciences
University of Medical Sciences, Ondo
Email address: rojo@unimed.edu.ng,
Phone No: 0803442331

OGUNMUYIWA O. E.

Department of Community Health Nursing
Faculty of Nursing Sciences
University of Medical Sciences, Ondo
Email address: eogunmoyewa@unimed.edu.ng,
Phone No: 08030748619

OKHOMINA FAVOUR. O.

Department of Community Health Nursing
Faculty of Nursing Sciences
University of Medical Sciences, Ondo
Email address: favourokhomina@unimed.edu.ng,
Phone No: 07032084730

OYEBAMIJI RACHEL TOYIN

Ladoke Akintola University of Technology Ogbomoso
Open and Distance Learning Centre.
Email address: rtoyebamiji@lautech.edu.ng,
Phone No: 08039092019

OYEDEJIYETUNDE OMOLOLA

Ladoke Akintola University of Technology Ogbomoso
Open and Distance Learning Centre.
Email address: yetundeolaniyan@gmail.com,
Phone No: 08061219991

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COVID-19: AWARENESS, ANXIETY AND REASONS INFLUENCING LEVELS OF ANXIETY AMONG NIGERIAN NURSES

OGECHI H. ABAZIE; LINDA C. ODIKPO; DUKE EMON; OLUWAFUNMILOLA. M. MOBOLAJI-OLAJIDE; DOOSHIMA D. GBAHABO; & AISH U. MUSA-MALIKKI

ABSTRACT

The fear of getting infected with COVID-19 is one of the major factors influencing the level of anxiety among Nigerian nurses. This study therefore assesses COVID-19 awareness, anxiety and reasons influencing levels of anxiety among Nigerian Nurses. This is a cross-sectional quantitative online survey. Multistage sampling technique was used to select participants. A self-structured questionnaire with four sections was used for awareness of Covid-19, while the level of anxiety was determined using the Generalised Anxiety Disorder Assessment (GAD-7). Data were collected using Google form via email, WhatsApp and Instagram. The data was analyzed using Statistical Package for Social Science (SPSS) version 20 software. Descriptive data were presented in tables, charts, percentages, means and standard deviation while the inferential data were tested with Chi-square and regression at significance level of $p = 0.05$. The respondents mean age was 41.01 ± 8.21 years and 13.1 ± 8.44 as mean years of experience. The level of awareness of COVID-19 (98.1%) and the levels of anxiety (71.6%) are very high. The reason influencing level of anxiety include respondents knowledge that COVID-19 is highly contagious secondly, the scared of infecting their family, patients, colleagues and thirdly, loosing them. Hypothesis tested showed that there is a significant relationship between Covid-19 and two reasons which are respondents know that COVID-19 is highly contagious $P = 0.000$ and scared of infecting their family, patients, colleagues and losing them $P = 0.016$. In conclusion, there is need to support the nurses as the work during this pandemic to easy their anxiety.

Keywords: COVID-19; Awareness; anxiety; Nigerian Nurses

INTRODUCTION

The etiological agent for coronavirus disease 2019 (COVID-19), also known as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) was first reported from China on the 31st of December, 2019 as a cause of pneumonia and other respiratory symptoms. It has spread to many countries around the globe which led the World Health Organization (WHO) to announce it as a worldwide pandemic in March 2020 (WHO, 2020). Facing this large-scale infectious public health event, Nurses all over the world, including Nigeria are under immense physical and psychological stress. The fear of being infected with COVID- 19 is among the major factors affecting nurses in Nigeria. The World Health Organization (2020) and the Center for Disease Control and Prevention (CDC, 2020) provide information on the number of people infected and deaths caused by COVID- 19 every day which increases the anxiety level of the nurses. As of the time of this study, there are 20.6 million positive cases and 749 thousand deaths globally (WHO, 2020). In Nigeria, according to Nigeria Center for Disease Control (NCDC, 2020), there are 48,770 positive cases and 974 deaths.

Nurses are the largest in number when you look at the population of health care workers and they spend more time with their patients. Generally, they are at risk of exposure to highly infectious pathogens while they care for patients or by exposure to the patient environment or biological samples. They will be worried of being infected and transmitting infection to family members (Hammen, 2018). Such fear may have negative effects on their jobs. Nurses and other Health Care Workers

(HCWs) exposed to severe acute respiratory syndrome SS(SARS) outbreak in 2002–2003 experienced high levels of psychological stress due to quarantine, reporting, body temperature monitoring and eventually a refusal to care for patients (Temsah, Al-Sohime, Alamro, Al-Eyadhy, Al-Hasan, Jamal et al 2020). They also need to deal with the unpredictability of their work schedule which necessitates them to adjust their private and social life. The consequences of stress may last long after the outbreak and may result in depression or post-traumatic stress disorder (Temsah, Al-Sohime, et al (2020).

It is also important to see the problems experienced by health care workers in the course of performing their duty, for instance, the cases in China, Italy, and Spain, (Bostan, Akbolat, Kaya, Ozata, Gunes, 2020). In particular, the problem of hospitals being filled quickly, the inability to find a place for the next patient, and the possibility of not finding enough teams and personal protective equipment (PPE), has led to a rapid change in general approaches. The appearance of a puzzler in the working environment can cause tension and anxiety levels among nurses. According to Bostan *et al* (2020), stress developing in the working environment is expected to create tension in the employee due to physical or psychological reasons. Also, the emergence of a much unknown situation is seen as a situation that increases the concern of health care workers to protect themselves and their relatives (Bostan et al 2020). All these are not different from what is happening to nurses in Nigeria with the number of cases of COVID-19 increasing every day. Hence this study assesses awareness, anxiety and factors influencing levels of anxiety among Nigerian nurses during COVID-19.

Objectives of the study

1. To assess the level of awareness of COVID-19 among Nigerian Nurses

2. To determine the level of anxiety among Nigerian Nurses.
3. To identify the factors influencing levels of anxiety among Nigerian nurses during COVID-19.

METHODOLOGY

The study adopted online cross-sectional quantitative survey. The research setting is Nigeria. Nigeria is made up of six geopolitical zones. Three isolation centres/hospitals from each of the states were selected from the six geopolitical zones, for the study. The zones and states included were South-south, Rivers and Akwa-Ibom; North-East, Bauchi and Taraba; South-East, Abia and Anambara states; North-west, Kaduna and Kano; North central, Benue and Nassarawa; South-west, Lagos and Ogun. Nigerian Nurses working at the coronavirus isolation centres was the target population. The sample size determination adopted was the Naing formular (Naing, Winn, and Rusli, 2006. For sample size calculation, the total population of nurses working in Nigeria are 250,000 (Nursing and Midwifery council of Nigeria, 2020). With confidential level of 95%, margin of error 5% = 384.

A multistage sampling technique was used to assess awareness, anxiety and factors influencing levels of anxiety among Nigerian nurses during COVID-19. Simple random sampling method was used to select two states from the six geopolitical zones (states with high cases of COVID-19). Simple random was employed to select three isolation Centres/Hospitals from each state. Consecutive recruitment method was applied in selecting the mails of the nurses that participated in the study because of the lock down.

The instrument used for data collection was a self-structured questionnaire with four sections. a) socio-demographic variable, b) awareness of COVID-19, c) anxiety level of the nurses caring for patients during COVID-19, d) reasons for the nurses' anxiety. Ethical

approval was obtained from the Health and Research Ethical Committee of Lagos University Teaching Hospital. The informed consent form was presented before the questionnaire to the Nurses that agreed to participate in the study. Confidentiality and other ethical principles were adhered to in the course of data collection and analysis. Data were collected using Google form via email, WhatsApp and Instagram.

Data were analyzed using Statistical Package for Social Science (SPSS) version 20 software. Descriptive data of participants was presented in tables, charts, percentages, means and standard deviation while the inferential data

were tested with Chi-square and regression at significance level of $p=0.05$.

The mean of the correct options on knowledge of Coronavirus questions were determined, scores below the mean were rated poor, and while above the mean were rated good knowledge. Level of anxiety was determined using Generalised Anxiety Disorder Assessment (GAD-7). Total score for the seven items ranges from 0 to 21. Scores of 0 stands for no anxiety, 1-7 signify mild anxiety, 8-14 denotes moderate, while 15-21 stands for severe anxiety.

RESULT

The mean age of the respondents was 41.01±8.21 years, majority have B.Sc/B.N.Sc

107(51.2%). Mean years of experience is 13.1±8.44years. (Table 1).

Table 1: Socio-demographic variable of Nigerian Nurses

Variable	Frequency (n=418)	Percentage (%)
Gender		
Female	340	81.3
Male	78	18.7
Age (year)		
16 – 29	96	23.0
30 – 49	210	50.2
50+	112	26.8
Mean ±SD = 37.81±8.21years		
Marital status		
Divorced	6	1.4
Married	278	66.5
Separated	4	1.0
Single	108	25.8
Widow/Widower	22	5.3
Highest Educational Level		
RN	44	10.5
Double Qualified	84	20.1
B.Sc./B.N.Sc	214	51.2
M.Sc	68	16.3
Ph. D	8	1.9
Cadre		
SNO	56	13.4
PNO	64	7.7
NO II	58	13.9
NO I	118	28.2
CNO	90	21.5
ADNS	36	8.6
DDNS	20	4.8
DNS	8	1.9
Years of experience		
1-5	126	30.1
6-10	88	21.1
11-15	46	11.0
16 – 20	22	5.3
21 – 25	48	11.5
26 – 30	48	11.5
Above 30	40	9.6
Mean±SD years of experience =13.1±8.44years		
Mobility to work		
No	128	30.6
Yes	290	69.4
Living with family		
No	46	11.0
Yes	372	89.0

All the respondents have heard of COVID-19 and mass media is the source for 280(67%), 230(55%) are not trained to care for COVID-19 patients, majority are aware of the signs and symptoms and that it is spread via respiratory droplets. Only 156 (37.3%) are aware that not

only the elderly, with chronic illnesses, develop severe cases of COVID-19. The mean awareness is 10.67 ± 1.197 . (Table 2). This study shows that the level of awareness is very high (98.1%)

Table 2: Awareness on Coron avirus among Nigerian Nurses

Variable	Frequency (n=418)	Percentage (%)
Have you heard about COVID19		
No	0	0.0
Yes	418	100.0
If yes where did you hear of it		
Friends/family/colleagues	22	5.3
Mass media	280	67.0
Social media	116	27.8
Are you trained to manage COVID19 patients		
No	230	55.0
Yes	188	45.0
Fever, fatigue, dry cough, and myalgia are symptoms of COVID-19.		
True	370	88.5
False	48	11.5
COVID-19 spreads via respiratory droplets of infected individuals.		
True	406	97.1
False	12	2.9
Early symptomatic and supportive treatment help most patients recover from COVID-19.		
True	410	98.1
False	8	1.9
Not all persons with COVID-19 will develop to severe cases.		
True	408	97.6
False	10	2.4
Only the elderly, with chronic illnesses, develop severe cases of COVID-19		
True	262	62.7
False	156	37.3
To reduce the spread of COVID-19 isolation and treatment is the best.		
True	410	98.1
False	8	1.9

Table 3 shows the respondents anxiety levels using the Generalized Anxiety Disorder Assessment (GAD-7). Majority of the respondent have different levels of anxiety, from mild, moderate to severe, only 172(41.1%) of the respondents do not feel nervous, anxious, on edge or to stop worrying when the remember COVID-19, 190(45.5%)

do not feel afraid as if something awful might happen. However, 256(61.2%) of the respondents do not feel so restless that it is hard to sit still and 242(57.9%) do not become easily annoyed or irritable at the present situation with Mean ± SD = 2.3254±.96046. The level of anxiety is very high (71.6%) among Nigerian nurses in the presence of covid-19.

Table 3: Anxiety level among Nigerian nurses in the presence of COVID-19

Items	N=418	NAA	SD	OHTD	NED
Feeling nervous, anxious, or on edge as I remember COVID-19	172(41.1)	114(27.3)	46(11.0)	86(20.6)	
Not being able to stop or control worrying since the emergence of COVID-19	172(41.1)	110(26.3)	52(12.4)	84(20.1)	
Worrying too much about different things since the emergence of COVID-19	150(35.9)	118(28.2)	56(13.4)	94(22.5)	
Inability to relaxing at the present COVID-19 situation	214(51.2)	78(18.7)	58(13.9)	68(16.3)	
Being so restless that it is hard to sit still	256(61.2)	82(19.6)	38(9.1)	42(10.0)	
Becoming easily annoyed or irritable at the present situation	242(57.9)	88(21.1)	38(9.1)	50(12.0)	
Feeling afraid as if something awful might happen	190(45.5)	108(25.8)	48(11.5)	72(17.2)	

KEY: NAA = Not at all sure; SD = Several Days; OHTD = Over Half the days; NED = Nearly Everyday

Table 4 shows that there is no significant association between Overall Awareness and

Anxiety Level among Nurses in Nigeria with p = 0.277

Table 4: Relationship between Overall Awareness and Anxiety Level among Nurses

Anxiety level	Overall Awareness		Total	X ²	Df	P-value
	Good	Poor				
None	46(53.5)	40(46.5)	86(100)	3.860	3	0.277
Mild	76(44.7)	94(55.3)	170(100)			
Moderate	38(37.3)	64(62.7)	102(100)			
Severe	20(33.3)	40(66.7)	60(100)			
Total	160(43.1)	238(56.9)	418(100)			

Table 5 shows that there is a significant relationship between Covid-19 and two reasons which are respondents know that COVID-19 is highly contagious $P = 0.000$ and

scared of infecting their family, patients, colleagues and losing them $P = 0.016$. The other reasons of anxiety do not have significant influence on the level of anxiety with $p \geq 0.05$.

Table 5: Regression on Covid-19 and the Reasons on the level of Anxiety

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.217	0.151		-1.440	.151
Anxious because I know that COVID-19 is highly contagious.	0.204	0.048	0.356	4.273	0.000
Anxious because I'm a frontline worker and having direct contact with the patient.	0.062	0.051	0.110	1.217	0.225
Many people including my colleagues have died from Covid-19.	0.026	0.034	0.055	.766	0.445
Scared of infecting my family, Patients, colleagues and losing them.	0.114	0.047	0.209	2.420	0.016
Due to inadequate personal protective equipment in my institution.	-0.073	0.044	-0.147	-1.647	0.101
Due to scary news from media with regards to the disease, I am anxious I might get infected.	-0.018	0.039	-0.040	-.467	0.641
I am scared my children might be vulnerable as I care for them.	-0.028	0.041	-0.060	-.696	0.487

Discussion of findings

This study determined the awareness, anxiety and reasons influencing levels of anxiety of COVID-19 among Nigerian Nurses. The demographic characteristics of the respondents shows that the mean age was 41.01 ± 8.21 years, majority have B.Sc/B.N.Sc 107(51.2%). Mean years of experience is 13.1 ± 8.44 years.

This study shows that the level of awareness is very high. This finding is in line with Valdivia, Chino-Vilca and Ames-Guerrero, (2020) and Minghe, Fang, Yunjian, Luyang, Guohua, Min (2020) who discovered high level of awareness of COVID-19 among their study population and that knowledge highly correlates with education. Ogolodom, Mbaba, Alazigha, Erundu, Egbe, Golden et al (2020) in their own study in South-South, Nigeria reports that majority of health workers are highly knowledgeable of the COVID-19 pandemic

which is also good level of awareness. Against this backdrop however, this study contradicts the findings of Wu Z (2020) and McGoogan, (2020) which reveal that HCWs have inadequate awareness of the infection. This study also does not support Tendongfor et al, (2020) that revealed a gap of knowledge in respect of COVID-19 in South West Region of Cameroon. The writers explained that the similarity of this study may be as a result of the demographic characteristics of the respondents while the differences with the other results may be as a result of environmental features.

The level of anxiety is very high among Nigerian nurses in the presence of covid-19, using Generalised Anxiety Disorder Assessment (GAD-7). The findings of this study is in line with ICN president Annette Kennedy statement that: “there is strong evidence that nurses are experiencing

unprecedented levels of stress and anxiety which can threaten their performance of duty of care to their patients (Steve, 2020). Also, the result is in agreement with the study by Brittany Haskell, Mathew Schroer, and Marci Zsamboky (2020) who stated that everyone, especially health workers is experiencing generalized fear and anxiety with Signs of stress emanating from an infectious disease outbreak like COVID-19 which can lead to worsening of mental health conditions, increased use of alcohol, tobacco, or other drug (CDC, 2020) and this signs can be worsening for first responders or frontline health workers especially nurses.

The result shows that the reasons for anxiety of nurses is because they know that COVID-19 is highly contagious and they are frontline worker and having direct contact with patients, the fear of getting infected, infecting their family/patients/colleagues and losing them and also due to inadequate personal protective equipment in their institution. Hence the fear experienced by these nurses has attachment to certain reasons which can be physical or psychological, especially as regards their work environments which can cause tension, stress and anxiety levels to develop among the nurses (Bostan, Akbolat, et al 2020). The finding agrees with Bostan, Akbolat, et al. (2020) who sees COVID-19 as the emergence of a much unknown situation that increases the concern of health care workers to protect themselves and their relatives as projected in the fact that nurses are very much anxious of infecting their family and colleagues.

This study is in congruent with the study of Nemati, Ebrahimi, Nemati, (2020) who assess the knowledge and anxiety of Iranian Nurses towards COVID-19 and discovered that nurses' level of anxiety is high especially with regards to infection of their family members. Likewise, this study is similar to Li, Ge, Yang, et al. (2020) who reported that nurses working during this pandemic experiences an unprecedented level of anxiety. The writers observed that it is very obvious that nurses are really anxious in this present pandemic despite

the level of anxiety, hence the need to support nurses who may be experiencing anxiety by offering verbal support and also provide the necessary PPE that they can work with that can assure their safety in other to allay their fears especially of getting the disease and also fear of infecting themselves, colleagues and their family.

Hypothesis tested using non-parametric tool (Chi-square) shows no significant association between overall awareness and anxiety level among Nurses in Nigeria. That invariably shows their level of awareness of COVID 19 had nothing to do with the anxiety the nurses in Nigeria experienced. The result confirms Valdivia, Chino-Vilca, Ames-Guerrero, (2020) study on knowledge, perception and attitudes in regard to COVID-19 Pandemic in Peruvian Population Zegarra, which states that knowledge or awareness of COVID-19 highly correlates with education and not related to anxiety of nurses hence the anxiety of nurses in Nigeria is not in any way associated with their level of awareness.

Hypothesis tested reveals that there is a significant relationship between Covid-19 and two reasons which are respondents know that COVID-19 is highly contagious and scared of infecting their family, patients, colleagues and losing them. This finding is in line with a study by Nemati, Ebrahimi, Nemati, (2020) which discover nurses' level of anxiety is high especially with regards to infection of their family members.

CONCLUSION

Nurses in Nigeria are highly aware of the COVID-19 disease, although they show that they are anxious in the present pandemic ranging from mild, moderate, to severe level of anxiety with the associated reasons which have nothing to do with their awareness of the disease. The major reasons for the anxiety they experience is categorically due to the

contagious nature of the disease and the fear of infecting themselves, colleagues and family members and also the fear of losing them. Therefore, there is need for the nurses to be supported in their day-to-day task to allay their anxiety and also hospital administrators should put all the necessary measures to allay their level of anxiety through appropriate provision of necessary equipment, including administrative and professional measures.

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