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AWARENESS AS A DETERMINANTS OF UTILIZATION OF COVID-19 VACCINES AMONG ACADEMIC STAFF OF COLLEGES OF EDUCATION

By

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Abstract

The purpose of this study was to assess awareness as a determinant of the utilization of covid-19 vaccines among colleges of education academic staff in Northern States, Nigeria. To achieve the purpose of the study, one research question and hypothesis were formulated and tested for the study. The research design for this study was ex-post facto research design. The target population for this study comprised 4,947 academic staff of the twelve Colleges of Education in the Northern States of Nigeria. Therefore, the sample for this study consists of 650 academic staff which were selected among colleges of education academic staff in Northern States, Nigeria by using multi-stage sampling techniques. The instrument used for data collection was a researcher-developed close-ended questionnaire titled "Assessment of the Determinants of COVID-19 vaccines among the academic staff of Colleges of Education in the Northern States of Nigeria which was validated by five experts in the Department of Human Kinetics and Health Education, Public Health and Nursing Science at Ahmadu Bello University Zaria. Descriptive statistics of frequencies and percentages were used to describe the demographic information of the respondents; means and standard deviations to answer the research question, and inferential statistic of one-sample t-test was used to test the null hypotheses at 0.05 level of significance. The study findings revealed that awareness is a significant determinant of COVID-19 vaccine utilisation among academic staff of Colleges of Education in Northern Nigeria (t=105.99, P=000). Based on the findings of the study it was concluded that; awareness was observed to determine the utilization of the COVID-19 vaccine among the academic staff of the College of Education in Northern States, Nigeria. It was therefore recommended that the government should provide more means of enlightenment about COVID-19- vaccines for the academic staff as well as the general public such as more posters, billboards, media houses, such as FM radios state and national televisions etc. to promote awareness.

Keywords: Awareness, Determinant, Utilization, Vaccination.

Introduction

The coronavirus, or COVID-19, is a preventable pandemic illness. Although the government has taken steps to reduce its recurrence, COVID-19 continues to be a public health concern worldwide, including in Nigeria. The cause of the condition known as coronavirus disease 2019 (COVID-19) is a new coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly designated 2019-nCoV) (WHO, 2020). Nigeria's first confirmed case of COVID-19 was in Lagos, on February 27, 2020. The 44-year-old Italian citizen had travelled from Milan, Italy, at around 10 p.m. on February 24, 2020, via Turkish Airlines. To combat the consequences of infectious illnesses on mortality, morbidity, and socioeconomic health status, vaccine development is a vital weapon (Andre, Booy, Bock, Bull & WHO, 2008). Vaccinating a small number of communities can help limit the spread of illness. However, much higher vaccination rates—70% or more—are required to produce herd immunity for COVID-19, significantly reducing the disease's incidence and spread and accelerating its eradication. For the whole planet, the 2020 COVID-19 pandemic was a historic event. The World Health Organization (WHO) in COVID-19 states that a new coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), formerly known as 2019-nCoV, causes a disease known as Corona Virus Disease. The virus was initially identified in Wuhan City, Hubei Province, China, following an epidemic of respiratory illness cases, according to a 2019 announcement from the Centres for Disease Control (CDC).

The WHO received an official report on December 31, 2019. The globe has had several pandemics and endemic diseases throughout history, and the twenty-first century is no exception. A coronavirus called COVID-19 causes acute respiratory illnesses that can produce a variety of symptoms, including severe cases and occasionally fatalities. It usually has a greater effect on elderly people and people with underlying medical issues. Due to the current public health threat's global reach, economic activity has been suspended throughout the workforce. The COVID-19 pandemic was deemed a global health emergency by the WHO on January 30, 2020 (Gallegos, 2020). The WHO designated COVID-19 as a worldwide pandemic on March 11, 2020, the first one since 2009 when it designated H1N1 influenza, also known as swine flu, as such (WHO, 2020).

According to Tong, Wong, Zhu, Fastenberg, and Tham (2020), fever, exhaustion, dry cough, dyspnea, pneumonia, anosmia, and ageusia are among the common clinical signs of COVID-19. Countries all around the world have put in place a variety of control measures in a continuous effort to slow down the spread of COVID-19, including social distancing, lockdowns, closings of businesses and schools, wearing face masks in public, and giving out COVID-19 vaccinations. Although the epidemic curve has been flattened by these actions, as noticed by Devi in 2020, the reappearance of COVID-19 has been detected when communities and the economy reopened. As such, the development of long-term preventative interventions proved indispensable.

Vaccination is the introduction of a live or attenuated antigen to induce the formation of antibodies to protect against organisms that cause disease, such as bacteria and viruses. According to WHO (2020), vaccination is one of the most effective preventative measures against infectious illnesses. But for a vaccine or immunization program to be successful, uptake and coverage are essential factors (Kwok KO, Lai F, Wei& WI. 2020). Estimating the degree of herd immunity needed to stop the COVID-19 outbreaks in the impacted nations. With the widespread distribution of many safe and effective vaccinations against SARS-Cov-2, false information about possible vaccine candidates has proliferated worldwide. According to many media sources, mistrust against the US and certain EU nations has grown to be a significant barrier to more widespread vaccination. (Shatty, Xiahong, Larson, Figueiredo, and Lancet, 2016) However, there are conflicting emotions, a great deal of mistrust, indifference, and denial in Nigeria regarding the pandemic's growth, as well as vaccine-related difficulties.

Notwithstanding these responses, an online survey carried out in Nigeria shortly before the rest ever vaccine was approved revealed that 58.2% of respondents would get the vaccine once it became available, while 19.2% and 22.6% of respondents, respectively, were unwilling to accept and undecided (Shatty, Lancet, Larson, Figueiredo, &Xiahong, 2016). The study's positive factor for vaccination uptake is the male gender and a good attitude about the vaccine. The main way that humans get COVID-19 is by breathing in respiratory droplets that are contaminated with the virus, usually within six feet of each other. Other techniques include airborne transmission of droplets that stay in the air for extended periods, often longer than six feet, and touch transmission, such as handshakes (Morawska& Milton, 2020; WHO, 2020). Nigeria's Federal Ministry of Health (FMOH) (2020) reported that an Italian business partner of Ogun State was the source of the country's first COVID-19 case on February 27, 2020 (Nigeria Centre for Disease Control and Prevention (NCDC), 2020).

It is thought that the Hunan Seafood Market in Wuhan, China, is where the coronavirus originated. Based on a report from the Chinese Health Authority on a form of pneumonia that was still unclear as of December 31, 2019 (Zhu, Zhang, Wang, Li, Yang, & Song, 2020), this was done. The state and federal governments of Nigeria have ordered people to stay at home, and the Federal School of Medical Laboratory Technology in Jos is likewise bound by these directives due to the current circumstances and the unrelenting rise in the number of sick Nigerians.

The capacity of academic personnel at Northern Nigerian Colleges of Education (COEs) to get COVID-19 vaccinations is referred to as accessibility. It is really exciting to see so many vaccines being generated and moving into development since equitable access to safe and effective vaccinations is essential to ending the COVID-19 pandemic (WHO, 2020). WHO is putting up a lot of effort along with its partners to create, produce, and

distribute safe and efficient vaccinations. Globally, COVID-19 is spreading more quickly. The majority of African nations now have confirmed cases, and the death toll is climbing. The effects on African economies and citizens will be significant if the situation is allowed to worsen unchecked. Despite this, there are still fewer instances in Africa than in other continents (WHO, 2020). There is still speculation that this unseen sickness may strike Africa the hardest. Therefore, the need for mass vaccination.

Despite the awareness of the devastating outcome of COVID-19 when contracted the researcher observed that there still exists some myths and misconceptions about the vaccination. With some saying is not safe, while others believe it is a plot to depopulate the African population, cause infertility among others. The researcher observed that despite the effort of government to ensure everyone gets vaccinated against the disease. A lot of persons including academicians in the colleges of education shy away from being vaccinated. As a result, more people in Northern Nigeria are refusing to receive the immunization. The researcher also observed that while banners and billboards at educational institutions show the effectiveness of the vaccination, unfavourable perceptions about it continue to persist. Therefore, it is on this background that the researcher was moved to carry out this study to assess awareness as adeterminant of utilization of COVID-19 vaccines among academic staff of the colleges of education in Northern Nigeria.

Purpose of the Study

The purpose of this study was to assess awareness as a determinant of COVID-19 vaccine utilization among academic staff of the College of Education in Northern States, Nigeria.

Research Questions

The following research question was formulated to give the study a direction.

1. Does the awareness of the COVID-19 vaccine determine the utilization of the vaccine among academic staff of the College of Education in Northern States, Nigeria?

Research Hypotheses

The following hypothesis was formulated to guide the study:

Ho_1 Awareness (academic staff level of consciousness of immunization) is not a significant determinant of the utilization of the COVID-19 vaccine among the academic staff of the College of Education in Northern States, Nigeria.

Methodology

To examine awareness as a determinant for utilization of COVID-19 vaccination among academic staff at colleges of education in the Northern States of Nigeria's the study employed an ex-post facto research design. From the population of 23491 academic staff of Colleges of Education in the Northern States of Nigeria a sample size of 650 academic

staff members were drawn from 12 randomly selected colleges of education in the Northern States of Nigeria. Adopting a multistage sampling procedure; the researcher also adopted the Research Advisor (2006) procedure to arrive at the sample size. Research Advisor emphasized that for a population of more than 4,947 a sample size of 650 should be appropriate.

The researcher stratified the Northern states of Nigeria into the already existing three geo-political zones North-East zone, North-Central zone and North-West zone. Simple random sampling technique was used to select two States from each of the three geopolitical zones. Two (2) Colleges of Education were randomly selected from each of the six (6) States that were drawn from the three (3) geopolitical zones. A proportionate sampling technique was used to compute the number of respondents in each College of Education using the proportionate formula and lastly purposive sampling procedure was used to administer the questionnaires at the colleges selected for the study.

Table 1:Selected States Target Population and Proportionate sampled Respondents

S/N	Geo-political	State	College	Number of Staff	Sampled size
1.	North-east	Bauchi	ASCOE Azare	493	65
			ATBCOE Kangere	786	103
		Gombe	FCE Gombe	254	33
			COE Billiri	841	110
2.	North-west	Jigawa	COE Gumel	241	32
			COE Ringim	350	46
		Kano	FCE Kano	433	57
			COE SadaatuRimi	222	29
3.	North-central	Niger	COE Minna	303	40
			FCE Kotagora	261	34
		Plateau	FCE Pankshin	378	50
			COE SarkinMangu	385	51
	Total	**6**	**12**	**4947**	**650**

Source: National Commission for Colleges of Education, Abuja (2017).

The researcher used a researcher-developed questionnaire for data collection. The research instrument is made up of seven sections and titled “Assessment of the Determinants of COVID-19 vaccines among the academic staff of Colleges of Education in the Northern States of Nigeria questionnaire”. The research instrument was vetted by five (5) experts in Department of Human Kinetics and Health Education, Faculty of Education, Ahmadu Bello University, Zaria-Nigeria to determine its face, content and construct validity. After the final draft was produced a pilot test was conducted at the Federal College of Education Technical Potiskum (Yobe State) to confirm the content validity and reliability of the instrument. Using the split-half reliability approach of Cronbach's Alpha technique a reliability coefficient of 0.80 was obtained.

The data collected was analysed using the following statistical tools. Descriptive statistics of frequency and percentage was used to describe the demographic characteristics of the respondents. Mean and standard deviation was used to answer the research question. One – Sample t-test was used to analyse the formulated hypothesis at 0.05 alpha level.

Results

The results of the descriptive statistics of demographic characteristics of the respondents are presented in Table 4.1

Table 2: Demographic Information of the Respondents (N=650)

Age	Frequency	Percentage
25-30Years	36	5.5
30-35Years	139	21.4
36-45Years	285	43.8
46 years and above	190	29.2
Total	**650**	**100.0**
Gender	35	35.0
Male	513	78.9
Female	137	21.1
Total	**650**	**100.0**
Highest Level of Education		
PhD	59	9.1
MSc	232	35.7
BSC/HND	359	55.2
Total	**650**	**100.0**
Marital Status		
Married	562	86.5
Single	61	9.4
Divorced	16	2.5
Widowed	11	1.7
Total	**650**	**100.0**

Table 2 revealed the demographic information of the respondents, the table showed that the majority 285(43.8%) of the respondents were between the age range of 36-45 years, the table also indicated that the majority 513(78.9%) of the respondents were male. The table further revealed that the highest 359(55.2%) number of the respondents were holders of BSC/HND the table also shows that the majority 562(86.5%) of the respondents were married.

Answering of Research Questions

Research Question One: Does the awareness of the COVID-19 vaccine determine utilization among academic staff of the College of Education in Northern States, Nigeria?

Table 3: Mean scores and standard deviation on the Response of Academic Staff of Colleges of Education in Northern Nigeria on Awareness of COVID-19 as Determinant of its Utilisation

S/N	Awareness of COVID-19 as Determinant of its Utilisation	Mean	SD
1.	I am aware that the COVID-19 vaccine is to be received twice.	3.32	0.70
2.	I am aware of the use of the Oxford-AstraZeneca vaccine for COVID-19	2.96	0.84
3.	I am aware of the Modern vaccine use for COVID-19 vaccination	2.89	0.88
4.	I am aware of the Pfizer vaccine for COVID-19 vaccination	2.92	0.79
5.	I am aware of the Johnson & Johnson vaccine for COVID-19 vaccination	2.84	0.88
	Aggregate mean	**2.98**	**0.82**

Decision mean=2.50

Table 3 revealed the mean score of the responses of the academic staff of Colleges of Education in Northern Nigeria. The table showed that the mean response of each item on the awareness of COVID-19 as a determinant of its Utilisation was above the decision mean of 2.50, the table also showed that the overall response mean of 2.98 which was above the decision mean, therefore, awareness is a determinant of Covid-19 utilization among academic staff of Colleges of Education in Northern Nigeria.

Testing of Research Hypothesis

Hypothesis: Awareness (academic staff level of consciousness of immunization) is not a significant determinant of the utilization of the COVID-19 vaccine among the academic staff of the College of Education in Northern States, Nigeria.

Table 4: Summary of One Sample T-test on Awareness as Determinant of COVID-19 Utilisation among Academic Staff of Colleges of Education in Northern Nigeria

Variable	N	Mean	SD	SE	Df	T	P
Awareness	650	14.93	2.99	0.117	649	105.99	.000
Test mean	650	2.5					

t_{tab}=1.962, df: 649; P<0.05

Table 4 revealed the summary of one sample t-test on awareness as a determinant of COVID-19 vaccine utilisation among academic staff of Colleges of Education in Northern Nigeria. The table showed the calculated mean of 14.9308 which is greater than the decision mean of 2.50. The calculated t-cal was 105.99 greater than the t-critical value of 1.962 at 649 df. The table further revealed that the calculated p-value was .000 less than the alpha value of 0.05 this indicated that awareness is a significant determinant of COVID-19 vaccine utilisation among academic staff of Colleges of Education in Northern Nigeria, therefore, the hypothesis was rejected.

Discussion

This research aimed to assess awareness as a determinant for the use of COVID-19 vaccinations among academic staff in Northern States of Nigerian colleges of education. Computed, analysed, and debated were the study's acquired data. For this investigation, one hypothesis was developed and examined. According to the study's findings, academic staff at Northern Nigerian colleges of education have a higher likelihood of using the COVID-19 vaccination if they are aware of it ($t=105.99$, df: 649; $P<0.05$). The outcome aligns with the research conducted by Adedeji-Adenola, Olugbake, and Adeosun (2022), which investigated the variables impacting adult Nigerians' adoption of the COVID-19 vaccination. High levels of knowledge, readiness to acquire the vaccine, and a moderate opinion of the first round of immunization efforts were found in the research. The lack of understanding among communities regarding vaccine kinds, dosage guidelines, and adherence to hygiene standards has prompted national and international health organizations to launch campaigns aimed at raising public awareness of COVID-19 vaccinations. (Elgendy, El-Gendy, Abdel Hamied, AbdelrahimAbdElmawla, &Gendy 2020). To raise public knowledge of COVID-19 vaccinations and highlight the value of mass vaccination in halting the spread of coronavirus illnesses, the vaccination program campaigns use television and social media commercials (Khan, Mallhi&Alotaibi, 2020).

Conclusion

Based on the finding of this study, the following conclusion was drawn:

1. Awareness (academic staff level of consciousness of immunization) was observed to determine the utilization of the COVID-19 vaccine among the academic staff of the College of Education in Northern States, Nigeria.

Recommendation

Based on the conclusion of this study, the following recommendation was made**:**

1. The government should provide more means of enlightenment about COVID-19-vaccines for the academic staff as well as the general public such as more posters, billboards, media houses, such as FM radios state and national televisions etc. to promote awareness.

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