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***A Publication of the Faculty of Nursing Sciences,
College of Health Sciences,
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**12TH EDITION
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KNOWLEDGE AND ATTITUDE TOWARDS THE TRANSMISSION AND PREVENTION OF COVID-19 AMONG NURSING UNDERGRADUATES OF OSUN STATE UNIVERSITY, OSOGBO

BELLO, M. ADEMOLA & OLAWALE, F. OLUWAKEMI

ABSTRACT

This examines the knowledge and perception on the transmission and prevention of covid-19 among nursing undergraduates of Osun state university, Osogbo. This study is significant as the prevalence of covid-19 has become so alarming and overwhelming issue around the globe. A descriptive research design was used for this study. A self-developed questionnaire that was validated with a reliability coefficient of 0.75 was used. Ninety-three (93) questionnaires were administered to the undergraduate nurses of Osun state university, Osogbo, and same was retrieved and analyzed using tables, percentages and chart. From the result of this study, the level of knowledge of respondents on the transmission and prevention of covid-19 is very high (95%) and the attitude is highly positive (100%). Findings also show that the preventive measures used by undergraduate nurses against the transmission of covid-19 are self-isolation (86.6%), social distancing (98.4%), wearing of face mask by an infected person (90%), wearing of face mask by healthy person (95%), washing of hands (98%), avoiding overcrowded place by people (95%), use of KN95 masks (91.6%), use of goggles (66.7%), use of protective clothing (86.6%) and temperature screening (95%). Recommendation was made to the student to intensify their effort in sensitizing the general public to understand and comply with all precautionary measures to curb COVID-19, government should provide amenities and Covid -19 precaution material such as facemask, hand sanitizer, goggle and glove for free to the student and the public and also government should also formulate effective national policy on the use of those materials.

Keywords: Knowledge; Perception; Attitude; Covid-19 infection

INTRODUCTION

The World Health Organization (WHO), on December 31, 2019, received a report of the presence of unknown causes of pneumonia disease in Wuhan, China. Later, this disease was defined as a novel Coronavirus disease and further declared as a public health emergency of international concern by January 30, 2020 due to the rapid spread of the highly transmitted virus to various countries including Nigeria by the World Health Organization. The federal ministry of health confirmed the first case in Nigeria on the 27th of February 2020. The first case was an Italian citizen who works in Nigeria and returned from Milan, Italy to Lagos, Nigeria. The novel virus was renamed by the International Committee on Taxonomy of Viruses, as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that causes the 2019 Coronavirus disease.

COVID-19 is caused by a single-stranded RNA virus belonging to the Coronaviridae family (Cureus2020). Covid-19 is transmitted from person-to-person by close contact (within about 6 feet) via the respiratory secretions in coughs or sneezes or by touching virus-contaminated surfaces or objects. Old age and pre-existence of chronic illnesses have been identified as potential risk factors for severe disease and mortality. The virus incubation period is 2–14 days with the majority of patients (80%) have mild symptoms that do not require medical intervention. About 20% of COVID-19 cases had serious illness as dyspnea, sepsis, septic shock, and organ failure, and can be fatal in about 2% of cases (Center for Disease Control 2020).

Health care workers are at the frontline of COVID-19 pandemic defense and are exposed to, not only infection with COVID-19 due to their frequent exposure to infected individuals, but also psychological distress, long working hours, fatigue, occupational stigma and physical violence. The transmission of the disease among health care workers is exaggerated by overcrowding, absence of isolation facilities, contaminated environment and is likely enhanced by insufficient knowledge and awareness of infection control practices among health care workers. (Nigeria Centre for Disease Control (NCDC), 2020)

The rate of infection due to COVID-19 on the African continent is on the increase, especially in Egypt in the north and Nigeria in the west. As of March 7, 2021, there are more than one hundred and sixteen million confirmed cases, above two million deaths, and around sixty five million recoveries due to COVID-19 worldwide (Center of Disease Control, Africa 2020). To stop this pandemic, it is imperative to institute effective infection prevention and control practices globally, nationally, and at the community level. Consequently, it is urgent to understand the public knowledge, reactions, adherence to, and acceptance of such measures that affect their daily life in several ways, especially psychologically, socially, and physically. This could be achieved through knowledge, attitude, and practice studies. The information generated from such studies, in addition to comprehensive reviews and recommendations could help in the fight against COVID-19 and similar future threats by improving the awareness level of the citizens and encourage positive attitudes which are necessary to beat the pandemic. These are necessary for both countries especially with the onset of community spread of the disease. To mitigate the outbreak, the federal government of Nigeria quickly announced the highest-level public emergency response and took a series of extraordinary measures by imposing a lockdown throughout Nigeria. (Center of Disease Control, Nigeria 2020).

COVID-19 has paralyzed the educational system, both private and public sectors. Healthcare authorities already initiated awareness and preparedness activities across nations. There seems to be poor understanding of the treatment of Covid 19 and the rapid spread of infection of the disease among Nigerian populace, particularly among university students. The behaviour of the general public will probably have an important effect on the cause of the coronavirus disease pandemic (Geldsetzer, 2020). Human behaviour is said to be influenced by knowledge, perceptions and unprecedented measures that are being adapted to control the rapid spread of the ongoing COVID-19 epidemic. People's adherence to control measures is affected by what people know or what they do with COVID-19 as World Health Organization and the media disseminate different preventive propaganda directed at educating people globally. It seems that the current widespread outbreak has been partly associated with a delay in diagnosis and poor infection control procedures. As transmission within hospitals and protection of healthcare workers are important steps in the epidemic, the understanding or having enough information regarding sources, clinical manifestations, transmission routes, and preventive measure among healthcare workers could have played roles for assessment (Nemati, Ebrahimi, & Nemati, online ahead of print).

Since nurses and doctors are in close contact with infected people, they are the main part of the infection transmission other than air travellers. Lack of adequate knowledge, perception, and prevention measure is likely to affect human's behaviour towards COVID-19. This is why this research would be investigating university students' knowledge, perception and their understanding of instituted preventive measures. Sadly enough, Nigerian students understanding of COVID-19 is likely to be in sync with the entire Nigerian populace. Common expression among Nigerian populace is that COVID-19 has some

mythical implications; that African cannot be infected based on the high temperatures; that COVID-19 is the disease of rich and famous (Padayachee & Claire du toit,2020).

Currently, adherence to government's institution of 'no movement' order is almost near. Nigerians are no respecter of social distancing, motorcyclist ride around obliviously carrying three or more passengers; individuals go around without mask or sanitizers; open markets are always jam-packed without regards to 6 meter gap between people. Attitudes such as this call for concern and thorough investigation and reorientation of the whole populace including the university students. Nigeria is one of the countries affected with the Corona virus Disease 2019. The pandemic has caused a lot of havoc majorly on human lives. The virus has claimed over two million (2,000,000) lives in the world and about two thousand seven hundred (2,700) lives in Nigeria.

Due to the wide spread of corona virus disease and how easily it is transmitted, the knowledge and perception of undergraduate student needs to be assessed to be able to improve and increase the undergraduate's knowledge on COVID-19. Therefore, the aim of this study is to investigate and assess knowledge, attitude, and preventive measures of COVID-19 among nursing students of Osun State University Osogbo.

Objectives of the study

- i. To assess the level of knowledge about of Covid-19 transmission and prevention among nursing undergraduate of Osun state university, Osogbo.
- ii. To assess the attitudinal level of nursing undergraduate of Osun state university towards covid-19.
- iii. To determine the preventive measures used by student against the transmission of covid-19.

Research Questions

For the purpose of this research, the following research questions are proposed:

1. What is the level of knowledge of covid-19 among nursing undergraduates of Osun State University?
2. What is the attitude of nursing undergraduate of Osun State University towards covid-19?
3. What are the preventive measures used by nursing undergraduate against the transmission of covid-19?

METHODOLOGY

A descriptive cross-sectional design was used in the study. This study was carried out at Osun State University which is a multi-campus university established by Osun State Government under the administration of Prince Olagunsoye Oyinlola. The main campus is located in Osogbo, the capital of Osun State while the other campuses are located in five other towns (Ejigbo, Ifetedo, Ikire, Ipetu-Ijesha and Okuku). The school was licensed on the 21st day of December, 2006. Osun State University, Osogbo campus is located in Oke-Baale, Osogbo, the eastern part of Osogbo in Osogbo Local Government. The Osun State University Osogbo campus comprises of Engineering and Health Sciences.

The target population for this study are university undergraduates of Osun State University, Osogbo. The sample size was determined using Taro Yamane formula, the formula estimated a sample size approximately equals 93 respondents to be representative. Simple random technique was then used to select 93 students from the population. A self-structured questionnaire was the instrument for data collection. The questionnaire consisted of four sections. The first section consisted of items to explore demographic characteristics of respondents, such as: Age, religion, ethnic group, level of education etc. Section B consists of items for testing knowledge of among nursing undergraduates of Osun State University,

Osogbo, on covid-19, and were responded to using a 'yes' or 'no' response format. Section C consists of items to measure attitude of students towards covid-19 and was responded to using a Likert scale of strongly agree, agree, disagree and strongly disagreed. Section D consists of items on preventive measures used by students against the transmission of covid-19 by students. The questionnaire was administered to nursing undergraduates of Osun State University, Osogbo.

The instrument used was self-developed, with a theoretical base from the literature and the validity was established through the face and content validity criteria to assess if the questionnaire measure what it ought to measure. The items were checked for appropriateness by expert. Reliability of the instrument was established through a pilot study using 30 related sample of a related setting, a test-retest approach was used. First 30 students were selected and given the questionnaire. After four weeks, the instrument was re-administered to the same group of people in which their responses were

correlated using Cronbach's alpha reliability test and the correlation co-efficient was found to be 0.72, which is sufficient for this study.

All nursing undergraduates of Osun State University, Osogbo, within the study duration are eligible for the study. Purpose of study was explained to the students and informed consent was obtained. Questionnaires was interpreted to respondents according to their level of understanding. The data for this research study were collected from information gathered from the questionnaire. Data editing was done in the field by the researcher to rule out omission and error. Data collected was analyzed by using SPSS version 23.0. Data were presented using table percentage, frequency and bar charts.

Ethical Consideration: The respondents were informed about the research and the purpose of the study was explained to them. Those who consent to participate in the study were included on the study and no one was forced to participate in the research. Confidentiality of the information given was guaranteed and kept.

RESULTS

The socio-demographic characteristics in Table 1 shows that 19 (31.7%) of the respondents are male, 41 (68.3%) are female. 24 (40%) of the respondents are within the age range of <20 years, 33 (55%) are within the age range of 20-29 years, 2 (3.3%) are within

the age range of 30- 49 years, 1 (1.7%) are within the age range of 40-49 years. 7 (11.7%) of the respondents are married, 53 (88.3%) are single. 7 (11.7%) of the respondents are Igbo, 53 (88.3%) are Yoruba 48 (80%) of the respondents are Christians, 12 (20%) of the respondents are Muslims.

TABLE I: Demographic Characteristics

		Frequency	Percent
Sex	Male	19	31.7
	Female	41	68.3
	Total	60	100.0
Age	<20	24	40.0
	20-29	33	55.0
	30-39	2	3.3
	40-49	1	1.7
	Total	60	100.0
Marital Status	Married	7	11.7
	Single	53	88.3
	Total	60	100.0
Ethnicity	Igbo	7	11.7
	Yoruba	53	88.3
	Total	60	100.0
Religion	Christianity	48	80.0
	Islam	12	20.0
	Total	60	100.0

Research Question 1: What is the level of knowledge of covid-19 among nursing undergraduates of Osun State University?

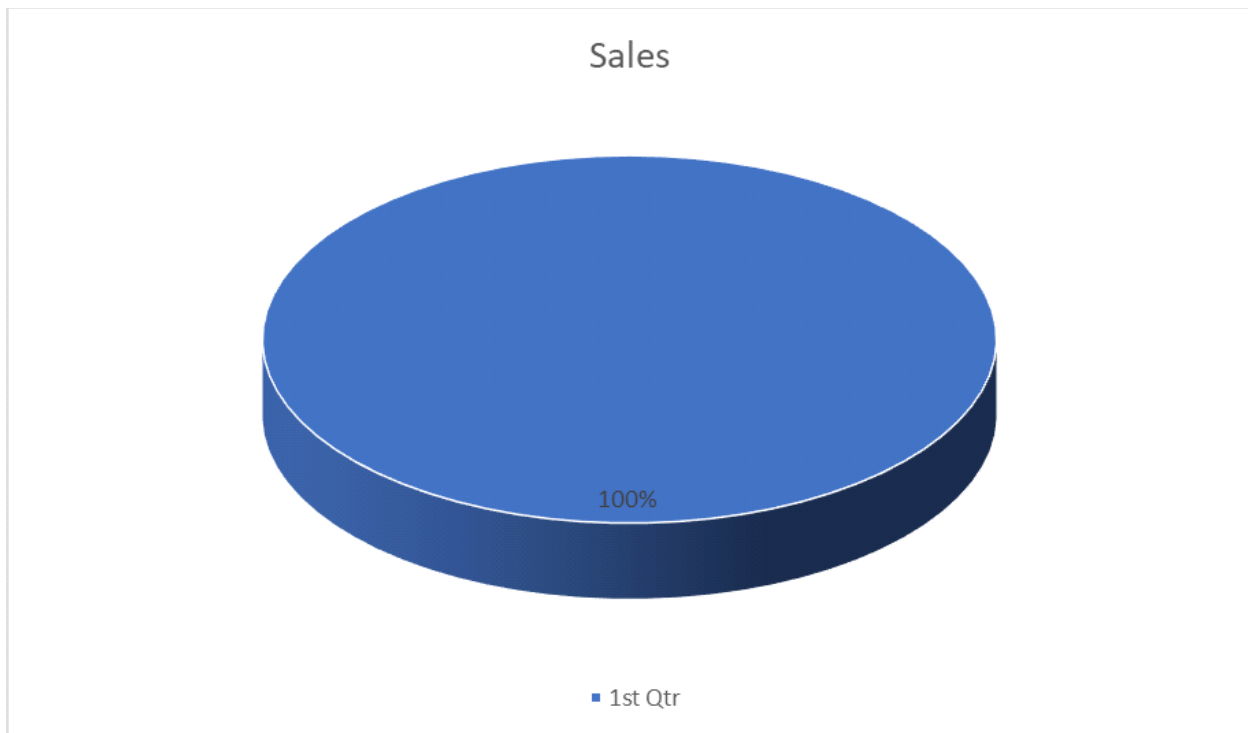
Table 2 reveals that the level of knowledge is high (95%) while only 5% of the respondents have poor knowledge of Covid -19.

TABLE 2: Overall level of knowledge

	Frequency	Percent	Valid Percent	Cumulative Percent
High	57	95.0	95.0	95.0
Poor	3	5.0	5.0	100.0
Total	60	100.0	100.0	

Research Question 2: What is the attitude of nursing undergraduate of Osun State University towards covid-19?

Figure 1 shows that all the respondents have positive attitude towards Covid -19



Research Question 3: What are the preventive measures used by nursing undergraduates against the transmission of covid-19?

As Table 3 reveals, preventive measures used by undergraduate nurses against the transmission of covid-19 are self-isolation (86.6%), social distancing (98.4%), wearing of face mask by an infected person (90%), wearing of face mask by healthy person (95%),

washing of hands (98%), avoiding overcrowded place by people (95%), Use of KN95 masks (91.6%), use of goggles (66.7%), use of protective clothing (86.6%) and temperature screening (95%). While willingness to go to class (45%), willingness to go to church or mosque (15%) and students being prone to having the infection (8.4%) are not preventive measures against the transmission of covid-19.

Table 3: The preventive measures used by nursing undergraduate against the transmission of Covid-19

	Preventive Measures Used by Respondents	Yes	No
1	willingness to go to class during days affected by COVID-19 pandemic	27(45%)	33(55%)
2	Self-isolation is necessary to prevent Covid-19 transmission	52(86.6%)*	8(13.4%)
3	Social distancing is necessary to prevent Covid-19 transmission	59(98.4%)*	1(1.6%)
4	Wearing of face mask by an infected person	54(90%)*	6(10%)
5	Wearing of face mask by a healthy person	57(95%)*	3(5%)
6	Willingness to go to church or mosque	9(15%)	51(85%)
7	Washing of hands	59(98%)*	1(1.7%)
8	Students are being prone to having the infection	5(8.4%)	55(91.6%)
9	avoiding overcrowded place by people	57(95%)*	3(5%)
10	Use of N95 masks	55(91.6%)*	5(8.4%)
11	Use of Goggles	40(66.7%)*	20(33.3%)
12	Use of protective clothing	52(86.6%)*	8(13.4%)
13	Temperature screening	57(95%)*	3(5%)

Discussion of findings

This research study is focused on the assessment of the knowledge and attitude on the transmission and prevention of Covid-19 among nursing undergraduate Of Osun State University. The demographic characteristics of the respondents are that majority are female, 41 (68.3%) within the age range of 20-29 years 33 (55%), majority are single 53 (88.3%), while majority are Yoruba 53 (88.3%) and Christians 48 (80%).

Findings of this study shows the level of knowledge of respondents on covid-19 is high, this study in line with the study conducted by Olum (2020), in which the level of knowledge on the transmission, diagnosis and prevention of the transmission of COVID-19 is high (82.4%)

among Health Care Workers at Makerere University Teaching Hospitals, Uganda. Also, in a study conducted by Rine et al (2020), in north-central Nigeria shows that the respondents' level of knowledge about COVID-19 is high (99.5%). This study is in agreement with Ogolodom et al, (2020) that note that participants knowledge of clinical presentations, mode of prevention of spread and the treatment outcome of COVID-19 is high (68%). The result is similar to that of a study conducted by Mulusew (2020) where majority of the health workers demonstrated high level of knowledge about COVID-19 (70%).

The study reveals that the attitude of the respondents towards covid -19 prevention is positive. This result is consistent with Rine et

al, (2020) who conducted a research in north-central Nigeria and the respondents' attitudes towards covid -19 prevention is positive (82.3%). Existing studies have observed that self-isolation, social distancing, wearing of face mask by an infected person, wearing of face mask by healthy person, washing of hands, avoiding overcrowded place by people, use of KN95 masks, use of goggles, use of protective clothing and temperature screening are the preventive measures used by nursing undergraduates against the transmission of covid-19. The result agrees with a study in Malaysia by Azlan (2020) where the proportion of those who use a face mask when leaving home was above 50%, while frequent handwashing and social distance are important to prevent covid -19.

This study also support Mulusew (2020) who reveals that the preventive measures used by his respondents to prevent covid-19 includes frequent hand washing and social distancing. The result of our study corresponds with Makinde, Nwogu, Ajaja & Alagbe, (2020) and Olatunji, (2020) who opine that Nigerians are engaging in vigilant hand washing, practicing social distancing and self-isolation, and avoiding going to work, school or crowded areas, forbid the shaking of hands and hand sanitizers, preventive measures of covid-19. This study is also consistent with a study conducted by Ejeh et al, (2020) where Health Care Workers HCWs in this study demonstrated good practice of infection prevention control towards COVID-19 by washing of hands after handling pets or companion animals (96.0%) and wearing of personal protective equipment when handling specimen from suspected COVID19 patient (91.6%).

Implication to Nursing

The findings of this study show that individuals have high level of knowledge and perception on the transmission and prevention of covid-19 as well as positive attitude towards it. While very few of them poor knowledge of covid-19. This brings about the few cases of covid-19

transmission that are seen in the world today. Therefore, health workers especially nurses are encouraged to put more effort into health educating and creating awareness on covid-19 especially to undergraduate student of Osun State University (UNIOSUN) and also nurses should carry out this duty with the aim of eradicating covid-19 and its transmission that are seen in the community and the world at large.

Conclusion and recommendations

Based on the findings of this study, we conclude that majority of the undergraduate students have a high level of knowledge and perception on the transmission and prevention of Covid-19. The following recommendations are adduced; this study assesses knowledge areas on covid-19 which include source, transmission, symptoms, sources of information and preventive behaviour toward COVID-19. The findings tentatively affirm that nursing undergraduate student are highly knowledgeable about COVID-19 and their premier sources of information about the pandemic are largely the television and social -media (Facebook, WhatsApp, Instagram, Twitter amongst other)

It is therefore recommended that all students should intensify their effort in sensitizing the general public to understand and comply with all precautionary measures to curb COVID-19. Government should provide amenities and Covid -19 precaution material for free to the student and the public, these are materials such as facemask, hand sanitizer, goggle and gloves. Government should also formulate effective national policy on the use of those preventive materials on COVID-19.

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