



## NURSING STUDENTS' PERCEPTION AND ATTITUDE TOWARDS ONLINE LEARNING DURING COVID-19 PANDEMIC IN NIGERIA

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**ABSTRACT:** *The COVID-19 pandemic affected nursing students dramatically when the clinical sites and the onsite classrooms closed to physical participation. The study is on nursing students' perception, attitude and perceived benefits of online learning during the COVID-19 Pandemic.*

*Methods: This is a descriptive cross-sectional online survey of nursing students. A multistage sampling technique was used for the study. Data were collected using Google Forms from 429 nursing students. Descriptive data of respondents were presented in tables, charts, percentages, means, and standard deviation, while the inferential data were tested with Chi-square at a significance level of  $P < 0.05$ .*

*Results: Mean age is  $23.15 \pm 3.10$  years, 396(92.3%) had positive perception and 396(92.3%) had a good attitude towards online learning. There is a relationship between the perception of online learning and attitudes toward online learning as all the variables showed a statistically significant relationship of  $p < 0.001$ .*

*Conclusion: Nursing students had a positive view of online learning in nursing education. To be successful, online learning must be reliable, accessible, and user-friendly with tech support available 24 hours a day.*

**KEYWORDS:** Attitude, Perception, Nursing students, online learning, COVID-19.



## INTRODUCTION

### Background of the study

The World Health Organisation (WHO) on January 30 2020, pronounced COVID-19 as a public health emergency of international concern (Abazie et al., 2021) then a lot changed in the continents. The coronavirus (COVID-19) pandemic, reshaped our educational system globally. Information on how to prevent the spread of COVID-19 included washing hands, wearing masks, and not congregating in groups (Huh, 2020), with the potential for a gathering of groups in universities to potentially increase transmission of the novel virus (Wang et al., 2020). Therefore, universities where gatherings often exceed several hundred were closed and faced with coordinating with health management agencies to move courses for teachers and students online (Shem and William, 2020). Online learning was the only means to meet up with loss in the educational settings caused by lockdown during the pandemic. Nursing education in Nigeria and many other developing countries for the first time adopted the online learning method to deliver higher educational services during the COVID-19 pandemic

According to Singh and Thurman (2019), online learning is a “learning experience through the internet / online computers in a synchronous classroom where students interact with the teacher and other students and are not dependent on their physical location for participating in this online learning experience. Most universities shifted to online mode using Google Meet, Microsoft Teams, Zoom, Youtube or other online platforms, (Muthuprasad et al., 2021). This method was a big challenge to the institutions, teachers, students especially nursing teachers and students who are experiencing this for the first time. Although the pandemic lockdown created a degree of inconvenience among the faculty members it also allowed them to search for alternative methods to traditional classroom teaching using virtual mediums within a short period.

The three dimensions required for online learning are Cognitive participation; which is the cognitive effort of a student to acquire skills in the online learning process. Emotional participation is described as students’ positive emotions towards teachers, peers, and online learning. Behavioural participation is participation that is manifested by activities that pay attention to learning when studying online (Jung & Jeongmin, 2018). Motivation is generated through effective learning. Effective online learning requires effective instructional design and procedures based on the concept of a good education. It will positively impact the instructions if the plan is correct. For example, designing learning must consider the method, flexibility of time, student involvement in activities, and presentation of material (Simonson et al., 2015; Barberà et al., 2016). Variations in teachers' teaching style and their expertise in using technology to interact with students also significantly affect the motivation and results of e-learning (Ozkan and Koseler, 2009).

Information on an emerging, novel epidemic may create a demand for the risk of contracting a disease, even as experts lack basic facts about the disease, as documented for SARS (Bennet et al., 2015). On top of normal school work, being stuck at home due to the fear of Coronavirus leads to a sense of fear, stress, and anxiety not normally felt by nursing students (Singh & Singh 2020). Concurrently, misinformation appears to be widespread, highlighting a disconnect between the medical scientific community and the public related to COVID-19 (Mian & Khan 2020). Moreover, the psychological effects of quarantine due to coronavirus include infection fears, confusion, frustration, inadequate supplies and inadequate information (Brooks et al.,



2020). Isolation and lack of social contact may be increased as stay-at-home orders are issued during COVID-19, which increases anxiety and depression (Hiremath et al., 2020).”.

Online learning has several benefits such as easy accessibility, flexibility, increased convenience, relatively cheaper mode of education in terms of low cost of transportation, and accommodation. Several arguments are also associated with online learning such as internet accessibility, poor internet connection quality, affordability, insufficient digital knowledge of learners, and time flexibility. (Bączek et al., 2020; Dhawan, 2020). Also, reduction in air pollution, for example, carbon dioxide emission because of the reduction in traffic.

The perceived satisfaction and effectiveness of online teaching are when teachers have sufficient and up-to-date knowledge in their area of expertise ( Early and Murphy, 2009). Opeyemi, Adeyemi, Olajuwon, Oloruntosin and Oladeji (2019) posited from their study that the majority of respondents (99.4%) stated that online learning is user-friendly. The success of e-learning depends on many factors, this study is on nursing students’ perceptions and attitudes of online learning among undergraduate nursing students during the COVID-19 Pandemic in Nigeria.

### **Objectives**

To determine the perception of nursing students towards online learning in Nigeria during the coronavirus pandemic.

To determine the attitude of nursing students in Nigeria towards online learning during the coronavirus pandemic.

### **Hypotheses**

There is no significant association between the nursing student’s perception and attitude towards online learning during the coronavirus pandemic.

### **Methods**

**Study design:** This was a descriptive cross-sectional online survey on nursing student’s perception, attitude and perceived benefit towards online learning during the coronavirus pandemic in Nigeria.

### **Settings**

Four nursing institutions were used: Department of Nursing Science, College of Medicine University of Lagos. Department of Nursing Science University of Ondo. Department of Nursing Nnamdi Azikiwe University Akwa. School of Nursing, University of Ilorin Teaching Hospital, Ilorin

### **Sample Size Determination**

The sample size for the study was calculated using Taro Yamane’s formula

$$n = \frac{N}{1 + N(e)^2}$$



Where  $n$  = sample

$N$  = population size

$e$  = error limit (0.05)

$N$  = Unilag =85, Unizik = 438, Uniondo =272, SON UITH = 110

$n = \frac{905}{1 + 905(0.05)^2}$

$n = 400$

10% attrition = 440

Distribution of respondents at institutions

$$= \frac{\text{Sample size} \times \text{Estimated students at institution}}{\text{Total estimated students}}$$

### Sampling Methods

Multistage sampling technique was used for selection of the participants. A simple random sampling method was used in selecting, three regions out of six regions in Nigeria. South West, South East and North Central. Simple random sampling was used to select four nursing institutions from the three regions, the Department of the Nursing Science University of Lagos, the School of Nursing, the University of Ilorin Teaching Hospital, the Department of Nursing Nnamdi Azikiwe University and the Department of Adult and psychiatric mental health nursing University of medical sciences Ondo state. Convenient sampling was used to select 440 participants for the study, 42 from Unilag, 212 from Unizik, 132 from Unimed Ondo and 54 from SON UITH using proportion.

**Target population:** Students in nursing institutions in Nigeria

**Study Population:** Students in 200 level or second year and above in selected nursing institutions in Nigeria

### Inclusion Criteria:

Nursing students in their 200 level or second year to 500 level

Willing to participate in the study.

Nursing students in the selected nursing institutions

**Validity:** The validity of the instrument was determined through face and content validity tests by experts in the field of nursing research and public health.

**Reliability:** The reliability of the instrument was established by the test-retest method, using 10% of the total respondents. The questionnaire was administered to nursing students in the



Department of Nursing, College of Medicine, Lagos State University and the reliability index was calculated,  $r = 0.8$ .

### Method of Data Analysis

The data was collected through electronic means using Google Drive and it was sent to the students via WhatsApp and email. Statistical Package for the Social Sciences (SPSS) Version 22 was used for data analysis. The Socio-demographic variables and objectives were analysed using descriptive statistics (Percentage, Frequencies, Mean, and Tables), and Inferential statistics (chi-square) was used to test the hypotheses of the study at a significant level of  $p = 0.05$ .

**Ethical Consideration:** Ethical approval was obtained from the Health Research Ethics Committee, Lagos University Teaching Hospital for the study with the Health Research Committee Assigned Number: ADM/DCST/HREC/APP/4220. Confidentiality of the personal information of the respondents was maintained throughout the study by making respondents' information anonymous and asking respondents to provide honest answers. Eligible nursing students' participation in the survey was voluntary and they were informed that there would be no compensation. Electronic informed consent was given by the participants.

**Results** A total of 440 questionnaires were expected from the respondents but only 429(97.5%) were collected and used for the study.

**Table 4.1: Socio-demographics data of the Respondents**

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<b>Age</b>		
16 – 20	86	20.0
21 – 25	258	60.2
26 – 30	66	15.4
31 and above	19	4.4
<b>Institution</b>		
NAUTH	205	47.8
UNILAG	42	9.8
UNIONDO	128	29.8
SON UITH	54	12.6
<b>Marital Status</b>		
Single	392	91.4
Married	37	8.6
<b>Religion</b>		
Islam	51	11.9
Christianity	377	87.9
Others	1	.2
<b>State</b>		
Anambra	110	25.6
Imo	57	13.3
Kwara	45	10.5
Ondo	44	10.3
Others	173	40.3

***Level of Education***

Undergraduate	429	100
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Table 4.1: Majority 258(60.2%) of the respondents were aged between 21-25 years with mean age of  $23.15 \pm 3.10$ . Also 392(91.4%) were married, while 377(87.9%) of them were Christians and all were in their undergraduate level of education 429(100%). Anambra, Imo, Kwara, Ondo and Enugu were the modal states of origin 110(25.6%), 57(13.3%), 45(10.5%), 44(10.3%) and 21(4.9%) respectively

**Table 4.2a: Perception of Online Learning among the Respondents**

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<b><i>Quality of online learning is satisfactory</i></b>		
Strongly Disagree	8	1.9
Disagree	174	40.6
Agree	194	45.2
Strongly Agree	53	12.3
<b><i>Online learning is better than face-to-face learning</i></b>		
Strongly Disagree	44	10.2
Disagree	159	37.0
Agree	30	6.9
Strongly Agree	197	45.9
<b><i>The students can cope with online learning</i></b>		
Strongly Disagree	21	4.9
Disagree	115	26.8
Agree	254	59.2
Strongly Agree	39	9.1
<b><i>Students can easily switch from ordinary learning to online learning easily</i></b>		
Strongly Disagree	23	5.4
Disagree	161	37.5



Agree	212	49.4
Strongly Agree	33	7.7
<b><i>Academic performance will be better with online learning than ordinary teaching</i></b>		
Strongly Disagree	65	15.2
Disagree	243	56.7
Agree	88	20.5
Strongly Agree	32	7.6
<b><i>Impact of online learning is improved by concentration and assimilation</i></b>		
Strongly Disagree	31	7.3
Disagree	175	40.8
Agree	175	40.8
Strongly Agree	48	11.1
<b><i>Online learning is adequate for courses that need practical demonstrations like the nursing courses</i></b>		
Strongly Disagree	129	30.0
Disagree	198	46.2
Agree	71	16.6
Strongly Agree	31	7.2

**Table 4.2b: Perception of Online Learning among the Respondents**

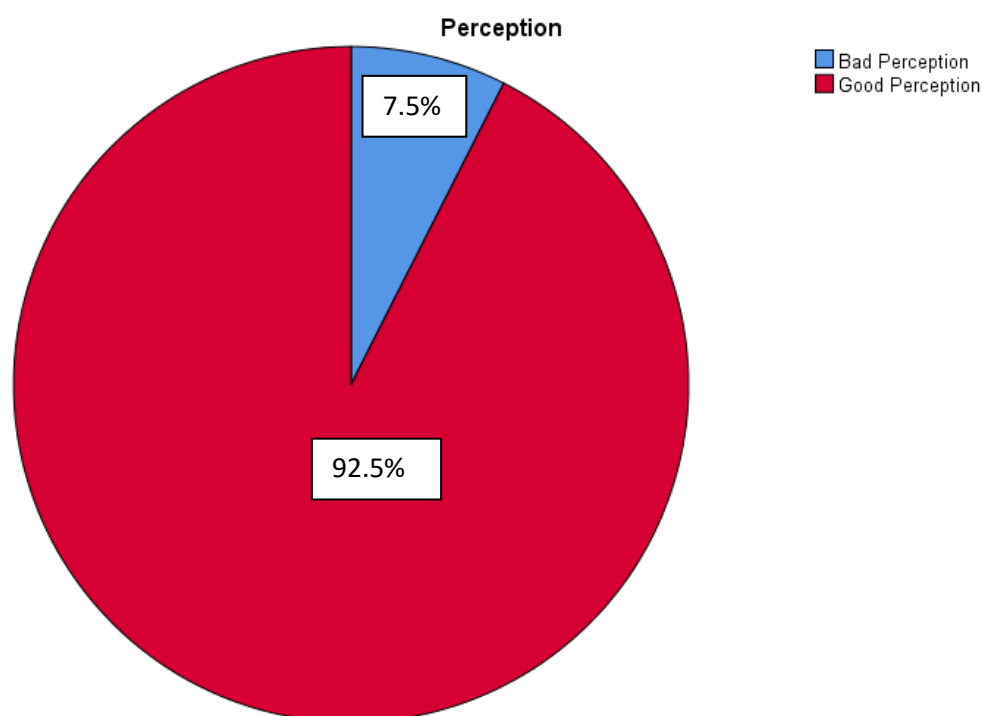
<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<b><i>I feel like an isolated learner, because it's just me and my computer</i></b>		
Strongly Disagree	26	6.1
Disagree	131	30.5
Agree	173	40.3
Strongly Agree	99	23.1
<b><i>Online teaching motivated me to learn more than traditional teaching</i></b>		





Strongly Disagree	49	11.4
Disagree	199	46.5
Agree	134	31.2
Strongly Agree	47	10.9
<b><i>Online teaching is not secure</i></b>		
Strongly Disagree	35	8.2
Disagree	165	38.4
Agree	160	37.2
Strongly Agree	69	16.2

Table 4.2 shows that more than half 247(57.5%) of the respondents agreed that the quality of online learning is satisfactory, 308(71.9%) disagreed that academic performance will be better with online learning than ordinary teaching. Only 206 (48.1%) of the respondents disagreed that the impact of online learning is improved by concentration and assimilation. In addition, 181 (42.1%) of the respondents agreed that online teaching motivated them to learn more than traditional teaching and 200(46.6%) of the respondents disagreed that online teaching is not secure.



**Figure 4.1: Overall Perception of Online Learning among the Respondents**

Figure 4.1 depicts the overall attitude of the respondents toward online learning. A 4-point Likert scale with 10 items scored in ascending order 1 – 4 for items that depicted a good perception and in reverse order 4 – 1 for items that depicted a bad perception was employed to assess the level of perception. The average score was graded to give the perception of online





learning; those that scored >2 were graded as having a good perception while a score of < 2 showed a bad (poor) perception of online learning. There was generally a good perception towards online learning 397(92.5%) while only 32(7.5%) showed a bad perception towards online learning.

**Table 4.3a: Attitude toward online learning among the Respondents**

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<b><i>Online learning is convenient and flexible</i></b>		
Strongly Disagree	14	3.3
Disagree	80	18.6
Agree	229	53.4
Strongly Agree	106	24.7
<b><i>Online learning is easy to interact with facilitators and students</i></b>		
Strongly Disagree	38	8.8
Disagree	188	43.8
Agree	156	36.4
Strongly Agree	47	11.0
<b><i>Online learning improves nursing care</i></b>		
Strongly Disagree	62	14.5
Disagree	202	47.0
Agree	136	31.7
Strongly Agree	29	6.8
<b><i>Online learning gives a positive learning experience</i></b>		
Strongly Disagree	29	6.8
Disagree	144	33.5
Agree	198	46.2
Strongly Agree	58	13.5
<b><i>I like the idea of online learning</i></b>		
Strongly Disagree	36	8.4
Disagree	120	27.9
Agree	182	42.5
Strongly Agree	91	21.2
<b><i>Adapting to the use of computers and online based studies is stressful</i></b>		
Strongly Disagree	17	4.0
Disagree	174	40.6
Agree	166	38.7
Strongly Agree	72	16.7
<b><i>I like participating in an online based study</i></b>		
Strongly Disagree	25	5.8
Disagree	126	29.4
Agree	229	53.4
Strongly Agree	49	11.4
<b><i>I lose my concentration when I am online</i></b>		
Strongly Disagree	21	4.9
Disagree	163	37.9

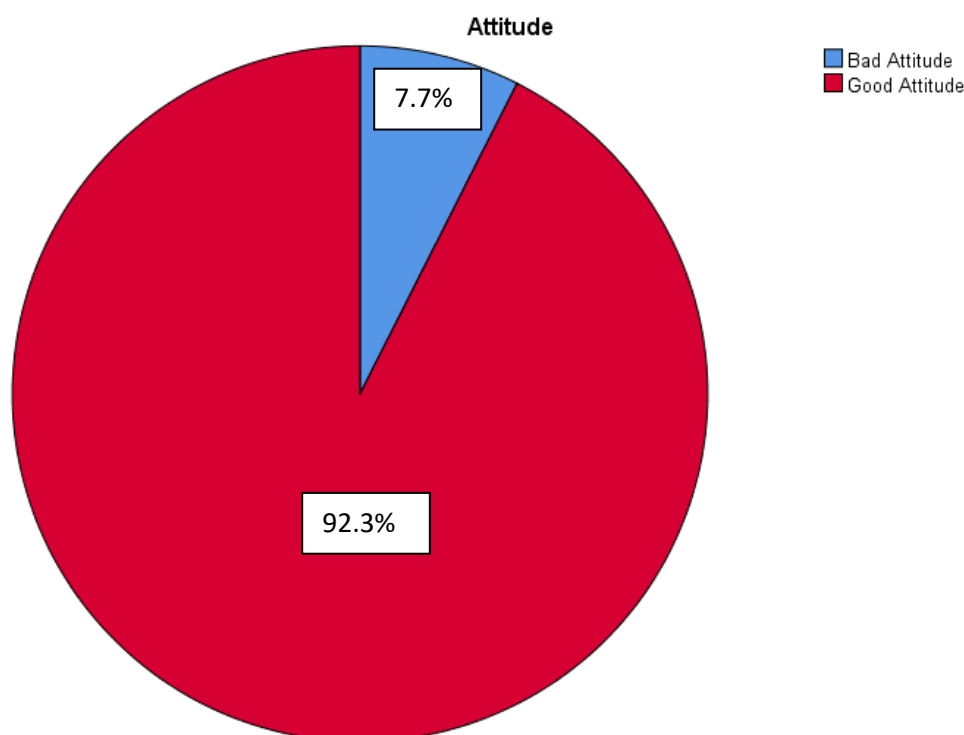


Agree	149	34.8
Strongly Agree	96	22.4

**Table 4.3b: Attitude toward online learning among the Respondents**

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<b><i>I feel confident about the Internet program for learning</i></b>		
Strongly Disagree	37	8.6
Disagree	136	31.7
Agree	202	47.1
Strongly Agree	54	12.6
<b><i>I am satisfied with the multimedia instruction</i></b>		
Strongly Disagree	30	6.9
Disagree	146	34.0
Agree	206	48.2
Strongly Agree	47	10.9
<b><i>I believe the online learning contents are informative</i></b>		
Strongly Disagree	19	4.5
Disagree	60	13.9
Agree	263	61.3
Strongly Agree	87	20.3
<b><i>I intend to use online learning content to assist my learning in future</i></b>		
Strongly Disagree	18	4.2
Disagree	55	12.8
Agree	241	56.2
Strongly Agree	115	26.8
<b><i>I believe online learning can assist in learning efficiency</i></b>		
Strongly Disagree	19	4.4
Disagree	66	15.3
Agree	238	55.6
Strongly Agree	106	24.7
<b><i>I believe online learning can assist in learning performance</i></b>		
Strongly Disagree	18	4.3
Disagree	79	18.4
Agree	234	54.5
Strongly Agree	98	22.8
<b><i>I believe online learning can assist in learning motivation</i></b>		
Strongly Disagree	17	3.9
Disagree	126	29.4
Agree	209	48.8
Strongly Agree	77	17.9
<b><i>I believe online learning can assist students-students interaction</i></b>		
Strongly Disagree	35	8.2
Disagree	177	41.3
Agree	154	35.8
Strongly Agree	63	14.7

In table 4.3 it can be seen that 335 (78.1%) agreed that online learning is convenient and flexible, 173 (40.3%) of the respondents disagreed that online learning gives a positive learning experience. However, 184(42.8%) of the respondents disagreed with the question of losing their concentration when they are online, and only 79(18.4%) of the respondents disagreed that online learning content is informative. While 332(77.3%) agreed that online learning can assist in learning performance, only 217(50.5%) agreed online learning can assist students-students interaction.



**Figure 4.2: Attitude towards online learning among the Respondents**

Figure 4.2 represents the attitude of the respondents towards online learning. A 4-point Likert scale with 16 items scored in ascending order 1 – 4 for items that depicted a positive attitude and in reverse order 4 – 1 for items that depicted a negative attitude was employed to assess the level of perception. The average score was graded to give the attitude towards online learning; those that scored  $>2$  were graded as having a positive attitude while a score of  $< 2$  showed a negative attitude towards online learning. There was generally a positive attitude towards online learning 396(92.3%) compared to 33(7.7%) of the respondents that showed a negative attitude.

**Table 4.5a: Relationship between perception of online learning and attitude toward online**

<i>Variables</i>	<i>Attitude</i>		<i>X<sup>2</sup></i>	<i>P-value</i>
	<i>Bad</i>	<i>Good</i>		
<b>Learning by the Respondents</b>				
<b><i>The quality of online learning is satisfactory</i></b>				
Strongly Disagree	12	12	77.362	<0.001*
Disagree	8	167		
Agree	14	168		
Strongly Agree	0	48		
<b><i>Online learning is better than face-to-face learning</i></b>				
Strongly Disagree	7	37	21.168	<0.001*
Disagree	2	157		
Agree	0	30		
Strongly Agree	24	172		
<b><i>The students can cope with online learning</i></b>				
Strongly Disagree	15	6	140.131	<0.001*
Disagree	16	105		
Agree	5	250		
Strongly Agree	0	32		
<b><i>Students can easily switch from ordinary learning to online learning easily</i></b>				
Strongly Disagree	10	13	53.718	<0.001*
Disagree	16	145		
Agree	6	205		
Strongly Agree	0	34		
<b><i>Academic performance will be better with online learning than ordinary teaching</i></b>				
Strongly Disagree	21	44	69.604	<0.001*
Disagree	10	233		
Agree	1	87		
Strongly Agree	0	33		
<b><i>Impact of online learning improved by concentration and assimilation</i></b>				
Strongly Disagree	15	16	85.329	<0.001*
Disagree	12	164		
Agree	2	173		
Strongly Agree	3	44		
<b><i>Online learning is adequate for courses that need practical demonstrations like the nursing courses</i></b>				
Strongly Disagree	25	102	40.361	<0.001*
Disagree	8	191		
Agree	0	71		
Strongly Agree	0	32		

\*Significant

**Table 4.5b: Relationship between perception of online learning and attitude toward online**

<i>Variables</i>	<i>Attitude</i>		<i>X<sup>2</sup></i>	<i>P-value</i>
	<i>Bad</i>	<i>Good</i>		
<b>Learning by the Respondents</b>				
<i>I feel like an isolated learner because it's just me and my computer</i>				
Strongly Disagree	3	23	17.059	0.001*
Disagree	4	129		
Agree	10	160		
Strongly Agree	16	84		
<i>Online teaching motivated me to learn more than traditional teaching</i>				
Strongly Disagree	18	29	65.256	<0.001*
Disagree	10	189		
Agree	3	132		
Strongly Agree	2	46		
<i>Online teaching is not secure</i>				
Strongly Disagree	8	38	19.931	<0.001*
Disagree	7	156		
Agree	9	146		
Strongly Agree	12	53		

\*Significant

Table 4.5a, and b depicts the relationship between the perception of online learning and attitude toward online learning. It was observed from the table that there is a strong relationship between the perception of online learning and attitudes toward online learning as all the variables showed a statistically significant relationship of  $p < 0.05$ .

## DISCUSSION

During and after the COVID-19 pandemic online learning is no longer considered to be for a particular group of students. Every student no matter the course and level participated in one form of online learning during the COVID-19 pandemic. This study assessed the perception, attitude and perceived benefit of online learning among nursing students in Nigeria. The mean  $\pm$  SD age of respondents was  $23.15 \pm 3.10$ , 392(91.4%) were single and all were undergraduates. The same was reported by Akuratiya and Meddage (2020) and Mariya, Joseph, Marina, Jesly, Veronica and Sabeena (2022) the age majority of their students ranged from 20 -25 years and they were all undergraduate students at different levels. This age group are the technology generation and they use the internet and devices more with ease no matter their location.

The result revealed that there was generally a good perception towards online learning 397(92.5%). Akuratiya and Meddage (2020) in their study reported that the overall perception regarding online learning during COVID-19 in Sir Lanka was 79.7% which is in support of this study, also 82.9% of their students agreed to integrate online learning into their courses in the future. In the current study, 293(68.3%) can always cope with online learning. This could be related to the advances in technology that are inherent in the present generation and the



availability and accessibility of the devices and internet within the settings during the study. Abbasi et al. (2020) found that the majority of Pakistan students had a negative perception of online learning, and they felt online learning has little impact on their learning also, Abbasi et al. (2020) found that students were not ready to adopt online learning, which is contradicting with the finding of this study. This could be because of the difference in the settings of the two studies.

This study shows 308(71.9%) of the respondents disagreed that academic performance will be better with online learning than ordinary teaching while a study by Opeyemi, Adeyemi, Olajuwon, Oloruntosin and Oladeji (2019) highlighted that 97.1% of students agreed that online learning has improved their performance which is not in support of the current study which might be due to lockdown and slowing down of activities that took place during the pandemic.

This study revealed that 327 (76.2%) of the respondents disagreed that online learning is adequate for courses that need practical demonstrations like nursing courses. Meanwhile, 227(52.8%) agreed that online learning is better than face-to-face learning. According to Adhikari, (2022) in her study on attitudes towards online classes among Nursing students during the COVID-19 Pandemic at Nobel Medical College Teaching Hospital, two-thirds (67.5%) of students preferred face-to-face learning. Some student nurses were still inclined towards face-to-face learning.

There is generally a positive attitude towards online learning by the students 396(92.3%) this is supported by the result of (Thapa, Bhandari and Pathak, 2021) where 58.9% of their respondents had a favourable attitude regarding online learning. Also, it was revealed that students and faculty members both reported that their attitudes toward online learning had significantly improved in the past year as 57 %, said they felt more positive about online learning now than before the pandemic (McKenzie, 2021). In another study by Sánchez and Karaksha, (2022) on Nursing students' attitudes toward online learning: a quantitative approach their investigation showed a favourable attitude of nursing students about online learning, however, some negative attitudes were recorded. These attitudes can somewhat be described by the fact that students are inclined to prefer conventional learning styles. This could be because all nursing students are only exposed to online learning during the peak of a pandemic and they had no alternative. A study by (Adhikari, 2022) revealed that 50.43% of the students had negative attitudes towards online classes. Despite being the alternative solution, almost half of nursing students relatively had negative attitudes towards online classes. The difference could be related to the locations of the studies in relation to technology and the pandemic lockdown. The findings show that 226(52.6%) of the students disagreed that it is easy to interact with facilitators and students during online learning. Akuratiya and Meddage (2020) found out that there is reduced interaction between the lecturer and friends 64.1%, supporting the study. Among their students, 70 (54.7%) preferred both online and traditional face-to-face classroom learning which was not seen in the current study.

The majority of the respondents 335(78.1%) agreed that online learning is convenient and flexible. Face-to-face or the classroom has been the acceptable learning method for most nurses in developing countries before COVID-19. The introduction of teaching and learning using technology and the internet during the pandemic provided a means of communication to learners wherever they are located, which has never been there before for many.



It is noted that 262(61.5%) disagreed that online learning improves nursing care. Online learning is not compatible with most nursing clinical educational processes which can only be taught hands-on at the patients' bedside. Florence Nightingale defined nursing as 'The act of utilizing the environment of the patient to assist him in his recovery. How will this happen when the nurse is far away from the patient? Also, Virginia Henderson's definition of nursing in 1966 'The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will, or knowledge, and to do this in such a way as to help him gain independence as rapidly as possible. Wallace, Schuler, Kaulback, Hunt, and Baker, (2021) found out that lack of clinical competence is a challenge when online learning is used in nursing.

It was clearly observed from Table 4.5, that a strong relationship exists between the perception of online learning and attitudes toward online learning as all the variables showed a statistically significant relationship. Variables such as age, enrolled nursing program, and year of study were significantly associated ( $p \leq 0.001$ ) with students' attitudes towards online classes.

## **CONCLUSION**

The study shows that online learning is becoming an important approach to teaching and learning nursing training during and after the COVID-19 pandemic. Most students were introduced to e-learning for the first time during the coronavirus disease 2019 (COVID-19) pandemic. This study revealed that the respondents have positive perceptions and attitudes towards online learning during the pandemic. They acknowledged that clinical nursing care will not be possible with online learning.

## **LIMITATION**

The data were collected using electronic methods WhatsApp, email and Instagram and not face to face. The study was conducted among nursing students of only four different nursing institutions and may not be representative of the entire country.

## **Implication to Nursing**

It will help nursing institutions to know the perception of nursing students towards online learning

It will help nursing institutions to know the attitude of nursing students towards online learning

It will help nursing institutions to know the perceived benefit the nursing students derived from online learning.

## **Future Research**

Another study should be carried out including more nursing institutions and students, this will also allow for generalisation.

## **Conflict of Interest**

The authors declare no conflict of interest in connection with this study





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