

The acceptance rate of COVID -19 vaccine among health workers in Sokoto, Nigeria

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Abstract

Introduction: COVID-19 is infectious disease caused by SAR-the CoV-2 virus which was first revealed in Wuhan-China and is spread through droplets. Vaccination appears to be one of the greatest active health preventative measures of combating the corona disease crisis worldwide. COVID-19 vaccine is hoped to be the most possible and viable solution to containing the pandemic especially in Africa. We aimed to examine the acceptance of COVID-19 vaccine among health workers in Sokoto based on the healthcare workers' influence on the public acceptance of the vaccine.

Materials and methods: This is a prospective cross-sectional descriptive design was employed to investigate the coronavirus vaccine acceptance among healthcare workers in selected hospital in Sokoto State, Nigeria. A multistage sampling method was used to obtain the sample size for the study. Ethical approval was obtained from ministry of health (SMH/1580/V.IV/2022). Data collected with self-administered questionnaire. Data analysis was done using SPSS 25.0 software packages. Descriptive statistics was used to express the variables in mean and percentages.

Results: Four hundred and thirty-five participants with male to female ration of 1: 1.7. Participants with postgraduate certificate were only 1.8% while the majority had only high school certification. Workers in primary health care facilities accounted for 83.9% while workers in tertiary facilities constituted the lowest, 6.3%. Majority of the respondents confirmed willingness to recommend COVID-19 vaccine to other people (62.5%).

Conclusion: There is high level of acceptance of COVID-19 vaccine among the healthcare workers but with one third of the study participants still showing low intention, there is still need for efforts by the government to influence the acceptance rate positively.

Keywords: COVID-19, vaccine, acceptance rate, healthcare workers

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I. Introduction

Coronavirus disease (COVID-19) is a worldwide public health challenge. The COVID-19 pandemic has created a global public health burden, socio-economic instability, food insecurity, industrial and trade challenges both in the high and low-income countries (Malik, et al., 2021). The COVID-19 pandemic has spread around the globe with 527,603,107 infected and 6,290,452 people dead as of June 1, 2022 and only a total of 11,811,627,599 vaccine doses have been administered as of May 24, 2022 (WHO, 2022b). Europe is said to have the highest numbered of confirmed cases with 215,424,950 followed by America with 153,251,277 then southeastern Asia with 57,882,960 and the lowest is Africa with 8,790,142, Nigeria inclusive (WHO, 2022b).

Interestingly, Africa was envisaged to be the worst to be hit by the pandemic with a population of more than 1.3 billion persons because of its feeble healthcare system, poor health facilities, lack of human and material resources, little health information and restricted contact to social protection including inadequate utilization of public health preventive measures to contain the spread of the coronavirus or halt the plague. More so, Nigeria was among the African countries considered to be at high risk of the disease (Al-Amer, et al., 2022).

COVID-19 was first reported in Africa Egypt in February 2020 then Nigeria on 24th February 2020 being the first sub-Saharan country to be affected; it was confirmed on February 27th, 2020 and this was followed by epidemiological responses by the Federal Ministry of Health (Coker, et al., 2022).

It seems that there has not been any effective medication for the treatment of Covid-19 disease. Although, so many drugs have been tried such as azithromycin, Zinc, chloroquine, doxycycline, hydroxychloroquine, and cotrimoxazole among others. Fortunately, vaccination has a history of establishing active protection against infectious diseases as well as controlling the spread of diseases. And it appears that COVID-19 epidemic will not stop unless herd immunity is well established within the population, which is usually gained by infection or vaccination.

Vaccination appears to be one of the greatest active health-preventative measures of combating the coronadisease crisis worldwide. COVID-19 vaccine is hoped to be the most possible and viable solution to containing the pandemic especially in Africa. Vaccination is a simple, safe, and effective way of protecting one against infectious diseases before coming in contact with it (WHO, 2021). It is evident that awareness, social distancing, use of face masks, regular hand hygiene and vaccination can contribute to reducing/preventing morbidity and mortality caused by this deadly disease (WHO, 2021).

However, the challenge of accepting the vaccine is the main worldwide health threat. It is disturbing to note that there exists a universal unwillingness and rejection of vaccination which appears to be worse with the advent and development of COVID 19 vaccine. The attitude of healthcare workers towards the acceptance of the COVID-19 vaccine is a major concern because it does not promote the eradication of the virus (Iwu, et al., 2022).

However, there are evidences of vaccine hesitance globally which is a big threat to the eradication of the disease. In America for instance, record have it that about half of the population are were not willing to get vaccinated (Fisher, et al., 2020).

Thus, this study aimed to examine the acceptance of COVID-19 vaccine among health workers in Sokoto based on the Healthcare Workers' influence on the public acceptance of the vaccine

II. Materials And Method

A prospective cross-sectional descriptive design was employed to investigate the coronavirus vaccine acceptance midst Healthcare Workers in selected hospitals in Sokoto State, Nigeria. The individuals involved in the study were healthcare workers of different cadres practicing in any of the health facilities in Sokoto state be it government or private. The sample size was 435 individuals. A multistage sampling method was used to obtain the sample size for the study. Ethical approval was obtained from the ministry of health with approval number, SMH/1580/V.IV/2022.

Analysis of data was done using SPSS (version 25.0). Descriptive analysis was used for the socio-demographic variable and the acceptance of the COVID-19 vaccine by the healthcare workers. The level of significance was set at 0.05 (P-value).

III. Results

Table 1: Socio-demographic pattern of the study

Variable	Frequency	Percentage	
Gender			
<i>Male</i>	158	35.5	
<i>Female</i>	277	61.8	
<i>Cadre</i>	<i>Nurses</i>	58	13.0
<i>CHEWs</i>	326	75.6	
<i>Lab Science</i>	29	6.7	
<i>Ward Servants</i>	20	4.8	
Marital Status			
<i>Single</i>	88	20.2	
<i>Married</i>	335	77.0	
<i>Divorce</i>	8	1.8	
<i>Prefer Not Say</i>	4	0.9	
Respondent Age			

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"20-29"	165	36.8
"30-39"	157	35.0
"40-49"	78	17.4
"50- above"	8	1.9
Respondents Location		
Sokoto East	101	22.5
Sokoto North	166	37.1
Sokoto South	146	32.6
Respondent Ethnic Group		
Hausa	353	78.8
Yoruba	38	8.5
Igbo	4	0.9
Others	32	7.1
Respondent Religion		
Christianity	31	6.9
Muslim	396	88.4
Educational level		
High school	134	29.9
Diploma	251	56.0
BSc.	27	6.0
MSc	8	1.8
Years of Working Experience		
1-5	148	33.0
6-10	112	25.0
11-15	56	12.5
16-20	43	9.6
21-above	68	15.2
Level of Health Facility		
Primary Health Care	376	83.9
General Hospital	27	6.0
Teaching Hospital	28	6.3
Residence		
Urban	108	24.1
Rural	318	71.0

Four hundred and thirty-five participants with male to female ratio of 1: 1.7. The socio-demographic distribution of the participants is shown in Table 1.

Participants with postgraduate certificates were only 1.8% while the majority had only high school certification. Workers in primary healthcare facilities accounted for 83.9% while workers in tertiary facilities constituted the lowest, 6.3% (Table 1).

The majority of the respondents confirmed willingness to recommend COVID-19 response to other people with 280(62.5%) while 133 (29.7%) were not willing to recommend the vaccine to others. Also, about 326 (72.8%) were willing to take the vaccine if directed by the employer while 82(18.3) declined, 27(6%) chose not to respond. Without being compelled, most of the health workers were willing to take the COVID-19 vaccine with about 353(78.8%) while 67(15%) were not willing. However, 339(75.7%) respondents were willing to get vaccinated if proven safe while 78 (17.4) were not willing regardless (Table 2).

Table 2: Pattern of COVID-19 vaccine acceptance

Variable	Frequency	Percentage
Had Experience of vaccination before		
Yes	338	75.4
No	90	21.0
Rejected other vaccination in the past		
Yes	168	37.5
No	260	58.0

Presence of Pre-Chronic Illness		
Yes	192	42.9
No	215	48.0
Ever Had Symptom of Covid 19		
Yes	180	40.2
No	240	53.6
Confirmed positive of covid19		
Yes	7	1.6
No	393	87.7
Engage in Covid 19 project		
Yes	230	51.3
No	198	44.2
Have knowledge/information on Covid 19		
Yes	358	79.9
No	66	14.7
Will recommend Covid 19 vaccine to other		
Yes	280	62.5
No	133	29.7
Will take vaccine if directed by employer		
Yes	326	72.8
No	82	18.3
Willing to get vaccinated with covid19 vaccine		
Yes	353	78.8
No	67	15.0
Will get vaccinated if proven safe		
Yes	339	75.7
No	78	17.4
Have you been vaccinated with Covid19		
Yes	113	25.2
No	315	70.3

IV. Discussion

The majority of the respondents were female and the majority were young adults between the ages of 30-49years with 52.4%. The findings of this study are in agreement with other reports from different parts of the world (Malik, et al., 2022, Agyekum, et al., 2021, Gadoth, et al., 2020 & Shekhar, et al., 2021). About 74.8% of the respondents in this study were married. The highest educational qualification of the respondents is diploma and primary healthcare accounts for the highest level of the health facility with 83.9% and 71% of the respondents living in the rural areas. This agrees with some findings on the aspect of gender and age (Huynh, et al., 2021, Ilori et al., 2022) on the acceptance and side effects of the COVID-19 vaccine among healthcare workers in Nigeria but it is in contrast with the aspect on predominant religion and tribe.

Similarly, the research of Kabamba et al. also supports the finding of this study with respect to the marital status and age range of the respondents but gender was in contrast (Kabamba, et al., 2020). However, the findings on the demographic differences disagree with that of some studies in respect to gender, marital status, religion, tribe, educational level and cadre of healthcare workers predominantly in the studies (Agha, et al., 2021, Ekwebene, et al., 2021 & Robinson, et al., 2021). Interestingly, all three studies predominant age group is middle adulthood. The common similarities recorded in the study in respect to the respondent's age and gender might be due to the global trend of females being more in the health profession and the consideration of age during employment. This makes the respondents to be more from the identified age bracket and sex. However, the disparities recorded in these studies might be related to the geographical location of the studies.

The finding on vaccine acceptance shows that the majority 373 (78.8%) of the respondents indicated the willingness to accept the vaccine. Despite the high intention to take the vaccine, a low uptake level of only 113 (25.2%) was recorded. Meanwhile, about 339 (75.7%) were willing to take the vaccine if proven safe. The high level of vaccine acceptance recorded in this study is incongruent with the studies of (Malik, et al., 2021, Gadoth, et al., 2020, Ilori et al., 2022, Ekwebene, et al., 2021 & Mustapha, et al., 2021). But contrary to the low level of vaccine acceptance level documented in the studies of (Agyekum, et al., 2021, Shekhar, et al., 2021, Kabamba, et al., 2020, Robinson, et al., 2021 & Al-Metwali, et al., 2021). The differences in the findings might be connected to the difference in geographical locations and socio-demographic characteristics such as level of education and time of the research. Considering there were massive enlightenments about COVID-19 and its

proven effectiveness recently compared to previous years (2019-2021). Bearing in mind that the ideal rigorous scientific processes and time required for a vaccine to be developed plus the disease came with a lot of uncertainties even for the scientific world.

V. Conclusion

Middle-aged adults have a higher intent to take COVID-19 vaccine for prevention. However, the high-level intentions have not translated to a high level of uptake in these same healthcare workers. But there are still factors influencing the total acceptance of the vaccine that need to be addressed. We hereby recommend that healthcare workers should be properly educated on the need for vaccination being the main group at risk and for the promotion of general acceptance by the populace, also the government at all levels should develop a strategy that further enhances the acceptance of the vaccine by healthcare workers and by extension, the populace through mass vaccination campaign.

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