Knowledge, Attitude and Uptake of COVID – 19 Vaccines among Nurses in Wesley Guild Hospital, Ilesa, Osun State

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Abstract: *The COVID-19 pandemic has underscored the critical role of healthcare workers in disease prevention, particularly through vaccination. This study assessed the knowledge, attitude, perception, and uptake of COVID-19 vaccines among nurses at Wesley Guild Hospital (WGH), Ilesa, Osun State, Nigeria, to identify gaps and inform targeted interventions. A descriptive cross-sectional design was employed, and 150 nurses were selected using stratified random sampling. Data were collected via a validated, self-administered questionnaire and analyzed using descriptive statistics. Findings revealed that nurses demonstrated generally good knowledge of COVID-19 vaccines, with high awareness of vaccine types, availability, and preventive benefits. Attitudes were largely positive, with most respondents expressing willingness to receive the vaccine, engage in preventive behaviors, and recommend vaccination to others. Perceptions were favorable, particularly regarding vaccine safety and effectiveness, though some misconceptions persisted, including concerns about unknown side effects and doubts about vaccine equivalence to those used in developed countries. Uptake was relatively high (70.7%), but completion of the recommended two-dose regimen was suboptimal (44.2%), and hesitancy remained among unvaccinated respondents. Key factors influencing uptake included trust in authorities, concerns about side effects, misinformation, and confidence in vaccine efficacy. The study highlights the importance of evidence-based educational interventions, strengthened communication strategies, and leveraging nurses as advocates to improve vaccine coverage and acceptance.*
Keywords: attitude, COVID-19, healthcare, knowledge, nurses, vaccination, vaccine uptake

INTRODUCTION

Coronavirus disease (COVID-19) was declared a global health pandemic by the World Health Organization (WHO) on 11 March 2020, following its rapid spread and unprecedented impact on global health systems and societies (GAVI, 2021). First identified in Wuhan, China, in December 2019, the disease quickly transcended national borders, spreading to over 215 countries worldwide (WHO, 2022). Since the onset of the pandemic, more than 500 million confirmed cases and over six million deaths had been recorded globally as of May 2022, underscoring the severe public health threat posed by the virus (WHO, 2022). Beyond its health implications, COVID-19 has had devastating socio-economic, political, and educational consequences, particularly in low- and middle-income countries where health systems are often overstretched. COVID-19 has no definitive cure, and its management has largely remained supportive. Public health measures such as regular hand washing, use of face masks, social distancing, and cough etiquette were widely promoted to reduce community transmission. Various communication channels were deployed globally to improve public awareness and compliance with these preventive strategies. However, despite these efforts, the continuous rise in infections in many countries led to the emergence of

new variants of concern, further complicating containment efforts (European Centre for Disease Prevention and Control [ECDC], 2021; Koyama et al., 2020). This persistent transmission highlighted the limitations of non-pharmaceutical interventions alone and reinforced the need for more sustainable preventive measures.

In this regard, vaccination emerged as a critical tool in controlling the COVID-19 pandemic. Alongside supportive care and preventive practices, the administration of COVID-19 vaccines has been identified as a major strategy for reducing transmission, morbidity, and mortality associated with SARS-CoV-2 infection (Zheng, 2020). Consequently, significant global research efforts were mobilized to develop safe and effective vaccines within an unprecedented timeframe (Caribbean Public Health Agency [CARPHA], 2021). Vaccination has long been recognized as one of the most effective public health interventions for controlling rapidly spreading infectious diseases, and several COVID-19 vaccines demonstrated high efficacy in randomized clinical trials (Voysey et al., 2020). As a result, multiple vaccines were approved and rolled out globally, with priority given to frontline healthcare workers and high-risk populations such as the elderly and individuals with chronic illnesses. By 2021, at least seven different COVID-19 vaccines had been deployed worldwide, with over 13 million doses administered across Africa (WHO, 2021). Despite these advances, concerns persisted regarding vaccine uptake among healthcare workers (HCWs), even though they were among the first groups prioritized for vaccination (WHO, 2020).

Healthcare workers constitute less than 2–3% of the global population, yet their risk of COVID-19 infection is two to three times higher than that of the general public due to their frontline role in pandemic response (WHO, 2020). This elevated risk not only threatens their personal health but also increases the likelihood of transmission to patients, colleagues, family members, and the wider community. It has been estimated that approximately 14% of global COVID-19 infections occurred among healthcare workers, emphasizing the urgent need for effective preventive strategies within this group (WHO, 2020). Ensuring optimal protection of HCWs, therefore, remains central to controlling the spread of the virus and maintaining functional health systems.

Despite the proven effectiveness of COVID-19 vaccines, vaccine hesitancy has emerged as a major challenge worldwide. Vaccine hesitancy, defined as a delay in acceptance or refusal of vaccines despite their availability, has been identified as a significant obstacle to achieving optimal vaccination coverage, including among healthcare workers (WHO, 2019; WHO, 2021). Successful immunization programmes require not only vaccine availability but also high levels of acceptance and willingness to be vaccinated among target populations (Barim & Hossain, 2021). Common reasons for vaccine hesitancy include concerns about vaccine safety, doubts regarding efficacy, lack of confidence in health authorities, and fear of side effects (Fares et al., 2021). Studies conducted in Europe and Canada have consistently shown that safety concerns are among the strongest predictors of COVID-19 vaccine hesitancy (Verger et al., 2020).

Nurses, as a critical subgroup of healthcare workers, play a pivotal role in patient care and public health education. However, negative attitudes and poor perceptions toward COVID-19 vaccines have been identified as significant factors contributing to vaccine refusal among nurses (Adane et al., 2022). In Africa, COVID-19 vaccination coverage among healthcare workers remains low,

with only about 27% reported to be fully vaccinated. In Nigeria specifically, data from the National Primary Health Care Development Agency (NPHCDA, 2022) indicate that only 7.9% of the population had been fully vaccinated, while 13% had received at least one dose and a mere 0.5% had received booster doses. Although some studies report generally favourable attitudes toward COVID-19 vaccination among nurses, substantial concerns persist, largely due to inadequate knowledge, mistrust, and exposure to anti-vaccine misinformation, particularly through social media (Ciardi et al., 2021). Additionally, factors such as religiosity and cultural beliefs have been noted to influence vaccine acceptance from a lay perspective (Garcia & Yap, 2021). Consequently, improving vaccine acceptability and uptake among nurses is critical for safeguarding both healthcare workers and the general population.

Evidence suggests that nurses' knowledge and attitudes toward COVID-19 vaccination significantly influence uptake. A study conducted in Western Ethiopia revealed that nearly half of healthcare professionals had poor attitudes toward COVID-19 vaccination (Tolosa et al., 2022). Similarly, a Nigerian study reported that less than half of healthcare workers were willing to receive the vaccine, with notable variation across professional groups; while 59% of physicians expressed willingness, only 38% of nurses were willing to be vaccinated (Robinson et al., 2021). The same study highlighted social media as the primary source of COVID-19 information for most healthcare workers, with misinformation posing a major barrier to vaccine uptake. These findings underscore the importance of accurate information dissemination and positive perceptions in promoting vaccine acceptance.

Vaccine uptake, defined as the proportion or absolute number of individuals who receive a vaccine within a specified period, remains below desired levels globally (WHO, 2021). Nurses are trusted sources of health information and play a vital role in influencing public attitudes toward vaccination. Therefore, their perceptions and acceptance of COVID-19 vaccines are crucial to the success of vaccination programmes (Galanis et al., 2020). Given the ongoing skepticism surrounding new vaccines, particularly COVID-19 vaccines, understanding the knowledge, attitudes, and uptake among nurses is essential. In Nigeria, and specifically in Osun State, there is a paucity of documented evidence on nurses' attitudes toward COVID-19 vaccine uptake. Wesley Guild Hospital, Ilesa, as a major healthcare institution, provides an important context for examining these issues. This study therefore seeks to assess the knowledge, attitude, and uptake of COVID-19 vaccines among nurses in Wesley Guild Hospital, Ilesa, Osun State, with the aim of bridging existing knowledge gaps and informing targeted interventions. The broad objective of this study is to determine the knowledge, attitude, perception and uptake of COVID-19 vaccine among nurses in WGH, Ilesa. The specific objectives of this study were to:

1. assess the knowledge of nurses about COVID -19 vaccine in the Wesley Guild Hospital, Ilesa
2. examine the attitude of nurses about COVID -19 vaccine uptake in the study setting
3. examine the perception of nurses about COVID-19 vaccine uptake in the study setting
4. identify factors influencing the uptake of COVID -19 vaccine among nurses in the study setting.

METHODS AND MATERIALS

The study adopted a quantitative research design using a descriptive cross-sectional approach to assess the knowledge, attitude, perception, and uptake of COVID-19 vaccines among nurses in Wesley Guild Hospital (WGH), Ilesa, Osun State. The cross-sectional design was considered appropriate because it allowed data to be collected from different categories of nurses at a single point in time, thereby providing a snapshot of their views and practices regarding COVID-19 vaccination. This approach was cost-effective, time-efficient, and suitable for determining prevalence and associations among variables within a defined population. The study was conducted at Wesley Guild Hospital, a unit of the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), which is one of the federal tertiary health institutions in Nigeria. The hospital served as a major referral center for healthcare facilities within Osun State and neighboring states in southwestern Nigeria and was well equipped with modern technological infrastructure and highly skilled manpower, including specialized nurses, medical doctors, pharmacists, laboratory scientists, and other allied health professionals.

The target population comprised all registered nurses working at Wesley Guild Hospital, Ilesa, with a total population of 207 nurses. The sample size was determined using Taro Yamane's formula for finite populations with a margin of error of 0.05. Based on this calculation, a sample size of 136 respondents was obtained, and an additional 10% was added to account for possible non-response, resulting in a final sample size of 150 nurses. Nurses who had worked in the facility for at least six months and who gave informed consent to participate were included in the study, while those who were seriously ill, on training, or on annual leave during the period of data collection were excluded. Stratified random sampling was used to select respondents, ensuring proportional representation of nurses across different units and cadres within the hospital, thereby reducing selection bias and enhancing representativeness.

Data were collected using a self-administered structured questionnaire developed by the researcher based on relevant literature. The questionnaire consisted of six sections that elicited information on socio-demographic characteristics, knowledge, attitudes, perceptions, uptake of COVID-19 vaccines, and factors influencing vaccine uptake. Knowledge was assessed using 24 items with response options of "Yes," "No," and "I don't know," which were scored as 2, 1, and 0 respectively. Attitudes were measured using a 9-item five-point Likert scale ranging from strongly disagree to strongly agree, with higher scores indicating more positive attitudes toward COVID-19 vaccine uptake. Perception was assessed using 18 dichotomous items scored as 1 for "Yes" and 0 for "No," while vaccine uptake was measured using three dichotomous items. Factors influencing uptake were also assessed using dichotomous responses. The instrument was subjected to face and content validity by experts in nursing, public health, and statistics to ensure clarity, relevance, and adequacy of coverage. Reliability of the instrument was established through a pilot study conducted among 40 nurses at the Ife Hospital Unit of OAUTHC, which was excluded from the main study. Test–retest reliability and internal consistency were assessed, and Cronbach's alpha coefficient was calculated to determine the reliability of the questionnaire.

Data collection commenced after ethical approval was obtained from the Health Research Ethics Committee of Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, and permission was granted by the hospital management. Eligible respondents were informed about the purpose and objectives of the study, and informed verbal consent was obtained before administering the questionnaires. The questionnaires were distributed to the respondents and retrieved immediately after completion to ensure a high response rate. Data collected were coded and entered into the Statistical Package for Social Sciences (SPSS) version 23 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data. Ethical principles of autonomy, confidentiality, anonymity, and voluntary participation were strictly observed throughout the study, and respondents retained the right to withdraw from the study at any point without any consequences.

RESULTS

Table 1: Socio-Demographic characteristics

Parameter	Classification	Frequency	Percentage
Age (mean ± SD) 38.81± 8.54	30 & below	23	15.6
	31-40	70	47.6
	41-50	43	29.3
	Above 50	11	7.5
	Total	147	100.0
Marital status	Single	43	29.3
	Married	104	70.7
	Total	147	100.0
Religion	Christianity	134	91.2
	Islam	13	8.8
	Total	147	100.0
Occupation	Unemployed	6	4.1
	Retired	4	2.7
	Working	137	93.2
	Total	147	100.0
Ethnicity	Yoruba	119	81.0
	Igbo	20	13.6
	Hausa	4	2.7
	Others	4	2.7
	Total	147	100.0
High Level of education	diploma	23	15.6
	BNSc	113	76.9
	MSc	7	4.8
	Others	4	2.7
	Total	147	100.0
	RN	35	23.8

Professional Qualification	RN/RM	108	73.5
	Others	4	2.7
	Total	147	100.0
Designation	NOII	30	20.4
	NOI	14	9.5
	SNO	64	43.5
	ACNO	11	7.5
	CNO	20	13.6
	ADNS	8	5.4
	Total	147	100.0
Year of experience(mean ± SD) 11.± 8.31	1-5	33	22.4
	6-10	49	33.3
	11-15	36	24.5
	5.00	29	19.7
	Total	147	100.0
Ward	ICW	40	27.2
	copd	14	9.5
	mcw	13	8.8
	neonatal	22	15.0
	huford	38	25.9
	Others	20	13.6
	Total	147	100.0
Have you ever been infected with COVID-19 VIRUS	YES	7	4.8
	NO	140	95.2
	Total	147	100.0
HAVE you heard about COVID-19 Vaccine	YES	143	97.3
	System	4	2.7
	Total	147	100.0
If yes what is the source of your information	Media	102	69.4
	scientific literature	39	26.5
	internet	2	1.4
	Others	4	2.7
	Total	147	100.0

Table 1 shows that the respondents had a mean age of 38.81 ± 8.54 years, with nearly half of them (47.6%) aged 31–40 years, indicating a predominantly young to middle-aged nursing workforce, while only 7.5% were above 50 years. Most respondents were married (70.7%) and predominantly Christians (91.2%), reflecting the marital and religious composition of the study population. The majority were actively working nurses (93.2%) and mainly of Yoruba ethnicity (81.0%), consistent with the ethnic distribution of the study area. In terms of educational attainment, most respondents

held a Bachelor of Nursing Science degree (76.9%), and a large proportion possessed RN/RM professional qualifications (73.5%), suggesting a highly trained workforce. Senior Nursing Officers constituted the largest designation group (43.5%), and respondents had a mean work experience of 11 ± 8.31 years, with most having between 6 and 10 years of experience (33.3%). Participants were distributed across various wards, with the highest representation from the intensive care ward (27.2%) and Huford ward (25.9%). Only a small proportion (4.8%) reported previous COVID-19 infection, while almost all respondents (97.3%) had heard about the COVID-19 vaccine, with the media being the predominant source of information (69.4%), followed by scientific literature (26.5%).

Table 2: Knowledge About Covid-19 Vaccine

S/N	Variables	Yes (%)	No (%)	I *don't* Know (%)
1	Can vaccines effectively prevent COVID-19?	97(66.0)	44(29.9)	6(4.1)
2	Do you know where you can be vaccinated when a COVID-19 vaccine becomes available?	147(99.3)	0(0.0)	0(0.0)
3	AstraZeneca–Oxford COVID-19 vaccine	147(99.3)	0(0.0)	0(0.0)
4	Pfizer–BioNTech COVID-19 vaccine	129(87.8)	11(7.5)	7(4.7)
5	Johnson & Johnson's Janssen COVID-19 vaccine	128(87.1)	5(3.4)	14(9.5)
6	Moderna COVID-19 vaccine	120(81.6)	9(6.1)	18(12.2)
7	K-BCG COVID-19 vaccine	18(12.2)	36(24.5)	93(63.3)
8	K-ANthrax COVID-19 vaccine	31(21.1)	29(19.7)	83(56.4)
9	Are there large differences in the effectiveness of the Pfizer, Moderna, and Astra Zeneca COVID-19 vaccines?	55(37.4)	31(21.1)	61(41.5)
10	Do COVID-19 vaccines have side effects? *	133(90.5)	7(4.8)	7(4.8)
11	Are older people and chronic disease patients most likely to experience severe illness and death from COVID-19 infection?	118(80.3)	14(9.5)	15(10.2)
12	Do you know that COVID-19 vaccine uptake can result in complications?	119(81.0)	14(9.5)	14(9.5)
	The following are complications associated with COVID-19 vaccine			
13	Pneumonia	80(54.4)	23(15.6)	44(29.9)
14	Respiratory failure	93(63.3)	23(15.6)	31(21.1)
15	Psychological disturbance	75(51.0)	34(23.1)	34(23.1)
16	Liver disease	62(42.2)	44(29.9)	41(27.9)
17	Secondary infection	66(44.9)	40(27.2)	41(27.9)
18	Kidney disease	71(48.3)	35(23.8)	41(27.9)
19	Heart disease	76(51.7)	34(23.1)	33(22.4)

20	Death	102(69.4)	24(16.3)	21(14.2)
21	The COVID-19 vaccine is very effective in preventing COVID-19 infection and its related serious morbidity and mortality.	105(71.4)	36(24.5)	6(4.1)
22	Two doses of the COVID-19 vaccine should be given to prevent infection	114(77.6)	7(4.8)	26(17.7)
23	The COVID-19 vaccine would not cause serious adverse side effects	64(43.5)	63(42.9)	20(13.6)
24	The COVID-19 vaccine would eliminate the need for regular protective measures such as, facemasks, social distancing, and frequent hand washing.	35(23.8)	104(70.7)	8(5.4)

The findings in Table 2 indicate that respondents generally demonstrated a high level of knowledge about COVID-19 vaccines, particularly with regard to vaccine availability and commonly used vaccine types. Nearly all respondents (99.3%) knew where they could be vaccinated and were aware of the AstraZeneca–Oxford vaccine, while a large majority also recognized the Pfizer–BioNTech (87.8%), Johnson & Johnson (87.1%), and Moderna (81.6%) vaccines. This suggests good exposure to information about approved COVID-19 vaccines, likely reflecting their professional background as nurses and their access to institutional and media-based information. In addition, two-thirds of respondents (66.0%) correctly indicated that vaccines can effectively prevent COVID-19, and over 70% agreed that COVID-19 vaccines are effective in preventing infection and reducing serious morbidity and mortality. Awareness of higher COVID-19 risk among older adults and individuals with chronic diseases was also high (80.3%), further reflecting sound foundational knowledge. However, uncertainty was observed in areas related to comparative vaccine effectiveness, as 41.5% of respondents reported that they did not know whether there were large differences in effectiveness among Pfizer, Moderna, and AstraZeneca vaccines. This suggests gaps in more nuanced or technical aspects of vaccine knowledge, which may influence confidence in vaccine choice and recommendations.

Despite generally good knowledge, notable misconceptions and areas of concern were identified, particularly regarding vaccine safety and complications. Although most respondents (90.5%) acknowledged that COVID-19 vaccines have side effects, a substantial proportion attributed severe complications such as pneumonia, respiratory failure, heart disease, kidney disease, and even death to COVID-19 vaccination, with 69.4% indicating death as a possible complication. This reflects a tendency to confuse complications of COVID-19 infection with adverse effects of vaccination, pointing to important knowledge gaps. Furthermore, respondents were divided on whether the vaccine would not cause serious adverse side effects, with almost equal proportions answering "yes" (43.5%) and "no" (42.9%), indicating uncertainty and possible mistrust regarding vaccine safety. On a positive note, most respondents (77.6%) knew that two doses are required for optimal protection, and a large majority (70.7%) correctly disagreed with the notion that vaccination eliminates the need for ongoing preventive measures such as mask use and social distancing. Overall, while the nurses demonstrated good general awareness and knowledge of COVID-19 vaccines, persistent misconceptions and uncertainty about vaccine safety and

complications suggest the need for targeted, evidence-based educational interventions to strengthen accurate understanding and improve vaccine-related decision-making.

Table 3:Attitude Towards Uptake of Covid-19 Vaccine

S/N	Variables	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	The opinion of family and friends is important in my decision to take the vaccine	36(24.5)	52(35.4)	3(2.0)	45(30.6)	11(7.5)
2	I encourage my family and others to take the vaccine	7(4.8)	7(4.8)	22(15.0)	84(57.1)	27(18.4)
3	I would take the COVID-19 vaccine	3(2.0)	30(20.4)	14(9.5)	67(45.6)	33(22.4)
4	I engage in preventive behavior (wearing mask, social distancing. Frequent handwashing, and use of hand sanitizer)	3(2.0)	4(2.7)	8(5.4)	77(52.4)	55(37.4)
5	I will recommend the COVID-19 vaccine to groups of people who are considered eligible as per the national health vaccine safety protocol	7(4.8)	4(2.7)	22(15.0)	96(65.3)	18(12.2)
6	I feel safe after getting vaccinated.	3(2.0)	25(17.0)	19(12.9)	72(49.0)	24(16.3)
7	I trust in vaccines against serious infectious diseases.	3(2.0)	35(23.8)	14(9.5)	74(50.3)	18(12.2)
8	I feel protected after getting vaccinated	3(2.0)	26(17.7)	9(6.1)	84(57.1)	25(17.0)
9	I will not receive the vaccine because my body has natural immunity against COVID-19	46(31.3)	34(23.1)	8(5.4)	54(36.7)	5(3.4)

Table 3 indicates an overall favourable attitude toward COVID-19 vaccine uptake among the respondents, with strong pro-vaccination tendencies reflected in most items. Although opinions of family and friends influenced some respondents, a greater proportion disagreed (59.9%) than agreed (38.1%), suggesting that personal professional judgment outweighed social influence in vaccine decision-making. A large majority actively supported vaccination, as evidenced by 75.5% agreeing or strongly agreeing that they encourage family and others to take the vaccine, and 68.0% expressing willingness to personally receive the COVID-19 vaccine. Preventive health consciousness was notably high, with 89.8% reporting engagement in recommended preventive behaviours, indicating alignment between vaccination attitudes and broader infection-control

practices. Furthermore, 77.5% of respondents were willing to recommend the vaccine to eligible groups, reinforcing their role as advocates for public health interventions. Perceptions of vaccine safety and effectiveness were generally positive, as over two-thirds reported feeling safe (65.3%) and protected (74.1%) after vaccination, while 62.5% expressed trust in vaccines against serious infectious diseases. However, the belief in natural immunity as a reason for refusing vaccination persisted among a notable minority, with 40.1% agreeing or strongly agreeing with this statement, implying the presence of residual misconceptions. Overall, the findings infer that nurses largely demonstrate positive attitudes toward COVID-19 vaccination, positioning them as potential promoters of vaccine uptake, though targeted education is still required to address lingering doubts related to natural immunity and vaccine necessity.

Table 4: Perception About Covid-19 Vaccine

S/N	Variables	Yes	No
1	COVID-19 vaccine cannot be controlled without vaccination	33(22.4)	114(77.6)
2.	COVID-19 vaccine is fairly distributed for all	101(68.7)	46(31.3)
3.	Mass vaccination can overcome the attack of COVID-19	107(72.8)	36(24.5)
4.	The best prevention method is to take the vaccine	82(55.8)	65(44.2)
5.	The vaccine that is currently being given in Nigeria is the actual one that those innovative countries are taking	53(36.1)	94(63.9)
6.	If one person takes the vaccine, it has a great contribution for other people	98(66.7)	49(33.3)
7.	The vaccine is safe	104(70.7)	43(29.3)
8.	The contribution of the COVID-19 vaccination to my health and well-being is very essential	131(89.1)	16(10.9)
9.	All health care workers should be vaccinated against COVID-19	99(67.3)	48(32.7)
10	I think the COVID-19 vaccine might cause unknown serious health problems	73(49.7)	74(50.3)
11	It is important that I get the COVID-19 vaccination	104(70.7)	43(29.3)
12	Vaccination greatly reduces my risk of catching COVID-19	139(94.6)	8(5.4)
13	Getting the COVID-19 vaccination has a positive influence on my health	111(75.5)	36(24.5)
14	I believe that the COVID-19 vaccine will help protect the people who take it.	104(70.7)	43(29.3)
15	COVID-19 vaccination can protect me from getting sick with COVID-19	90(61.2)	57(38.8)
16	COVID-19 vaccine can make me sick with COVID-19	70(47.6)	77(52.4)
17	After getting a COVID-19 vaccine, I can still test positive for COVID-19 on a viral test	92(62.6)	55(37.4)
18	Children should be vaccinated too	54(36.7)	93(63.3)

The findings in Table 4 indicate generally positive perceptions of the COVID-19 vaccine among respondents, particularly regarding its effectiveness and benefits to individual and public health. A substantial proportion agreed that mass vaccination can overcome COVID-19 (72.8%) and that vaccination greatly reduces the risk of contracting the virus (94.6%), suggesting strong confidence in vaccine effectiveness. Most respondents also perceived the vaccine as safe (70.7%) and believed it has a positive influence on their health (75.5%), with 89.1% affirming that vaccination is essential to their health and well-being. Additionally, more than two-thirds supported vaccination for all healthcare workers (67.3%) and recognized the collective benefit of individual vaccination in protecting others (66.7%). These findings infer that respondents largely understood the public health value of COVID-19 vaccination and its role in reducing disease burden and transmission, reflecting favorable perceptions that could encourage higher vaccine acceptance and advocacy among nurses.

Despite these positive perceptions, notable misconceptions and concerns were also evident. A majority (77.6%) disagreed with the statement that COVID-19 cannot be controlled without vaccination, implying that many respondents still believed non-vaccine preventive measures alone may be sufficient. Less than half believed that the vaccines administered in Nigeria were the same as those used in developed countries (36.1%), indicating possible distrust in vaccine quality or equity. Almost half of the respondents (49.7%) expressed concern that the vaccine might cause unknown serious health problems, and 47.6% believed the vaccine could make them sick with COVID-19, highlighting persistent safety-related fears. Furthermore, only 36.7% supported vaccinating children, and more than one-third doubted the vaccine's ability to fully prevent illness, suggesting gaps in knowledge about vaccine mechanisms and indications. These patterns infer that although overall perceptions were positive, lingering doubts and misinformation may undermine full confidence in the COVID-19 vaccine, potentially affecting uptake and willingness to recommend vaccination to vulnerable populations.

Table 5: Uptake of covid-19 vaccine

S/N	Variables	Yes	No
1	Did you take COVID-19 vaccine?	104(70.7)	43(29.3)
2.	If yes, how many doses did you take?	65(44.2)	82(55.8)
3.	If no, are you still willing to take the vaccine?	64(43.5)	83(56.5)

Table 5 indicates a relatively high uptake of the COVID-19 vaccine among respondents, with 70.7% reporting that they had received the vaccine, suggesting a generally positive acceptance among nurses. However, only 44.2% reported taking the recommended number of doses, implying incomplete vaccination and possible challenges with full compliance, such as concerns about side effects or access issues. Among those who had not been vaccinated, less than half (43.5%) expressed willingness to take the vaccine, while the majority (56.5%) remained unwilling, indicating persistent hesitancy. These findings suggest that although initial vaccine uptake was encouraging, sustained acceptance and completion of recommended doses remain suboptimal, highlighting the need for targeted interventions to address ongoing concerns and improve full vaccination coverage among nurses.

Table 6: Factors influencing uptake of covid-19 vaccine

S/N	Variables	Yes	No
1	Long term repercussions	58(39.4)	89(60.5)
2	Lack of trust in the authorities and vaccine stakeholders	106(72.1)	41(27.9)
3	It is a political game	52(35.4)	91(61.9)
4	The vaccine is not reliable	72(49.0)	75(51.0)
5	I have an underlying condition/illness	33(f22.4)	114(77.6)
6	COVID is not a threat	61(41.5)	86(58.5)
7	Vaccine will not help	34(23.1)	113(76.9)
8	Vaccine is a money-making venture	44(29.9)	103(70.1)
9	My family members told me not to take the vaccine	38(25.8)	109(74.1)
10	Lack of vaccine safety	64(43.5)	83(56.5)
11	I am concerned about the vaccine side effects	94(63.9)	53(36.1)
12	I think the vaccine does not provide benefit	75(51.0)	72(49.0)
13	I think the vaccine is unsafe	61(41.5)	86(58.5)
14	I don't have the time to get vaccinated	19(12.9)	128(87.1)
15	Rumors and misinformation regarding the vaccine	80(54.4)	67(45.6)
16	I prefer home remedies	56(38.1))	91(61.9)
17	My religion is against taking the vaccine	7(4.7)	140(95.2)
18	I am not eligible to take the vaccine	2517.0)	122(83.0)
19	I doubt the effectiveness of the vaccine	55(37.4)	96(65.3)
20	I lack confidence in the vaccine	80(54.4)	67(45.9)
21	I had a bad experience when I took the first dose of the vaccine	50(34.0)	97(66.0)
22	I am worried about the future unforeseen side effect	60(40.8)	87(59.2)
23	I have contact with an infected person	41(27.9)	106(72.1)
24	I want to travel abroad	63(42.8)	84(57.1)
25	It is mandatory for health workers	109(74.1)	38(25.9)
26	Free vaccination	92(62.6)	55(37.4)

Table 6 highlights multiple factors influencing the uptake of the COVID-19 vaccine among respondents, with concerns related to trust, safety, and side effects emerging as the most prominent. A substantial proportion of nurses reported lack of trust in authorities and vaccine stakeholders (72.1%), concerns about vaccine side effects (63.9%), and perceptions that vaccination was mandatory for health workers (74.1%) as key influences on uptake. In addition, more than half of the respondents indicated that rumors and misinformation (54.4%), lack of confidence in the vaccine (54.4%), doubts about vaccine benefits (51.0%), and perceptions that the vaccine is unreliable (49.0%) affected their vaccination decisions. These findings suggest that psychological and informational factors, rather than logistical barriers such as time constraints (12.9%), played a more significant role in shaping vaccine-related behaviors among the nurses.

Other factors such as fear of long-term repercussions (39.4%), belief that COVID-19 is not a serious threat (41.5%), preference for home remedies (38.1%), and concerns about future unforeseen side effects (40.8%) also contributed to hesitancy, though to a lesser extent. Conversely, religious opposition (4.7%) and perceived ineligibility for vaccination (17.0%) were reported by very few respondents, indicating that these were not major barriers in this population. Incentive-related and structural factors, including free vaccination (62.6%) and the mandatory nature of vaccination for health workers (74.1%), appeared to positively influence uptake. The overall inference from these findings is that vaccine uptake among nurses is largely shaped by issues of trust, perceived safety, and information credibility, rather than access or religious constraints. Addressing misinformation, strengthening trust in health authorities, and providing clear, evidence-based communication on vaccine safety and effectiveness are therefore critical strategies for improving COVID-19 vaccine uptake among nurses.

DISCUSSION OF FINDINGS

The findings of this study revealed a generally high level of knowledge and awareness of COVID-19 vaccines among the nurses, particularly with respect to access and perceived effectiveness. Nearly all respondents (99.3%) knew where to obtain the vaccine, and about two-thirds (66.0%) believed that vaccination could effectively prevent COVID-19 infection, reflecting adequate basic awareness among healthcare professionals. This level of knowledge is consistent with the expectation that nurses, as frontline health workers, are frequently exposed to health information through professional training and workplace communication. However, notable knowledge gaps were identified regarding specific vaccines such as K-BCG and K-Anthrax, which were recognized by only 12.2% and 21.1% of respondents, respectively. This suggests that while general awareness is high, detailed knowledge of the range of available or emerging vaccines remains limited, underscoring the need for continuous professional education and targeted information dissemination to strengthen comprehensive vaccine literacy.

Attitudes toward COVID-19 vaccination among the nurses were largely positive, as evidenced by the majority (70.7%) expressing willingness to take the vaccine and more than half (57.1%) encouraging their family members and others to be vaccinated. These findings are encouraging, given the critical role nurses play as trusted sources of health information and role models for the general public. Nevertheless, the presence of hesitancy among a notable proportion of respondents, with 20.4% expressing disagreement about their willingness to be vaccinated, points to underlying ambivalence. This reluctance appears to be influenced by concerns surrounding vaccine safety and effectiveness, particularly fears of side effects and the perception that vaccination could result in severe health problems. Such mixed attitudes align with existing evidence that even among healthcare workers, uncertainty and fear can coexist alongside professional knowledge, potentially influencing personal health decisions and public health advocacy.

Perceptions of vaccine efficacy and safety, as well as actual uptake, further illustrate the complex dynamics influencing vaccination behavior. Although a substantial proportion of respondents (70.7%) perceived the vaccine as safe and 72.8% believed mass vaccination could help overcome

COVID-19, a significant number remained apprehensive about side effects (63.9%), long-term health repercussions, and vaccine reliability. Despite these concerns, vaccine uptake was relatively high, with 70.7% of nurses having received at least one dose; however, less than half (44.2%) had completed the full vaccination regimen, indicating partial compliance. Importantly, a considerable proportion of unvaccinated nurses (43.5%) expressed willingness to be vaccinated, suggesting that uptake could improve with appropriate interventions. Trust-related issues emerged as a major barrier, with 72.1% reporting lack of trust in authorities and vaccine stakeholders, alongside the influence of misinformation and doubts about vaccine reliability. These findings highlight that vaccine hesitancy among nurses is driven more by trust, safety perceptions, and information quality than by access, emphasizing the need for transparent communication, engagement with healthcare workers, and evidence-based educational strategies to improve confidence and sustain vaccine uptake.

CONCLUSION

The study concludes that nurses at Wesley Guild Hospital, Ilesa, demonstrated generally good knowledge, positive attitudes, and favorable perceptions toward COVID-19 vaccines, reflecting their professional awareness and understanding of the importance of vaccination in controlling the pandemic. While overall vaccine uptake was encouraging, completion of the full vaccination regimen remained suboptimal, and persistent misconceptions about vaccine safety, side effects, and long-term repercussions were evident. Trust-related issues, misinformation, and doubts about vaccine efficacy emerged as significant determinants of vaccine hesitancy, indicating that psychological and informational barriers, rather than access or religious beliefs, predominantly influenced vaccination behavior. These findings highlight the critical role of nurses not only as recipients of vaccination but also as advocates capable of influencing vaccine acceptance among the wider community

Recommendations

Based on the findings, it is recommended that continuous, evidence-based educational programs be implemented to address knowledge gaps and clarify misconceptions regarding COVID-19 vaccines. Health authorities and hospital management should strengthen communication strategies to build trust in the vaccine and its stakeholders, countering misinformation and rumors that undermine confidence. Additionally, interventions should focus on promoting the completion of the full vaccination regimen through follow-up reminders and supportive workplace policies. Finally, leveraging nurses as role models and advocates for vaccination can enhance public confidence and encourage wider vaccine uptake, reinforcing the critical role of healthcare professionals in achieving population-level immunity.

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