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ATTITUDE OF HEALTH CARE WORKERS TOWARDS COVID-19 VACCINATION IN PORT HARCOURT METROPOLIS, RIVERS STATE

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ABSTRACT

This study was examined the attitude of COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. A cross sectional design was adopted to explain the attitude and acceptance of COVID-19 vaccine with the 830 health care workers. The sample size was 515 health care workers which was 62% of the population of the study. A multi-stage sampling procedure was adopted for the study which was in three stages. The instrument for data collection was self-structured questionnaire designed by the researcher titled Attitude towards COVID19 Vaccine Questionnaire (ACOVID-19VQ). Person Product Moment Correlation Coefficient (PPMCC) was used to test the reliability co-efficient of 0.84 was obtained used for the study. Data collected from this study were coded and analysed using Statistical Products Service Solution version 25.0. The result showed that the grand mean = 1.97 is greater than the criterion mean of 1.50 indicating that respondents had positive attitude towards Covid-19 vaccination. The finding of the study showed that there is significant difference between gender ($p<0.05$) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The finding of the study showed that there was significant difference between training ($p<0.05$) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The finding of the study showed that there was significant difference between availability of Covid-19 vaccine ($p<0.05$) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. It was concluded that health care workers had positive attitude of COVID-19 vaccine so as to reduce the contraction among workers. It was recommended among others that government should organize training and workshop programmes for health care workers especially during disease pandemic like coronavirus disease.

KEYWORDS

Attitude, COVID-19 vaccines, Healthcare Workers

Introduction

Vaccination remains the global medical means of preventing infectious diseases including coronavirus disease. COVID-19 vaccines were manufactured within one year after the World Health Organization (2020) declared COVID-19 to be an international public health emergency. Due to remarkable determination in vaccine research, development, and production, COVID-19 vaccines were developed within the shortest period in the history of vaccine production (Glanville 2021). Vaccines applies to all biological preparations, produced from living organisms that enhance immunity against diseases and either prevent (prophylactic vaccines), or in some cases, treat disease (therapeutic vaccines) (World Health Organization, 2012). The COVID-19 Vaccines Global Access (COVAX) facility is striving to deliver a minimum 2 billion doses of vaccine to concerned countries around the world in 2021, which includes at least 1.3 billion doses funded by donors to the 92 lower-income countries. Starting from the day it was declared a pandemic, COVID-19 remains the worst Global public health challenge. According to the Worldometer report (2021), COVID-19 affects about 220 countries and territories. More than 350 million cases and 5.6 million deaths happened due to COVID-19 as of January 24, 2022 (Worldometer, 2022; Du, 2020). The pandemic brought the double burden in developing countries already overwhelmed by the health care system challenges (Wachamo, 2020). Health care workers were at the fore front in the fight against COVID 19 which triggers the perceived susceptibility to coronavirus disease. The experience of HCWs were not friendly at they were vulnerable to the disease. This because misconstrued information was spread across the mass media about the prevalence and incidence of coronavirus infection and chances of cure was slime. The process of administrating COVID 19 vaccine have been affected by attitude display by health workers and their experience during the fight against the emergence of COVID 19.

Attitude could be a major factor that determines the vaccination process of COVID vaccine among health care workers. Attitude could refer to the way workers think and act concerning COVID 19 vaccine especially when was a compulsory intake of vaccine by all workers firstly from health care workers. Tolossa, et al (2022) indicated that (51.28%) of health professionals had a favourable attitude towards COVID-19 vaccination. Most workers tends to exhibit good attitude having in mind that taking the COVID 19 vaccine may reduce the susceptibility to coronavirus infection whereas others think that the administration of COVID 19 vaccine is accompanied with severe side effect that may threaten their health. Angelo, et al (2021) in their study revealed that 48.4% of health care workers intended to accept COVID-19 as a means of minimizing the risk of contracting coronavirus disease and intention to accept COVID-19 vaccination was significantly associated with physicians (AOR = 9.27) while health care workers were over 6 times more likely to showed good attitude towards COVID 19 prevention through vaccination. Adejumo, et al (2021) indicated that the willingness to receive COVID 19 vaccine were over 3 times more likely to be determine by their tertiary educational status and training received. Belsti, et al (2021) asserted that female health care workers were less likely to showed positive attitude and willingness towards reception of COVID 19 while there was age variation concerning the acceptance of vaccine. Kebede, et al (2022) depicted that workers exhibit over 9 times more likely to showed poor attitude towards the COVID 19 vaccination. Abebe, et al (2021) revealed that less than average number of healthcare workers showed positive attitude (44.7%) towards COVID 19 vaccine with regard to age. It is pertinent to note that emergence of COVID 19 brought high mortality among health care workers because of their unlimited role in fighting against coronavirus infection. The delay in the provision of orthodox medical as vaccine to prevent and reduce the severity of the coronavirus disease contribute to a lot of speculations and untrue fact that COVID 19 vaccine could cause adverse effect on the health of the populace including health care workers thereby scare them from having the intention to accept the vaccine. Tolossa, et al (2022) illustrated that older age was negatively associated with unfavourable attitude towards COVID 19 vaccine (P-value <0.001) where workers age less than 30 years were 2 times more likely showed positive attitude. The completion of COVID 19 vaccine schedule have marred by workers attitude and experience in recent since the outbreak of the coronavirus disease. The attitude of workers were negatively skewed toward the acceptance of the vaccine despite the compulsory attachment to their occupation. It was expected that COVID 19 vaccine will cure the coronavirus disease and people will not come down with the virus again but people were disappointed hence there was low intention and poor attitude. It is against this background that, this study examines the attitude towards COVID 19 vaccine among health care workers Port Harcourt metropolis of Rivers State.The objectives of this study was examined the attitude and acceptance of COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. In specific terms, this study sought to: examine the attitude towards COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The following null hypotheses were formulated and tested at 0.05 level of significance

1. There is no significant difference between gender and attitude towards COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State;

2. There is no significant difference between training and attitude towards COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State;
3. There is no significant difference between availability and attitude towards COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State;

Methodology

Study setting: The area of the study was Port Harcourt metropolis of Rivers State, Nigeria. There are numbers of health care facilities established by ministry of health though the Primary Health Care Management Board of which immunization and vaccination service is part of the functions. The health care facilities in this metropolis were to ensure universal health coverage and control preventable vaccine. Most of the primary health centres were COVID 19 vaccines are administered include Modern Primary Health Care Centres inRumuigbo, Ozuoba, Rumudamaya, Rumueme, Pott Johnson comprehensive health centre, Churchill, Borokiri, Oroworukwo, Rumukurushi, Azuabie, Amadi-Ama and Rumumasi among others.

Research Design: The design for this study was a cross-sectional survey design.

Population of the study: The population of the study consisted of 830 health care workers in model primary health care centres in Port Harcourt metropolis of Rivers State.

Sample and Sampling techniques: The sample size was 515 health care workers which was 62% of the population of the study. According to Ofoegbu (2009) if the population is in many hundreds 20% and above can be used to establish the sample size while if a few thousands 10% is appropriate then. For the purpose of this study 62% with attrition rate of the population was adopted which is five hundred and fifteen (515) as the sample size. A multi-stage sampling procedure was adopted for the study which was in three stages. The first stage involved the use of simple random sampling technique was used to select four Local Government Areas such as Obio/Akpor and Port Harcourt city by balloting without replacement from the existing five L. G. As. The second stage involves the use of simple random sampling techniques to select five (5) modern primary health care centres from each selected Local Government Areas for the study enable the researcher have full access to the sample and elicit data.The third stage involved using proportionate technique to select health care workers operating in each of the selected Local Government Areas with the similar or same characteristics of interest.

Instrument for Data Collection: The instrument for data collection was structured questionnaire designed by the researcher titled Attitude towards COVID-19 Vaccine Questionnaire (ACOVID-19 VQ). The instrument was made of two sections A, and B, section A; provided the socio-demographic data of such as gender, training, and availability of vaccine, while section B focused on attitude towards COVID-19 vaccine. In The response items for section B include SA-Strongly Agreed, A- Agreed, SD- Strongly Agreed and D- Disagreed.

Validation of the Instrument: The instrument was validated by the researcher's supervisor and two other specialists in the department of Human Kinetics, Health and Safety Education in Ignatius Ajuru University of Education to establish its face, construct and content validity. The result obtained was correlated using Person Product Moment Correlation Coefficient (PPMCC) of which if a reliability co-efficient of 0.84 was obtained indicating that the validated instrument was positively reliable for the study. Hence, the validated instrument was reliable and appropriate for the study.

Methods of Data Analysis: Data collected from this study were coded and analysed using Statistical Products Service Solution version 25.0. Descriptive statistics such as mean and standard deviation and Chi-square was used to determine the difference between variables at 0.05 significance level.

Results

Table 1: Socio-demographic data

Variables	Frequency	Percentages
Age		
21-30 years	179	40.2
31-40 years	152	34.2
41-50 years	102	22.9
51 years and above	12	2.7
Gender		

Male	205	46.1
Female	240	53.9
Training on COVID 19 Vaccine		
Yes	344	77.3
No	101	22.7
Availability of COVID 19 Vaccine		
Available	312	70.1
non-available	133	29.9

The results showed that 179(40.2%) of the respondents were aged 21-30 years, 152(34.2%) were aged 31-40 years, 102(22.9%) were aged 41-50 years and 12(2.7%) were aged 51 years and above. For gender, 205(46.1%) were males and 240(53.9%) were females. For training on Covid-19 vaccine, 344(77.3%) indicated they were trained while 101(22.7%) disagreed. About 312(70.1%) indicated there were availability of Covid-19 vaccines.

Research question 1: What is the attitude towards COVID 19 vaccination among health care workers in Port Harcourt metropolis, Rivers State?

Table 2: Attitude towards COVID 19 vaccination

S/N	Items	Mean	Standard Deviation	Decision
1	Newly discovered COVID 19 vaccine that is given for Nigeria is the actual one that the discovered country is using yet.	2.19	0.98	Positive
2	If one individual is vaccinated it will have great contribution for the other person.	1.63	0.48	Positive
3	The newly discovered COVID-19 vaccine is safe.	2.19	0.83	Positive
4	Healthcare workers take the COVID-19 vaccine without any hesitation	1.85	0.75	Positive
5	It is not possible to reduce the incidence of COVID-19 without vaccination.	1.97	0.82	Positive
6	The COVID-19 vaccine should be distributed fairly to all of us.	1.82	0.80	Positive
7	Health care workers may encourage my family/friends/relatives to get vaccinated	2.17	0.92	Positive
8	The way to overcome the COVID-19 Pandemic is mass vaccination	1.82	0.82	Positive
9	The best preventive measure for COVID-19 is getting Vaccinated	2.10	0.89	Positive
10	Health care workers are likely to stop precaution after being vaccinated	1.82	0.82	Positive
11	Health care workers may be willing to take COVID-19 vaccine.	2.16	0.77	Positive
	Grand total	1.97	0.80	Positive

Decision: criterion mean is 1.5. >1.5 is Positive attitude; <1.5 is negative attitude

The result showed that the grand mean = 1.97 is greater than the criterion mean of 1.5 indicating that respondents had positive attitude towards Covid-19 vaccination. However, positive attitude was found more on the item 'newly discovered COVID 19 vaccine that is given for Nigeria is the actual one that the discovered country is using yet' with a mean value of 2.19±0.98 and 'the newly discovered COVID-19 vaccine is safe' with a mean value of 2.19±0.83.

Hypotheses

Hypothesis 1: There is no significant difference between gender and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State.

Table 3: Chi-square test showing significant difference between gender and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State

Variables	Attitude towards COVID-19 vaccination		Total Freq %	df	X^2-value	p-value	Decision
	Positive Freq %	Negative Freq %					
Gender							
Male	196(95.6)	9(4.4)	205(100)	1	134.164	0.000	Rejected
Female	106(44.2)	134(55.8)	240(100)				
Total	302(67.9)	143(32.1)	445(100)				

*Statistical significant (p<0.05)

The finding of the study showed that there is significant difference between gender (X^2–value = 134.164; df = 1, p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. Therefore, the null hypothesis which states that there was no significant difference between gender and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State was rejected.

Hypothesis 2: There is no significant difference between training and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State;

Table 4: Chi-square test showing significant difference between training and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State

Variables	Attitude towards COVID-19 vaccination		Total Freq %	df	X^2-value	p-value	Decision
	Positive Freq %	Negative Freq %					
Training on COVID-19 Vaccine							
Yes	7(7.9)	82(92.1)	89(100)	1	198.748	0.000	Rejected
No	302(84.8)	54(15.2)	356(100)				
Total	309(69.4)	136(30.6)	445(100)				

*Statistical significant (p<0.05)

The finding of the study showed that there is significant difference between training (X^2–value = 198.748; df = 1, p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. Therefore, the null hypothesis which states that there was no significant difference between training and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State was rejected.

Hypothesis 3: There is no significant difference between availability and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State;

Table 5: Chi-square test showing significant difference between availability and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State

Variables	Attitude towards COVID-19 vaccination		Total Freq %	df	X^2-value	p-value	Decision
	Positive Freq %	Negative Freq %					
Availability of COVID-19 Vaccine							
Available	174(69.9)	75(30.1)	249(100)	1	280.541	0.000	Rejected
non-available	135(68.9)	61(31.1)	196(100)				
Total	309(69.4)	136(30.6)	445(100)				

*Statistical significant (p<0.05)

The finding of the study showed that there is significant difference between availability of COVID-19 vaccine (X^2–value = 280.541; df = 1, p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. Therefore, the null hypothesis which states that there was no significant difference between availability of COVID-19 vaccine and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State was rejected.

Discussion of findings

Attitude towards COVID 19 Vaccine

The result showed that the grand mean = 1.97 is greater than the criterion mean of 1.5 indicating that respondents had positive attitude towards Covid-19 vaccination. The result of this study is expected because health workers like other workers behave different and could-be transferred to their activities of health care service. The result of this study is in line with studies of Tolossa, et al (2022) which illustrated that more than half number of health workers 51.28% showed a positive or favourable attitude towards the vaccination against COVID 19. Gagneux, et al (2020) added that there was variation among health care workers regarding attitude toward vaccine. Angelo, et al (2021) buttressed that health care workers indicated a positive attitude towards COVID 19 prevention through taking the vaccine. Kabamba, et al (2022) revealed that health care workers in superior position are 11 times more likely to show good attitude towards a COVID-19 and ensure they get vaccinated as compared with lower cadres. Islam et al (2021) Alam, et al (2022) whose studies concluded that good proportion of health care workers ensure they get vaccinated before the general population and have positive attitude the COVID-19 vaccine. It is plausible that health care workers have requisite knowledge of coronavirus disease which in turn have direct or indirect impact the attitude towards COVID-19 vaccine. There was prior studies that contradict with the findings of this study. Hence, attitude towards COVID-19 was good or positive.

The finding of the study showed that there was significant difference between gender (p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The result of this study was required because male and female workers has varies attitude towards condition or things. The way male and female health care workers think concerning COVID-19 vaccine were not the same which in turn affect vaccination process. The result of this study is in line with studies of Tolossa, et al (2022) which indicated that the attitude regarding utilization of COVID-19 vaccine differ among male and female health care workers. Di Gennaro, et al (2021) added that good proportion of workers (67%) showed positive attitude towards anti SARS COVID and ready to be vaccinated so that they do their job and vaccinated others. Abebe, et al (2021) buttressed that there was significant difference male and female workers regarding attitude towards the use and willingness of taking COVID-19 vaccination. It is pertinent to note that health care workers were at forefront in the fight against COVID-19 pandemic and observed the effect of the disease on their health thereby willing to get vaccinated in order to form protection. It is plausible that there was variation among male and female in terms of thinking about certain conditions. The way male health workers conceal COVID-19 might not be the same with way female do. There was no prior studies that contradict with result of the current findings but the differences in the result were due to design and sample of the study.

The finding of the study showed that there was significant difference between availability of COVID-19 vaccine (p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The result of this study is necessary because if COVID-19 vaccines are available for the use by health care workers they would think rightly towards. The result of this study is in credence with findings of Abubakar and Saulaw, (2022) that availability vaccine might influence the attitude of health care workers towards COVID-19 vaccine. Kabamba, et al (2022) affirmed that health care workers are 2 times more likely to show a positive attitude towards COVID-19 vaccine. Studies of Belsti, et al (2021) revealed that fewer percentage of health workers are willingness to take the vaccine if it is available. It is pertinent to note that availability of vaccine may provide a change in attitude especially on the willingness to accept and utilization of vaccine.

The finding of the study showed that there was significant difference between training (p<0.05) and attitude towards COVID-19 vaccination among health care workers in Port Harcourt metropolis, Rivers State. The result of this study is expected because training provide health workers with useful information that could make changes in the attitude especially in administering the vaccine. The result of this study is in consonance with findings of Tolossa, et al (2022) which depicted that the provision of quarterly training for the health workers during the fight against coronavirus infection was significant with the use COVID-19 vaccine. Gagneux, et al (2020) added that health care workers who have trained

concerning the fight against COVID 19 will significance the positive attitude toward utilization of COVID-19 vaccine. It is pertinent to note that retraining may expose the healthcare workers to adequate information and correct misconception about the use of vaccines to reduce the severity and spread of infectious diseases such as COVID-19. Hence, training showed significance difference in attitude of health workers to COVID-19 vaccine.

Conclusion

In regard to the findings of this study, it was concluded that the attitude of health care workers towards of COVID-19 vaccine was positive. There is need for retraining of health care workers to enable them fight pandemic diseases likeCOVID-19.

Recommendations

The findings provides the following recommendations

1. Government should organize training and workshop programmes for health care workers especially during disease pandemic like coronavirus disease.
2. Government should make vaccines available at the health care facility for their disposal and for the public to get vaccinated. This in turn may build positive attitude and willingness toward the uptake of COVID 19 vaccine.
3. Health care workers should attend seminar and workshop programme relating to disease preventions to provide them with useful information and enable them to have the right type of attitude and behavior towards COVID 19 vaccine.

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