



Health
Residencies
Journal (HRJ).
2025;6(31):
122-139

Artigos de Revisão

DOI:
[https://doi.org/10.51723/
hrj.v6i31.1032](https://doi.org/10.51723/hrj.v6i31.1032)

ISSN: 2675-2913

Qualis: B2

Recebido: 05/03/2024

Aceito: 03/06/2025

Attitudinal dispositions and cultural beliefs as correlates of acceptance of covid-19 vaccine by key populations in three states of Nigeria

Disposições atitudinais e crenças culturais como correlatos da aceitação da vacina contra a covid-19 por populações-chave em três estados da Nigéria

Adeyinka Tella¹ , Kehinde Khadija Kadiri² 

¹ University of Ilorin, Ilorin, Nigeria; University of South Africa, Pretoria, South Africa.

² University of Ilorin, Ilorin, Nigeria.

Correspondência: tella.a@unilorin.edu.ng

ABSTRACT

Objective: the study examined attitudinal dispositions and cultural beliefs as correlates of acceptance of covid-19 vaccine by key populations in three states of Nigeria. **Method:** the study targeted key populations (health workers) who were selected from three ten local governments from each of the three states that were involved in the study. A survey research design of correlated type was adopted using questionnaire as instrument for data collection. The study tested three hypotheses at 0.05 level of significant and answered one research question. **Results:** the findings reveal that attitudinal dispositions determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria; cultural belief has a tendency to determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria; attitudinal dispositions and cultural beliefs significantly contribute to the acceptance of covid-19 vaccine; and also the two factors attitudinal dispositions and cultural beliefs jointly significantly predict or determine acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria. The key populations (health workers) indicated acceptance of covid-19 vaccine; however, there are some impediments including inadequate information about the vaccine, long distance of vaccine location, and risk of being infected is very low. **Conclusion:** the study recommended based on the findings that there should be targeted efforts to address these impediments. Providing comprehensive and accessible information about the vaccine is crucial, as it can help dispel misconceptions and increase confidence among health workers.

Keywords: Covid-19; Covid-19 vaccine; Vaccine acceptance; Vaccine hesitant; Attitudinal disposition; Cultural beliefs; Key populations; Nigeria.

RESUMO

Objetivo: o estudo examinou disposições atitudinais e crenças culturais como correlatos da aceitação da vacina contra a covid-19 por populações-chave em três estados da Nigéria. **Método:** o estudo teve como alvo populações-chave (profissionais de saúde) selecionadas entre três governos locais de cada um dos três

estados envolvidos no estudo. Foi adotado um delineamento de pesquisa do tipo *survey correlacional*, utilizando questionário como instrumento para coleta de dados. O estudo testou três hipóteses com nível de significância de 0,05 e respondeu a uma pergunta de pesquisa. **Resultados:** os resultados revelam que as disposições atitudinais determinam a aceitação das vacinas contra a covid-19 entre populações-chave (agentes de saúde) em três estados da Nigéria; as crenças culturais tendem a determinar a aceitação das vacinas contra a covid-19 entre populações-chave (agentes de saúde) em três estados da Nigéria; as disposições atitudinais e as crenças culturais contribuem significativamente para a aceitação da vacina contra a covid-19; e também os dois fatores, disposições atitudinais e crenças culturais, conjuntamente preveem ou determinam significativamente a aceitação da vacina contra a covid-19 por populações-chave (agentes de saúde) em três estados da Nigéria. As populações-chave (profissionais de saúde) indicaram aceitação da vacina contra a covid-19; no entanto, existem alguns impedimentos, incluindo informações inadequadas sobre a vacina, longa distância do local de vacinação e risco de infecção muito baixo. **Conclusão:** o estudo recomendou, com base nos resultados, que haja esforços direcionados para abordar esses impedimentos. Fornecer informações abrangentes e acessíveis sobre a vacina é crucial, pois pode ajudar a dissipar equívocos e aumentar a confiança entre os profissionais de saúde.

Palavras-chave: Covid-19; Vacina contra covid-19; Aceitação da vacina; Hesitação em vacinar; Disposição atitudinal; Crenças culturais; Populações-chave; Nigéria.

INTRODUCTION

The covid-19 pandemic response on a worldwide scale has highlighted how vital immunization is to reducing the virus's spread and **effects**. Understanding the factors impacting covid-19 vaccine acceptance is crucial as immunization campaigns are implemented globally, especially among critical groups^{1,2}. Key populations are crucial to the effectiveness of vaccination campaigns because of their increased risk of exposure and capacity to serve as transmission vectors. These groups include healthcare personnel, frontline workers, and persons with higher vulnerability.

This study explores the complex interactions that exist between cultural beliefs, attitudinal dispositions, and critical communities' acceptance of covid-19 vaccinations. Cultural beliefs are the common values, customs, and practices within a particular cultural setting that may have an impact on decisions about one's health, whereas attitude dispositions are the collection of attitudes, opinions, and perceptions that people have regarding vaccination³.

Numerous factors, from personal opinions of vaccine efficacy and safety to more general sociocultural concerns, have an impact on the acceptability of covid-19 vaccinations, making it a complex phenomenon^{4,1}. Due to their varied traits and social roles, certain populations may show different vaccination acceptance patterns, which calls for a

focused examination of the underlying attitudes and cultural influences influencing their choices.

Effective public health measures must take into account the attitudes of critical communities toward the covid-19 immunization. Higher acceptance rates can be attributed to positive views based on the vaccine's perceived safety, efficacy, and benefits. On the other hand, unfavorable opinions that come from worries about adverse reactions to vaccines, false information, or misbelief in the medical establishment could seriously impede vaccination campaigns^{5,6}.

Deeply embedded cultural attitudes can help or impede the uptake of vaccines in a society. A more complex picture of the dynamics at work is possible by looking at the intersections between cultural influences and vaccination attitudes. Cultural differences can affect how people view sickness, the value of prevention, and their level of faith in medical professionals, all of which have an impact on vaccines.

The goal of this study is to provide important new understandings into how cultural norms, attitude dispositions, and critical groups' acceptance of covid-19 vaccinations relate to each other. Public health tactics can be improved and customized to address specific issues by identifying the factors that motivate and hinder vaccine adoption within these crucial groups. This will ultimately promote widespread vaccination uptake and support the international effort to contain the covid-19 pandemic.

Bennett et al.⁷ report that there is a paucity of studies on vaccination attitudes among individuals who have just been diagnosed with covid-19. This warrants more investigation, especially with regard to those with mild-to-moderate sickness, considering the ongoing need to improve vaccination uptake of both the first series and booster doses, as well as the various ways in which such an event may influence attitudes. The study examined the attitudes and individual perceptions of covid-19 carriers toward the covid-19 vaccination. All patients enrolled in Baylor Scott & White's "covid-19 Digital Care Journey for Home Monitoring" were invited to take part in an online survey that asked about their vaccination history as well as their attitudes and opinions about covid-19 and the covid-19 vaccine. The research was carried out between September 3 and November 12, 2021. After being asked if the covid-19 immunization aligned with their personal or religious convictions, participants were asked to explain their beliefs and how they related to getting the vaccine or not. According to the study, adults who have not received the covid-19 vaccine but have just been diagnosed with the virus exhibit two of the three variables that contribute to vaccine hesitancy: complacency and a lack of faith in the immunizations. Additionally, they demonstrate how attitudes that prioritize the larger good encourage people to participate in public health.

A similar study by Aliouche⁸, reported that the most salient factors related to vaccine hesitancy are structural and include healthcare and socioeconomic inequalities and inequities, lack of trust in the healthcare system, misinformation and myths about vaccines, negative beliefs based on myths, such as that vaccination of women leads to infertility, mistrust in the health care professional or health care system, the role of influential leaders, costs, geographic barriers, and concerns about vaccine safety. In the same vein, The World Health Organization's vaccine hesitancy model identifies three main drivers of vaccine hesitancy: complacency, convenience, and confidence. Complacency refers to the perception that the disease is not a threat, convenience refers to the ease of access to vaccines, and confidence refers to the trust in the safety and efficacy of vaccines⁹.

The current study differs from those previous one. While the most relevant study address attitudes and personal beliefs about the covid-19 vaccine among people with covid-19: a mixed-methods analysis, the

current study focuses on attitudinal dispositions and cultural beliefs as correlates of acceptance of covid-19 vaccine by key populations in three states of Nigeria. Most of the available studies approach this subject from the conceptual theoretical and review perspective focusing majorly on the factors responsible for acceptance and or rejection of the vaccines while other considered the cause of the of the hesitance or acceptance of the vaccine. The current study collected data to validate the correlate of the variables attitudinal dispositions and cultural beliefs and how they affect acceptance covid-19 vaccines.

OBJECTIVES OF THE STUDY

The broad objective of the study is to examine attitudinal dispositions and cultural beliefs as correlates of acceptance of covid-19 vaccine by key populations in three states of Nigeria. The specific objectives of the study are to:

1. Examine the correlation between attitudinal dispositions and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.
2. Ascertain the correlation between cultural beliefs and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.
3. Determine the contribution of attitudinal dispositions and cultural beliefs to the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.
4. Identify the militating against the acceptance of covid-19 among the key populations (health officers) in three states of Nigeria.

LITERATURE REVIEW

The covid-19 epidemic created serious problems for many people's lives, health, and economies throughout numerous countries. One of the first effective tools against the illness and its transmission was provided by the vaccinations created against the SARS-CoV-2 virus¹⁰. There are two main ways that vaccinations and immunization programs promote public health and prevent disease¹¹. For the particular recipients of the vaccines, direct immunity and illness prevention are the first and most noticeable effects of the shots. Moreover, vaccinations have a secondary impact known as herd immunity, which lowers infection rates

among unvaccinated people and populations (Fisher et al., 2020). Herd immunity can be attained by people by either the natural immunity that follows infection with the actual disease or vaccine-induced immunity¹².

Many phrases and ideas are sometimes used interchangeably to characterize people's decisions regarding vaccinations as well as the general public's support for vaccination campaigns. These include "vaccine acceptance","vaccine confidence","trust in vaccines","vaccine hesitancy","anti-vaccinationism", and "vaccine demand"¹³. It is crucial to have a shared understanding since uncertainties might hinder research and intervention efforts by making it challenging to characterize, evaluate, and track the various elements involved in vaccination decisions¹⁴. It is no longer reasonable to maintain the binary viewpoint on vaccination attitudes and practices. Rather, it is necessary to acknowledge a range of vaccine beliefs and related behaviors that range from a total rejection of all immunizations to full acceptance of vaccines^{12,13}.

ATTITUDINAL DISPOSITIONS AND ACCEPTANCE OF COVID-19 VACCINES

According to Ajzen and Gilbert Cote¹⁵, p. 289, attitudes are an individual's "dispositions to respond with some degree of favorableness or unfavorableness to a psychological object". However, sociologists find it more helpful to define attitudes as the prescriptive or evaluative judgments that arise from these dispositions because these are constructs within the human mind that are impossible to quantify directly¹⁶. Understanding how attitudes develop and interact with ideas, feelings, and behaviors is helpful, regardless of whether the attitude is the disposition or the quantifiable judgment that follows. A person's attitudes, inclinations, or predispositions regarding a specific topic in this example, the covid-19 vaccines are referred to as their attitude disposition. Subsequently, the literature demonstrated that people's attitudes and inclinations regarding the covid-19 vaccination played a major role in their adoption of the vaccine. Numerous researches have examined the connection between global acceptability of covid-19 and attitude. A few of these researches are reviewed in the study based on how pertinent they are to the one being done right now.

In the tertiary care hospital of Jharkhand, Sheikh Bhikhari Medical College and Hospital, Kumari et al.¹⁷ carried out a study. The study was cross-sectional. The

study was carried out between June and December of 2021. The findings show that while 76% of respondents thought that the covid-19 immunizations currently in use were safe, and 83.3% of respondents felt confidence in receiving the vaccine, 15.1% of respondents showed indifference and 8% of respondents expressed concern. Overall, the study found that the subjects were willing to receive the coronavirus vaccine and had a solid grasp of it. The most significant factor contributing to vaccine hesitancy is the emergence of minor or significant side effects after inoculation. As more information regarding vaccine efficacy and safety enters the public domain ideally from a centralized, reliable source vaccine acceptability may increase. Programs for health education and continual training are necessary to lower vaccine reluctance and increase public acceptance of vaccinations.

The acceptance of covid-19 vaccinations and their predictors are examined by Ejuri and Offiong¹⁸. The study also looks into how people in rural communities feel about vaccinations. The design of the survey was cross-sectional. Data was also gathered using customized devices and a self-structured questionnaire. 3,218 respondents that were chosen for the survey from 57 rural villages in Cross River State made up the participants. Using a multinomial logistic regression analysis, the acceptance of the covid-19 vaccine was predicted. In general, the research area's public approval of covid-19 vaccinations was relatively low, at 44.0%. The study found that three criteria strongly influenced the acceptance of covid-19 vaccines: age, vaccine safety, and reliable information sources. Compared to participants from other age groups, those in the 26-35 age range were more likely to accept the vaccinations. In a similar vein, vaccination acceptance was higher among those who believed the shots to be safe than among those who disagreed. In addition, people with reliable information sources had a higher likelihood of accepting the vaccinations than people without reliable information sources. Additional factors like gender, marital status, having children, education level, willingness to pay for vaccinations, and belief that covid-19 is a conspiracy did not statistically significantly predict acceptance of covid-19 vaccines in the study area.

Asres and Umata¹⁹ evaluated undergraduate Jimma University Institute of Health students' knowledge, attitudes, and acceptance of the covid-19 vaccine as well as the reasons behind their refusal.

A cross-sectional study design was employed, with 387 undergraduate students from Jimma University Institute of Health participating. Data were gathered by self-administered questionnaires, and descriptive statistics were utilized to summarize the results. To evaluate the predicted variables for good awareness and a pleasant attitude, a multivariable regression model was employed. The statistical relationship was declared with a p-value of less than 0.05. According to the survey, just 41% of the students were well-informed about the covid-19 vaccine, and 224 (57.9%) of them had a favorable opinion about it. Age (AOR = 1.18; 95% CI: 1.03–1.35) and possessing strong awareness (AOR = 2.39; 95% CI: 1.55–3.68) were linked to students' favorable attitudes toward the covid-19 vaccination. 2.39 (1.55, 3.68) were linked to students' favorable attitudes on the covid-19 vaccination. Only 27.1% of the pupils, however, expressed a willingness to get the covid-19 vaccine. Refusing the covid-19 vaccination was frequently due to fear of long-term consequences (49.1%), doubting the safety requirements (38.8%), ignorance about the vaccine (37.2%), and a lack of time for development (39.9%). The study found that most of the participants had a favorable opinion of the covid-19 vaccination. Less than half of the participants knew a good deal about the vaccine, though. Furthermore, there is a poor level of vaccine acceptability. Common reasons for refusing the vaccination were lack of understanding about it, fear of long-term effects, doubts about the safety profile, and the length of time it took to produce. As a result, it is recommended that all parties involved raise vaccine awareness, have a positive outlook, and accept it.

The study conducted by Pérez-Rivas et al.²⁰ investigated the impact of the covid-19 pandemic on the vaccination attitudes of SHSs. All nursing, physiotherapy, and chiropractic students who matriculated at a Madrid University for the academic year 2019/2020 that is, before the pandemic started (Q1] as well as all those matriculated for the year 2021/22 that is, c. 18 months after the pandemic was declared were asked to complete a questionnaire. To determine the impact of sex, the degree being studied, the course year, and the time of answering (Q1 or Q2) on the dimensions of beliefs, behaviors, and general attitude, a multivariate analysis was carried out. In all, 1894 questionnaires were returned (934 [49.3%] for Q1 and 960 [50.7%] for Q2), with

70.5% of the completed forms coming from nursing students, 14% from physiotherapy students, and 15.4% from chiropody students. All three dimensions showed considerably superior performance ($p < 0.05$) in Q2. Being a nursing student, being in the last years of training (years 3 or 4), being a woman, and responding to Question 2 were the most significant contributing factors. The results are promising since future health professionals most likely to be involved in immunization programs are student nurses, who scored 3.34 and 3.47 (maximum possible 4) in Q1 and Q2 General Attitude, respectively ($p < 0.05$).

The way people accept the covid-19 vaccination is greatly influenced by their attitudes. Research to date indicates that people's attitudes, beliefs, and perceptions have a big impact on whether or not they want to get vaccinated. There doesn't appear to be much information available regarding the relationship between attitudinal dispositions and acceptance of covid-19 vaccines in the context of study on the disease in Nigeria, especially from the population health workers employed by the local government agencies in Nigeria.

CULTURAL BELIEFS AND ACCEPTANCE OF COVID-19 VACCINES

It has been determined that cultural beliefs play a major role in influencing people's willingness or inability to adopt the covid-19 vaccine. People's perceptions of health and illness are frequently influenced by their cultural beliefs. Cultural frameworks influence people's understanding of disease cause, symptoms, and treatment, according to a study by Harapan et al.²¹. People's attitudes on vaccinations could vary depending on how their culture defines health. Acceptance of vaccines can be significantly influenced by one's religion. Razai et al.²² underscored that certain religious communities might harbor particular apprehensions over the vaccine's composition or its compatibility with their religious beliefs. In order to implement effective communication techniques, it is imperative to acknowledge and honor these concerns. Trust in traditional practices may have an impact on acceptance of contemporary medical interventions, such as vaccines, in societies where traditional medicine plays a large role. Public health efforts should recognize and include traditional health beliefs, according to a study by Larson et al.²³.

The adoption of vaccines might be influenced by past occurrences and societal skepticism. According to a review by Quinn et al.²⁴, certain groups have a deep-seated mistrust because of previous events such as unethical medical treatments. Understanding the past is essential to fostering confidence and overcoming vaccine reluctance. It is crucial to adapt communication tactics to cultural norms and beliefs. According to a 2013 study by Reiter et al.²⁵, communicating in a culturally sensitive way can help increase vaccination acceptance. It highlights that in order to address particular issues and foster trust, communications must be culturally competent. Activating cultural leaders and interacting directly with communities helps improve vaccination acceptance. The beneficial effects of community-based treatments that consider cultural norms and values, encouraging a sense of ownership and cooperation, are illustrated by the work of Njeru et al.²⁶. There is evidence of cross-cultural differences in vaccine acceptance. According to a study by Yaqub et al.²⁷, cultural influences differ throughout the world, requiring methods that are distinctive to each region. For immunization programs to be implemented effectively, it is imperative that these variations be recognized and respected. Culture has a significant influence on how well-received covid-19 vaccinations are.

CHALLENGES MILITATING AGAINST THE ACCEPTANCE OF COVID-19 VACCINES

Addressing factors militating against the acceptance of covid-19 vaccines among key populations, particularly health officers, is crucial for effective vaccination campaigns. Let's discuss these challenges in the context of three states in Nigeria:

- Immunization hesitancy and misinformation: one major obstacle is vaccine hesitancy, which is fueled by false information and misconceptions. Rumors and misleading information that are going about in their communities might have an impact on health officers. According to a research by Olum et al.²⁸, vaccination disinformation is common in Nigeria and calls for focused actions to combat it.
- Obstacles related to logistics and infrastructure: in certain areas, obstacles related to logistics and infrastructure may hinder the acceptance of vaccines. The timely and effective supply of vaccines may be impacted by problems with distribution networks, storage facilities, and transportation. To address

these issues, a World Health Organization²⁹ report highlights how critical it is to fortify the healthcare system.

- Cultural and religious views: health officers' acceptance of vaccines may be influenced by their cultural and religious views. Some people might be worried about how vaccinations would affect their cultural or religious customs. Omer et al.'s³⁰ study underscores the significance of culturally relevant communication tactics and the influence of religious leaders in molding views towards vaccines.
- Problems with vaccine supply and access: hesitancy may be exacerbated by unequal vaccination distribution and restricted vaccine availability. Accessing a sufficient supply of vaccines for themselves and their communities may provide difficulties for health authorities in some areas. Ogbuoji et al.³¹ underscore the significance of distributing vaccines equitably in order to mitigate inequities.
- Gaps in education and training: a barrier may be a lack of knowledge and instruction regarding the safety and effectiveness of vaccines. Health officers might need further details regarding the particular vaccines that are available, how they were developed, and any possible adverse effects. The necessity of ongoing training programs to improve health officers' confidence and competence when providing vaccines is highlighted by a study by Usman et al.³².
- Obstacles in vaccine distribution: inadequate staffing and training are two possible obstacles in the administration and distribution of vaccines. The Nigeria Centre for Disease Control³³ research highlights the necessity of enhancing healthcare personnel's ability to guarantee effective vaccination administration and delivery.
- Sociopolitical elements: public trust in the healthcare system and governance concerns are two sociopolitical elements that can impact vaccination adoption. In a 2007 study, Jegede³⁴ explores how Nigerian health practices are impacted by governance and emphasizes the necessity of strong governance for fostering public confidence in the medical system.

Addressing these complex issues calls for an all-encompassing strategy that is tailored to the particular situation. Customized interventions such as focused education, community involvement, infrastructure

development, and cultural sensitivity are necessary to increase health officers' acceptance of vaccines in the states listed in Nigeria.

Since most nations do not require immunization against covid-19, it is critical to comprehend the existing attitudes of the local populace in order to ensure the effectiveness of vaccination campaigns. As is well known, the epidemic has increased the need for health workers, family doctors, and primary care physicians. Primary care physicians interact with a great number of patients. A lot of patients and their families request the covid-19 vaccine. Consequently, health professionals have the chance to assess the general health status of their patients, provide any updates regarding covid-19 vaccine, and inspire them. Promoting widespread vaccine acceptability requires recognizing the diversity of cultural perspectives and adjusting communication tactics to address particular issues within various cultural contexts.

Based on this literature, the study tested the following hypotheses:

- H_{01} . *There is no significant correlation between attitudinal dispositions and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.*
- H_{02} . *There is no significant correlation between cultural beliefs and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.*
- H_{03} . *Attitudinal dispositions and cultural beliefs will not significantly predict acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.*

The study will answer only one research question: What are the factors militating against the acceptance of covid-19 among the key populations (health officers) in three states of Nigeria?

METHODOLOGY

The study adopted a purely quantitative method using survey design of correlational type. Survey allows for a variety of methods to recruit participants, collect data, and utilize various methods of instrumentation and enable the researcher to obtain information describing characteristics of a large sample of individuals of interest relatively quickly^{35,36}.

Population, sample and sampling technique: the target population of the study is the key informants (local government health workers) who played

active role taking care of the local people during the pandemic. The study targeted three states of Nigeria comprises of Kwara, Oyo and Osun State. These three states were taken because the study was self-funded by researcher. Very limited resources were available to researcher hence the limiting of the study to the state closer to the state they are working. Ten local government areas were selected to represent each of the states. From each of the ten local government areas, ten (10) health workers were sampled this amount to 100 per state multiply by 3 states = 300. This 300 represents the sample for the study.

Instrument: questionnaire was used for gathering data from the respondents. The questionnaire was self-constructed by the researcher. The items in the questionnaire were adapted from previously related studies. The questionnaire was divided in two sections, A and B. Section A featured demographic characteristics of the respondents while section B is sub-divided into four parts (A-D). Part B1 featured items on Attitudinal Dispositions towards covid-19 acceptance. The seven items in this section were adapted from^{19,18,37}. The Part B2 featured seven items on cultural beliefs which were adapted from²³. Part B3 featured items on acceptance of covid-19 vaccines. The seven items in this part were adapted from^{18,38}. Part B4 featured items on the challenges militating against acceptance of covid-19 vaccines. The 8 items in this part were generated following the review of literature. The response format to Part B1-4 of the questionnaire used for data collection is a four point likert scale range from Strongly Agree, Agree, Disagree and Strongly Disagree. The reliability co-efficient for each part of the questionnaire revealed Part B1, $r = 0.89$; Part B2, $r = 0.87$; Part B3, 0.95 ; Part B4, $r = 0.92$ while the overall reliability of the questionnaire returned an $r = 0.91$.

Procedure of administration: the copies of the questionnaire were administered to the respondents in their respective local government offices following the granting of permission which was sought from appropriate authority. There was an attrition of 3 copies of questionnaire which implies that 297 copies (representing 99% return rate) were properly filled and adequate for data analysis.

It could be observed from Table 1 that each state was represented by 100 health workers, 10 from each of the local government areas. From 100 copies of

questionnaire administered in each of the state, one copy was lost which represent 297 (99%) return rate which is shown on Table 1.

ETHICAL STATEMENT

Human objects are included in this investigation. A questionnaire created by the author and given to the respondents was used to gather data for the study. This paper contains just the authors' original idea that

has never been published before. There are presently no plans to publish the paper anywhere. The study accurately and thoroughly presents the writers' own investigation and analysis. The important contributions of the co-authors are duly acknowledged throughout the manuscript. The findings are suitably situated within the framework of previous and ongoing investigations. The references correctly list all of the sources that were consulted. No literal copying occurred because

Table 1 – Questionnaire administration and retrieval.

S/N	Name of Local Govt	Copies of the questionnaire administered	No of the questionnaire returned	Return rate (%)
1.	State 1 (10 LGAs)	100	99	99
2.	State 2 (10 LGAs)	100	99	99
3.	State 3 (10 LGAs)	100	99	99
	Total	300	297	297/3 = 99
Overall response rate = 99%				

Source: authors' fieldwork 2024.

Table 2 – Demographics characteristics of the respondents.

Demographics	Variables	Frequency	Percentage
Age	21-30 years	51	17.2
	31-40 years	123	41.4
	41 -50 years	93	31.3
	50 years +	30	10.1
	Total	297	100.0
Gender	Male	147	49.5
	Female	150	50.5
	Total	297	100.0
Qualification	School Certificate	77	25.9
	OND/HND	190	64.0
	B.Sc/MBBS	25	8.4
	M.Sc	5	1.7
	PhD	0	0
	Total	297	100.0
Experience	0-10 years	67	22.6
	11-20 years	123	41.4
	21-30 years	69	23.2
	31 years +	38	12.8
	Total	297	100.0

Source: authors' fieldwork 2024.

quotation marks were utilized and appropriate citation was provided. Each author has actively participated in and directly involved in the preparation of the paper, and will take public responsibility for its content.

The demographics characteristics of the key populations revealed that the age of the majority of them fall between 31-40 years (41.4%) while those who are old among them that is 50 years and above were the minority (10.1%). In terms of gender, there were more female (50.5%) compared to male (49.5%). The qualifications of the key populations reveal that majority hold OND/HND (ordinary/higher national diploma) (64%), those with school certificate were 25.9%, while only 1.7% hold masters degree certificate. The experience of the key populations reveal that 41.4% have between 11-20 years of experience while 12.8% have 31 years and above working experience as health workers.

RESULTS OF THE HYPOTHESES AND RESEARCH QUESTION

Correlation between attitudinal dispositions and acceptance of covid-19 Vaccines

H₀₁. There is no significant correlation between attitudinal dispositions and acceptance of covid-19

vaccines among key populations (health officers) in three states of Nigeria.

Table 3 shows the correlation between attitudinal dispositions and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria. The finding reveals that attitudinal dispositions (r = 0.61; p <0.05) have a positive correlation with the acceptance of covid-19 vaccine by key populations in Nigeria. This implies that attitudinal dispositions determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.

Correlation between cultural beliefs and acceptance of covid-19 Vaccines

H₀₂. There is no significant correlation between cultural beliefs and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.

Table 4 shows the correlation between cultural beliefs and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria. The finding reveals that cultural beliefs (r = 0.67; p <0.05) have a positive correlation with the acceptance of covid-19 vaccine by key populations

Table 3 – Correlation between attitudinal dispositions and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.

Variables	N	Mean	St. Dev	Df	R	P	Sig
Attitudinal Dispositions	297	32.58	10.70	295	0.61	.000	Sig
Acceptance of Covid-19 Vaccine	297	43.73	08.68				

Source: authors' fieldwork 2024.

Table 4 – Correlation between cultural beliefs and acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.

Variables	N	Mean	St. Dev	Df	R	P	Sig
Cultural Beliefs	297	30.04	10.22	295	0.67	.000	Sig
Acceptance of Covid-19 Vaccine	297	28.08	08.67				

Source: authors' fieldwork 2024.

in Nigeria. This implies that cultural belief has a tendency to determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria.

Contribution of attitudinal dispositions and cultural beliefs to the acceptance of covid-19 Vaccine

H_{03} : Attitudinal dispositions and cultural beliefs will not significantly predict acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.

Table 5b showed the extent of attitudinal dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria. The finding reveals that there is a significant influence on the extents of attitudinal

dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria. The significance of the extent of acceptance of covid-19 vaccine influence was tested at $p < 0.05$ using the F- ratio at the degree of freedom (df- 2/46.24). This implies that the ANOVA result is significant at the 0.05 level. Thus, indicating that attitudinal dispositions and cultural beliefs significantly contribute to the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.

Table 5c reveals that there is a significant relative influence of the independent variables attitudinal dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations

Table 5a – Model summary on the influence attitudinal dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655 ^a	.705	.180	11.35751

^a Predictors: (Constant), Acceptance of Covid-19 Vaccine – Attitudinal Dispositions, – Cultural Beliefs.

Source: authors' fieldwork 2024.

Table 5b – ANOVA^a on extent of attitudinal dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	17432.603	2	8716.30		
Residual	55606.411	295	188.49	46.24	.000 ^b
Total	73,039.014	297			

^a Dependent Variable: Acceptance of Covid-19 Vaccine.

^b Predictors: Attitudinal Disposition, Cultural Beliefs.

Source: authors' fieldwork 2024.

Table 5c – Coefficients^a of the influence attitudinal dispositions and cultural belief on the acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria.

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
1 (Constant)	-6.433	6.703		5.083	.279
Attitudinal Dispositions	.399	.098	.596	4.406	.000
Cultural Beliefs	-.198	.059	.364	3.571	.000

^a Dependent Variable: Acceptance of Covid-19 Vaccine.

Source: authors' fieldwork 2024.

(health officers) in three states of Nigeria as expressed by the beta weights. This shows that the coefficient of the influence of attitudinal dispositions and cultural belief on the dependent variable – acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria is significant. Using the standardised regression coefficient to determine the relative contributions of the independent variables, attitudinal dispositions ($\beta = .596, t = 4.406, p < 0.05$) has the most significant acceptance of covid-19 vaccine by key populations (health officers) in three states of Nigeria is significant. Cultural beliefs ($\beta = .364, t = 3.571, p < 0.05$) also exerted a significant contribution to the acceptance of covid-19 vaccine by key populations (the health workers) in this study. This implies that two factors attitudinal dispositions and cultural beliefs significantly predict or determine acceptance of covid-19 by key populations in three states of Nigeria.

FACTORS MILITATING AGAINST THE ACCEPTANCE OF COVID-19 VACCINE

What are the factors militating against the accep-

tance of covid-19 among the key populations (health officers) in three states of Nigeria?

Table 6 reveals the factors that militate against the acceptance of covid-19 vaccine. It is reflected from the table that all the factors are significant factors that militate against the acceptance of covid-19 vaccine. The results implies that although, the key populations (health workers) indicated acceptance of covid-19 vaccine; however, there are some impediments including inadequate information about the vaccine, long distance of vaccine location, and risk of being infected is very low.

DISCUSSION

The first finding from the study revealed that attitudinal dispositions determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria. The attitude of an individual is a strong factor. It is a drive towards accepting or rejecting a phenomenon. Related studies have revealed some reports that buttress this current finding. For instance, the report of the study conducted

Table 6 – Factors militating against the acceptance of covid-19 among the key populations (health officers) in three states of Nigeria.

Acceptance of Covid-19 Vaccines	SA	A	UD	D	SD
1. Vaccination site is too far away	163 (54.9%)	129 (43.4%)	9 (3.03%)	5 (1.7%)	2 (0.7%)
2. No time to go get vaccinated	145 (48.8%)	139 (46.8%)	8 (2.70%)	3 (1.01%)	2 (0.7%)
3. My risk of being infected is very low	157 (52.9%)	123 (41.4%)	13 (4.4%)	2 (0.7%)	2 (0.7%)
4. Poor knowledge, and understanding of the technology platforms used to design and develop the vaccine	106 (35.7%)	121 (16.8%)	50 (16.8%)	9 (3.0%)	11 (3.7%)
5. Lack of trust and disbelieve	108 (36.4%)	136 (45.8%)	37 (12.5%)	11 (3.7%)	5 (1.7%)
6. Deficient data about vaccine adverse effect	121 (40.7%)	167 (56.2%)	2 (0.7%)	3 (1.01%)	4 (1.4%)
7. Inadequate information about the vaccine	171 (57.6%)	109 (36.7%)	6 (2.02%)	2 (0.7%)	2 (0.7%)
8. Others,	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)

Source: authors' fieldwork 2024.

by¹⁷ at Sheikh Bhikhari Medical College and Hospital, a tertiary care hospital in Jharkhand revealed that the majority of respondents were confident in taking the covid-19 vaccine also agreed that the covid-19 vaccinations now in use were safe; and the overall conclusion that the participants in the study had a good understanding of the coronavirus vaccine and agreed to take it corroborate the current finding in this study. The report by Smith et al.²⁰ indicating that attitudinal dispositions play a crucial role in shaping individuals' acceptance of covid-19 vaccines is consistent with the findings of the current study. Furthermore, evidence from the existing literature also supports this result, as Smith et al.²⁰ found that people's attitudes significantly influence their willingness to get vaccinated.

The findings in this study also revealed that cultural belief was reported to tend to determine acceptance of covid-19 vaccines among key populations (health officers) in three states of Nigeria; Asres and Umeta¹⁹ concluded by the study that the majority of the participants had a positive attitude towards covid-19 vaccine. Pérez-Rivas et al.²⁰ report that people's beliefs significantly influence their willingness to get vaccinated corresponds with the findings in this study. Similarly, Harapan et al.²¹ revelation that cultural frameworks impact people's understanding of disease causation, symptoms, and treatment and that individuals may be more or less receptive to vaccines based on their cultural interpretations of health lend credence to the findings in this study. Reiter et al.²⁵ highlight the effectiveness of culturally sensitive communication in promoting vaccine acceptance; and, Omer et al.³⁰ identification of the role religious leaders play in shaping vaccine attitudes and emphasize the need for culturally sensitive communication strategies also buttress the finding of the current study. Also in support of this current finding is Njeru et al.²⁶ research which demonstrates the positive impact of community-based interventions that take into account cultural norms and values, fostering a sense of ownership and cooperation.

Attitudinal dispositions and cultural beliefs significantly contribute to the acceptance of the covid-19 vaccine; and also the two factors attitudinal dispositions and cultural beliefs jointly significantly predict or determine acceptance of the covid-19 vaccine by key populations (health officers) in three

states of Nigeria. Attitude and beliefs are strong factors in the acceptance of innovation, technology, treatment etc. No wonder this study revealed that the two factors attitude and beliefs jointly contribute to and determine acceptance of covid-19 vaccine by the health workers in Nigeria.

The key populations (health workers) indicated acceptance of the covid-19 vaccine; however, there are some impediments including inadequate information about the vaccine, long distance to vaccine location, and risk of being infected is very low. Kumari et al.'s¹⁷ report that mild or major side effects following immunization are the most important determinant for vaccine reluctance thereby buttressing the current finding in this study. Vaccine acceptability may improve whenever more information about vaccine safety and efficacy becomes available in the public domain, preferably from a centralized, trustworthy source. The result by Asres and Umeta¹⁹ is that the low acceptance of the covid-19 vaccine acceptance is premise on factors such as fear of taking the vaccine, long-term effects, not being convinced of the safety profile, lack of information about the vaccine, and the time used for the development were the common reasons for refusing the vaccine. This agrees with the findings in the current study.

CONCLUSION

Based on the study's findings, it's clear that both attitudinal dispositions and cultural beliefs play significant roles in determining the acceptance of covid-19 vaccines among key populations, specifically health workers, in three states of Nigeria. The study not only confirms the influence of these factors individually but also highlights their joint contribution to vaccine acceptance.

The positive indication of vaccine acceptance among health workers is encouraging, but the study points out some impediments that need attention. Inadequate information about the vaccine, the long distance to vaccine locations, and the perception of low infection risk are identified as potential barriers.

RECOMMENDATIONS

To improve vaccine acceptance, there should be targeted efforts to address these impediments. Providing comprehensive and accessible information about the vaccine is crucial, as it can help dispel

misconceptions and increase confidence among health workers. Additionally, measures should be taken to reduce the logistical challenges, such as the long distance to vaccine locations.

To improve vaccine acceptance among healthcare professionals, it is advised that politicians and health authorities focus on developing specialized communication plans, educational initiatives, and administrative assistance. To overcome these obstacles and guarantee a successful immunization campaign, local communities, healthcare facilities, and governmental organizations should work together in a cooperative manner. Other suggestions that ought to be made are as follows:

- All-inclusive communication plan: create and carry out a focused communication plan to give medical professionals correct and easily obtainable information regarding the covid-19 vaccination. This approach should dispel common myths, highlight the advantages of immunization, and stress the security and effectiveness of the shots.
- Training courses: provide health professionals with courses to improve their understanding of the covid-19 vaccination. Along with the scientific components of the vaccines, this training should cover effective communication techniques for handling community queries and concerns.
- Logistical support: vaccination centers should be located closer to healthcare providers in order to alleviate logistical issues. Make sure getting the vaccination is a convenient process that doesn't interfere too much with their job schedules.
- Community engagement: encourage local communities to become involved in campaigns

to increase vaccine acceptability. Make use of healthcare professionals, community leaders, and influencers to support and promote immunization among healthcare workers.

- Information campaigns: start focused information campaigns via social media, traditional media, and local events, among other channels. These efforts ought to be on dispelling falsehoods, reiterating the value of immunization, and addressing particular issues brought up by medical professionals.
- Risk communication: focus your efforts on dispelling the myth that there is little risk of infection. Stress that immunization lowers the likelihood of transmission overall by protecting individuals as well as fostering community immunity.
- Monitoring And Feedback Mechanism: Implement a framework to track the use of vaccines by medical professionals and to collect their input. Make use of this knowledge to enhance and modify immunization tactics over time.
- Collaborative approach: promote cooperation between key stakeholders, local communities, healthcare organizations, and health authorities. A concerted effort will guarantee a comprehensive strategy for resolving the noted obstacles and promoting vaccination acceptance among medical professionals in the three states.

By putting these suggestions into practice, there's a better chance of breaking down obstacles and encouraging a general acceptance of the covid-19 vaccination among medical professionals in the designated areas of Nigeria.

REFERENCES

1. Olu-Abiodun O, Abiodun O, Okafor N. COVID-19 vaccination in Nigeria: a rapid review of vaccine acceptance rate and the associated factors. PLoS One. 2022;17(5):e0267691. doi:10.1371/journal.pone.0267691
2. Roy DN, Biswas M, Islam E, Azam MS. (2022). Potential factors influencing covid-19 vaccine acceptance and hesitancy: A systematic review. PLoS ONE, 17(3), e0265496. doi: 10.1371/journal.pone.0265496.
3. Keselman A, Arnott SC, Wilson AJ, Leroy G, Kaufman DR (2022). Cognitive and cultural factors that affect general vaccination and covid-19 vaccination attitudes. Vaccines, 11(1):94. doi: 10.3390/vaccines11010094.
4. Al-Hasan A, Khuntia J, & Yim D. (2021). Does seeing what others do through social media influence vaccine uptake and help in the herd immunity through vaccination? A cross-sectional analysis. Frontier in Public Health, 2 (9), 715931. doi: 10.3389/fpubh.2021.715931.

5. Rodrigues F, Ziade N, Jatuworapruk K, Caballero-Urbe, CV, Khursheed T, Gupta L.(2023). The impact of social media on vaccination: a narrative review. *Journal of Korean Medical Science*, 16;38(40), e326. doi: 10.3346/jkms.2023.38.e326.
6. Sharma E, Mondal S, Das S, Vrana VG (2023). Scale development for covid-19 vaccine hesitancy by integration of socio-demographic and psychological factors. *Vaccines*, 11; 1052.
<https://doi.org/10.3390/vaccines11061052>
7. Bennett NG, Bloom DE, Ferranna M. (2022). Factors underlying covid-19 vaccine and booster hesitancy and refusal, and incentivizing vaccine adoption. *PLoS ONE*, 17(9), e0274529.
<https://doi.org/10.1371/journal.pone.0274529>
8. Aliouche H. (2021). What are the Main Causes of Vaccine Hesitancy? *News Medical Life Sciences*. Available from:
<https://www.news-medical.net/health/What-are-the-Main-Causes-of-Vaccine-Hesitancy.aspx>
(accessed 02 January 2024).
9. WHO (2015). Vaccine hesitancy: A growing challenge for immunization programmes. Available from:
<https://www.who.int/news/item/18-08-2015-vaccine-hesitancy-a-growing-challenge-for-immunization-programmes>
(accessed 02 January 2024).
10. Pogue K, Jensen JL, Stancil CK, Ferguson DG, Hughes SJ, Mello EJ, Burgess R, Berges BK, Quaye A, Poole BD. Influences on attitudes regarding potential COVID-19 vaccination in the United States. *Vaccines (Basel)*. 2020;8(4):582. doi:10.3390/vaccines8040582.
11. Hornberger S. (2022). Attitudes towards covid-19 vaccination: Literature review and attitudes of individuals who delayed vaccination. Honor Scholar Theses. 201, DePauw University. Available from:
<https://scholarship.depauw.edu/studentresearch/201>
(accessed 02 January 2024).
12. Centers for Disease Control and Prevention (CDC) (2017). Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, UNITED STATES. Available from:
<https://www.cdc.gov/vaccines/schedules/downloads/past/2017-child.pdf>
13. Curlin G, Landry S, Bernstein J, & Gorman RL. (2011). Integrating safety and efficacy evaluation throughout vaccine research and development, *Pediatrics*, 127; S9-S15.
14. Kanesa-thasan N, Shaw A, & Stoddard JJ. (2011). Ensuring the optimal safety of licensed vaccines: a prospective of the vaccine research, development, and manufacturing companies. *Pediatrics*, 127; S16-S22.
15. Ajzen I, Joyce N, Sheikh S, & Cote NG. (2011). Knowledge and the prediction of behavior: The role of information accuracy in the theory of planned behavior. *Basic and Applied social Psychology*, 33(2), 101-117.
16. Voas D. (2014). Towards a sociology of attitudes. *Sociological Research Online*, 19(1), 132-144.
<https://doi.org/10.5153/sro.3289>
17. Kumari A, Rani S, Kumar C, Kumari V. (2022). Knowledge, attitude, and hesitance toward covid-19 vaccination – a cross-sectional study from Jharkhand. *Journal of Family Medicine Prime Care*, 11(8), 4514-4518. doi: 10.4103/jfmpc.jfmpc_282_22.

18. Ekuri KA, Offiong JB. Acceptance and attitudinal disposition of rural community members toward COVID-19 vaccination in Cross River State, Nigeria [Internet]. 2021 [cited 2024 Jan 2]. Available from: https://www.researchgate.net/publication/358647263_ACCEPTANCE_AND_ATTITUDINAL_DISPOSITION_OF_RURAL_COMMUNITY_MEMBERS_TOWARD_COVID_-19_VACCINATION_IN_CROSS_RIVER_STATE_NIGERIA/link/620d6b4beb735c508ada01eb/download
19. Asres F, Umeta B. COVID-19 vaccines: awareness, attitude and acceptance among undergraduate university students. *J Pharm Policy Pract.* 2022;15:32. doi:10.1186/s40545-021-00397-6.
20. Pérez-Rivas FJ, Gallego-Lastra RD, Marques-Vieira CMA, López-López C, Domínguez-Fernández S, Rico-Blázquez M, Ajejas Bazán MJ. (2022). The attitude towards vaccination of health sciences students at a Spanish university improved over the first 18 months of the covid-19 Pandemic. *Vaccines*, 10, 237. <https://doi.org/10.3390/vaccines10020237>
21. Harapan H, Itoh N, Yufika A, Winardi W, Keam S, Te H, Megawati D, Hayati Z, Wagner AL, Mudatsir M. (2020). Coronavirus disease 2019 (covid-19): A literature review. *Journal of Infection Public Health*, 13(5), 667-673. doi: 10.1016/j.jiph.2020.03.019.
22. Razai MS, Osama T, McKechnie DGJ, Majeed A. (2021). covid-19 vaccine hesitancy among ethnic minority groups. *BMJ*, 26, 372 (513). doi: 10.1136/bmj.n513.
23. Larson HJ, Clarke RM, Jarrett C, Eckersberger E, Levine Z, Schulz WS, Paterson P. (2018). Measuring trust in vaccination: A systematic review. *Human Vaccine Immunother*, 3;14(7);1599-1609. doi: 10.1080/21645515.2018.1459252.
24. Quinn SC, Jamison A, An J, Freimuth VS, Hancock GR, Musa D. Breaking down the monolith: understanding flu vaccine uptake among African Americans. *SSM Popul Health*. 2017;4:25-36. doi:10.1016/j.ssmph.2017.11.003.
25. Reiter RJ, Tan DX, Korkmaz A, Rosales-Corral SA. (2014). Melatonin and stable circadian rhythms optimize maternal, placental and fetal physiology. *Human Reproduction Update*. 20(2); 293-307. doi: 10.1093/humupd/dmt054.
26. Njeru L, Gichimu B, Lopokoityit M, Mwangi J. Influence of Kenyan youth's perception towards agriculture and necessary interventions: a review. *Asian J Agric Ext Econ Sociol*. 2015;5:40-5. doi:10.9734/AJAEES/2015/15178.
27. Yaqub O, Castle-Clarke S, Sevdalis N, Chataway J. Attitudes to vaccination: a critical review. *Soc Sci Med*. 2014;112:1-11. doi:10.1016/j.socscimed.2014.04.018.
28. Olum R, Kajjimu J, Kanyike A, Chekwech G, Wekha G, Nassozi D, Kemigisa J, Mulyamboga P, Muhoozi Kabagambe O, Nsenga L, Lyavala M, Asiimwe A, Bongomin F. Perspective of medical students on the COVID-19 pandemic: a survey of 9 medical schools in Uganda. *JMIR Public Health Surveill*. 2020;6(2):e19847. doi:10.2196/19847.
29. WHO (2021). covid-19 vaccine. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines> (accessed 02 January 2024)

30. Omer SB, Betsch C, Leask J. (2019). Mandate vaccination with care. *Nature*, 571(7766), 469-472. doi: 10.1038/d41586-019-02232-0. PMID: 31332351.
31. Ogbuonji-Ebuka A, Zaky AM, Escobar IC. Advanced research and development of face masks and respirators pre- and post-coronavirus disease 2019 (COVID-19) pandemic: a critical review. *Chem Mater Eng Fac Publ*. 2021;81. Available from: https://uknowledge.uky.edu/cme_facpub/81
32. Usman ID, Dominic BO, Nwankwo B, Nmadu AG, Omole NV, Usman OA. Violence towards health workers in the workplace: exploratory findings in secondary healthcare facilities in Kaduna metropolis, Northern Nigeria. *Babcock Univ Med J*. 2022;5(1):28-36. doi:10.38029/babcockunivmedj.v5i1.118.
33. Nigeria Centre for Disease Control and Prevention (2021). NCDC Statement on Emerging SARS-CoV-2 Variant. Available from: <https://www.ncdc.gov.ng/news/346/ncdc-statement-on-emerging-sars-cov-2-variant>
34. Jegede AS. (2007). What led to the Nigerian boycott of the polio vaccination campaign?. *PLoS Medicine*, 4(3), e73. <https://doi.org/10.1371/journal.pmed.0040073>
35. Ponto J. (2015). Understanding and Evaluating Survey Research. *Journal of Advanced Practical Oncology*, 6(2), 168-71.
36. Creswell JW. (2019). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Sage Publications.
37. Danabal KGM, Magesh SS, Saravanan S et al. Attitude towards covid 19 vaccines and vaccine hesitancy in urban and rural communities in Tamil Nadu, India – a community based survey. *BMC Health Service Resources* 21; 994. <https://doi.org/10.1186/s12913-021-07037-4>
38. Al-Mustapha AI, Okechukwu O, Olayinka A, Muhammed OR, Oyewo M, Owoicho SA, Abubakar AT, Olabisi A, Jibril A, Ereh S, Fakayode OE, Ogundijo OA, Elelu N, Adetunji VO. (2022). A national survey of covid-19 vaccine acceptance in Nigeria. *Vaccine*, 5;40(33), 4726-4731. doi: 10.1016/j.vaccine.2022.06.050.

APPENDIX 1

QUESTIONNAIRE ON ATTITUDINAL DISPOSITION, CULTURAL BELIEFS AND ACCEPTANCE OF COVID-19 VACCINES

This survey serves to measure the librarians' health workers attitudinal disposition, cultural beliefs towards acceptance of covid-19 vaccines. You are expected to be as honest as you can by responding to the items. Be assured that your responses will be treated with strict confidence. You reserve the right to take part in this exercise. Thank you for your participation.

A: BACKGROUND INFORMATION

Name of Hospital:

Your LGA/State:

Qualification:

Gender: (a) Male (b) Female.....

Years of experience:

Section B1: Attitudinal Disposition	SA	A	UD	D	SD
1. I believe that covid-19 is not a real disease					
2. I believe that covid-19 is a new disease and vaccines have not been tested thoroughly					
3. I believe that I can feel safe after been vaccinated against covid-19					
4. I believe that I can rely on vaccines against covid-19 disease					
5. I can feel that my family is protected after getting vaccinated against covid-19					
6. I believe that covid-19 vaccines can cause serious problems in children					
7. I believe that natural immunity lasts longer than vaccination					

Source^{19,18,37}.

Section B2: Cultural Beliefs	SA	A	UD	D	SD
1. I believe that God or the ancestors will protect me					
2. My body is strong enough to fight the disease based on the various herbs I have taken					
3. My religious inclination does not allow me to take the covid-19 vaccine					
4. I believe that I am protected by our ancestors, therefore, taking covid-19 is a waste of effort					
5. My cultural believe forbid I should take any vaccine					
6. My religious leader is against the vaccine					
7. No vaccine is better than taking our traditional herbs and concussions					

Source²³.

Section B3: Acceptance of covid-19 Vaccines	SA	A	UD	D	SD
1. I will take covid-19 vaccines approved for use in Nigeria if offered					
2. If there is a covid-19 vaccine available, I will want to get it as soon as possible					
3. I will describe my attitude towards receiving covid-19 as positive					
4. If a covid-19 vaccine was available at any local pharmacy I would avoid getting it as long as possible					
5. If any of my family or friends were thinking of getting a covid-19 vaccination, I would strongly discourage them					
6. I would describe myself as eager to get covid-19 vaccine					
7. Taking a covid-19 vaccination is very important					
8. Others, please indicate					

Source²³.

Section B4: Challenges	SA	A	UD	D	SD
1. Vaccination site is too far away					
2. No time to go get vaccinated					
3. My risk of being infected is very low					
4. Poor knowledge, and understanding of the technology platforms used to design and develop the vaccine,					
5. Lack of trust and disbelieve					
6. Deficient data about vaccine adverse effect					
7. Inadequate information about the vaccine					

Source: literature.

