

Perception and Uptake of Covid-19 Vaccination among Drivers in Akure South, Ondo State, Nigeria

Dr. Mary Idowu Edward^{1*}, Dr. Margaret Moyosola Oladapo²,
Mrs Mary Opeyemi Adigun³, Mrs Oluwatoyin Ajoke Onetufu⁴

^{1,2,3} Faculty of Nursing Science, University of Medical Science, Akure, Ondo State, Nigeria

⁴ Oda Basic Health Center, Oda Town, Ondo State, Nigeria

* edwardmary@unimed.edu.ng

Abstract

Background: The administration of vaccines is one of the important ways to stop the spread of Covid-19 that has claimed and still claiming many lives all over the world.

Aim: This study examines the perception and uptake of people towards Covid-19 vaccination among drivers in Akure South, Ondo State.

Methodology: Thirty (30) respondents were selected using simple random techniques from each of the four major motor parks in Akure Southmaking 120 respondents in all. Data collected was analyzed using Statistical Package for Social Sciences (SPSS) version 22. The study employed mixed methods of quantitative and qualitative designs. Data were collected using questionnaire and indepth methods.

Results:Result showed that 72.5% had good knowledge while 55.0% had positive attitude towards covid-19 vaccine uptake. However, only 32% of respondents have taken the covid-19 vaccine though perception of respondents is moderately high (66.7%). There is significant relationship exist between perception and attitude towards uptake of covid-19 vaccine ($\chi^2=271.22$, $p=0.043$).

Conclusion: The study concludes that continuous public enlightenment will further improve the acceptability and uptake of the covid-19 vaccine among the people of Akure South.

Key words: Perception, Uptake, Vaccine, COVID-19

Background: Corona Virus Diseases 2019 (Covid-19) is declared a pandemic by the World Health Organization in March 2020^[1]. The COVID-19 pandemic affected many countries' economies and many facets of life such as health systems and education systems. It originated in Wuhan, China, in December 2019, gradually spread to over 225 countries with more than 460 million cases and claiming about 6 million lives^[2]. Presently no known cure has been dicovered, and disease management is mainly supportive and preventive^[1]. There are also preventive measures to limit the transmission and spread of

this disease such as regular hand washing, use of facemasks, social distancing, and cough etiquette. Large-scale and widespread vaccination against the pandemic offers a more sustainable and long-term relief from the disease than other measures such as lockdown, mask and regular washing of hands. Vaccination is one of the most effective primary preventive interventions in public health. It has been proven invaluable in control and even eradication of many disease outbreak the world over.

Many researches have been ongoing across the world to develop vaccines against the highly contagious virus. As at February, 2022, about 42 Covid-19 vaccines have been tested, certified and approved for use by World Health Organization^[2]. The acceptance of the vaccines and willingness to take it also depend largely on positive perception by the people^[3]. Reluctance and refusal to receive a vaccine despite its availability has been found to be a major obstacle to vaccination among the general population and among health workers^[4]. COVID-19 vaccination programs which is ongoing in Nigeria and many countries, including developing countries face the aforementioned challenges, this may not be unconnected with newness of the disease and doubt about the efficacy of the vaccines which were developed within short time period of lockdown.

In Nigeria, some people deny the existence of the disease and there is misconception that the virus thrive in temperate climates rather than hot climates. Some people also believe in the ability to get cured by spiritual and herbal means. Superstitions and erroneous beliefs such as these may pose additional barriers to vaccine acceptance. In Nigeria, health workers perceptions and willingness to receive vaccination have been documented as essential for improving vaccination rates among patients and the general population^[5]. Health workers play a key role in changing patients' behaviors and are among the first category of people to understand the magnitude of the problem and are in the right position to recommend vaccination^[6].

The COVID-19 pandemic has caused enormous loss of human life globally and had posed an inestimable obstacle to public health in addition to precipitating food security, and economic woes^[7]. The adverse impact of COVID-19 pandemic in Sub-Saharan Africa (except few cases) is relatively low when compared to the Americas, Asia, Europe, and North Africa^[2]. However the present reality proved the prediction otherwise. Some researchers have attributed the low impact of COVID-19 in the region to the low volume of air travel, large youthful population, favorable climate and immunity from prior immunizations, and poor report of events^[8].

The trend in COVID-19 in Nigeria showed a bimodal trend. This shows a pandemic that restarted after flattening, with the second rise representing the second wave of COVID-19. Nigeria is currently experiencing the fourth wave. A total of 223,887 cases and 2985 deaths were recorded across all 36 states and the Federal Capital Territory^[9]. This value placed Nigeria as the 7th most-affected African country and the 79th most-affected country globally, accounting for 0.07% of COVID-19 related deaths globally^[2]. Although the level of mortality due to the corona virus diseases is far lower in Africa than other countries in Europe, Asians and American countries, government in both developed countries and the World Health Organisation have made concerted efforts to reduce the spread of the virus. Vaccination remained the most viable option for control of the virus^[10].

After the emergence of the pandemic, lots of effective and safe vaccines against COVID-19 were rolled out globally. As of the 18th of March 2021, at least thirteen COVID-19 vaccines had received approval for different levels of use, while another twenty-seven were undergoing large-scale, Phase III, final randomized controlled trials^[13, 11]. The National Primary Health Care Development Agency (NPHCDA), through the State's Primary Health Care Board, commenced the vaccination of Nigerians' priority groups in March 2021^[12]. All along, there has been fear, government distrust, hesitancy, rejection, and conspiracy theories as the COVID-19 vaccination exercise continues^[13]. Studies both globally and locally have shown that there is a diverse rate of variability in the awareness, perception, willingness, and acceptance rate of the COVID -19 vaccine^[14, 15, 16].

There is paucity of studies on Covid-19 vaccination coverage, acceptance and viability in Ondo State. Moreso, perception and attitude towards the covid-19 vaccination as well as factors influencing it has not been sufficiently researched in this part of Nigeria. This study aims to find out the perception and uptake of Covid-19 vaccine among the drivers in Akure, Ondo State, Nigeria.

Methodology

The study adopts a descriptive cross-sectional survey using both quantitative and qualitative method. This study was carried out at the four main garages and motor parks in Akure, Ondo State – Ilesha garage, Benin Central motor park, Owo-Akoko garage and Ife-Ibadan –Lagos car park. The study population for this study are the commercial bus, car and tricycles driver loading and unloading passengers at the motor parks.

Sample size

Cochran (1977) formula $N/(1+Ne^2)$ was used to determine the sample size of 120 respondents for the study. They were selected through purposive sampling technique. A self-structured questionnaire and indept interview with close-ended and open-ended questions were used to collect data from the selected respondents for this study.

Statistical Analysis: Data analysis was done using descriptive statistics. Chi-Square statistics test and other analysis was done using Statistical Package for Social Science (SPSS) version 26.

Result

In total, 120 respondents were surveyed. About 31.7% of respondents were between 20 and 29 years, 38.3% were between 30 and 39 years, 13.3% were between 40 and 49 year. The mean age of respondents is 39.8 ± 3.9 years and median age is 40 years. About 70% were married, 81.7% were mostly Christians while 15% were Muslims. With regards to academic qualification of the respondents, 36% attended only primary school while 23.3% were secondary school certificate holders, 33.3% post-secondary qualifications.

In this study, about 95% respondents were aware of a disease outbreak called Covid-19 through various media available to them but only 110 actually believe it is real. Various ways that respondents agreed are ways by which Covid-19 infections can be transmitted or spread include sneezing 90.0%, coughing 98

(81.6%), inhaling infected particles in the air 108 (90%), contacts with infected sweat or other body fluids 71(59.4%). They however disagreed that Covid-19 could spread through unscreened blood transfusion and through eating dirty or unwashed foods, 28 (23.3%) and 32 (24.8%) respectively. Respondents also agreed that wearing face masks prevents against Covid-19 118(99.4%), regular hand washing 108 (90.0%), avoiding crowded gathering 104(86.7%), taking vaccination 100 (83.3%), Taking traditional concoction was reported by 58 (48.3%), taking medication from chemist store or pharmacy 87 (72.5%) and self-isolation 70(58.3%). In summary, about 72.5% of respondents show good knowledge of Covid-19 while 18.3% showed fair knowledge and 9.2% had poor knowledge. The results on knowledge are shown in table 2 and 3.

With regards to perception about Covid-19 vaccines, 95% of respondents agreed that vaccines are generally safe but 95% agreed that Covid-19 vaccines may not be viable, 86.7% of respondents reported that Covid 19 vaccine is not needed in Nigeria. Although 96.6% of respondents reported that taking the covid 19 vaccine will prevent them from contacting the virus and 90% believed it will make travelling with the passengers safer. About 81.7%also reported that taking the vaccines will prevent them from getting the virus from other drivers at the park, 88.3% of respondents agreed that taking vaccine will be very effective in reducing the burden of the pandemic in Nigeria. However, 88.3% reportedly believed that their immune system is sufficient to protect them against Covid-19 infection,83.3%) of respondents reported that the quality of covid-19 vaccines supplied to Nigeria is low or fake. About 95% were worried because it is being reported that the vaccine made some people sick for some time while 95% of respondents reported that God is enough protection against Covid-19 virus for them thus bringing religious dimension to the pandemic. Also, 86.7% trusted their chemists or pharmacists for medications against Covid-19 infections if at all they contacted it. About 90% of respondents perceived that Covid-19 vaccine is a scam to make money by some people or government as the vaccine is also perceived to be ineffective. It was also reported by 81.7% of respondents that some people take the vaccine and they still contact covid-19 infections. Finally, 88.3% claimed that there is no need to take the vaccine since they had no sickness since the inception of the outbreak. About 66.7% of respondents show good perception about Covid-19 vaccines while 34.2% showed fair perception and 9.1% had poor perception. The perception about covid-19 vaccine results are shown in table 4 and 5. On assessment of attitude towards uptake of covid-19, 60%reported in the affirmative, 46.7%will take the vaccine if it is free of charge, 40% will take the vaccines if it will not cause any side effects or permanent sickness, 81.7% will take the vaccine if it is safe, 63.3%will take the vaccine if it will protect them against the Covid-19 infections, 38.3%of respondents believe that rubbing of hand with sanitizer offer enough protection for them, 63.3% of respondents preferred taking traditional herbs and concoctions to vaccine for protection against the virus. Also, 60%of preferred taking medication or drugs than taking vaccine, 46.7%of respondents reported that negative reports about the vaccines from some quarters is discouraging them against taking the vaccines. On the final analysis, about 55.0% of respondents show positive attitude, 25% had negative attitude while 20.0% had neutral attitude towardstaking covid-19 vaccine. The detailed results are depicted in the table 6 and 7.

There is statistically significant relationship between the perception and attitude towards uptake Covid-19 vaccines among commercial drivers in Akure South, Z-value is 271.221 and $\chi^2 = 98.63$ while the p-value is 0.043 which is less than 0.05 critical value. Detail is depicted in table 9.

Socio-demographic data of respondents

Table 1: Socio-demographic data of respondents n-120

Characteristics		Frequency	%
Age	20 – 29	38	31.7
	30-39	46	38.3
	40-49	16	13.3
	50 and above	8	6.7
Gender	Male	112	93.3
	Female	8	6.7
Marital status	Single	36	30.0
	Married	84	70.0
Religion	Christianity	98	81.7
	Islam	18	15.0
	Other	4	3.3
Qualification	Primary	44	35.7
	Secondary	28	23.3
	OND.NCE	16	13.3
	HND/Degree	24	20.0
	Others	8	6.7
Car Park/Garage	Benin/Edo Garage	40	33.3
	Akure/Ado Car park	40	33.3
	Ilesha/Ife Car Park	40	33.3
Duration of driving experience	<1 year	24	20.0
	1 – 5 years	48	23.3
	6 – 10 years	18	13.3
	>10 years	40	33.3

Knowledge/Awareness of Covid-19

Table 2: Knowledge of Covid-19 among respondents N=120

Question	Response	Freq	%
Are you aware of Covid-19 pandemic	Yes	114	95.0
	No	6	5.0
Do you really believe it exists? i.e that it is real	Yes	110	92.5
	No	6	5.0
Ways by which Covid-19 infection can be transmitted/spread	Sneezing	108	90.0
	Coughing	98	81.6
	Inhaling infected air	108	90.0
	Sweats/body fluids	71	59.4
	Unscreened blood transfusion	28	23.3
	Eating dirty foods	32	24.8
Ways of preventing transmission of Covid-19 virus infection	Wearing face mask	118	99.4
	Regular hand washing	108	90.0
	Avoiding crowded gatherings	104	86.7
	Taking vaccination	100	83.3
	Taking traditional concoction/herbs	58	48.3
		87	72.5

Symptoms of Covid-19 virus infection	Taking medication from pharmacy	70	58.3
	Self-isolation/quarantine		
	High body temperature	78	65.0
	Difficult breathing/gasping for breath	94	78.4
	Difficulty in swallowing	89	74.2
	General body weakness/Tiredness	87	72.5
	Cold/dry cough/sneezing	104	86.7

Table 3: Result showing level of knowledge by scoring

	Scoring	Frequency	%
Good	55 – 90	87	72.5
Fair	40 – 55	22	18.3
Poor	>40	11	9.2
Total	`	120	100

Perception toward Covid-19 vaccines

Table 4: Perception of Covid-19 among respondents n=120

Question	Agree	%	Disagree	%	I don't know	%
Vaccines are generally safe	114	95.0	6	5.0	0	0.0
Covid-19 vaccine may not be viable	114	95.0	6	5.0	0	0.0
Covid-19 vaccine is not necessary in Nigeria	104	86.7	16	13.3	0	0.0
Taking covid-19 vaccine will prevent me from contracting the virus	116	96.6	4	3.3	0	0.0
Taking the vaccine will make travelling with my passengers safer	108	90.0	12	10.0	0	0.0
Taking the vaccines will prevent me from getting the virus from other drivers at the park	98	81.7	16	13.3	6	5.0
Vaccine will be very effective in reducing the burden of the pandemic in Nigeria	106	88.3	10	8.3	4	3.3
My immune system is sufficient in protecting me against Covid-19 infection	106	88.3	14	11.7	0	0.0
Rapid nature of covid-19 development is worrisome	114	85.0	4	3.3	2	1.7
The quality of covid-19 vaccines supplied to Nigeria is low or fake	100	83.3	20	16.7	0	0.0
It is being reported that it made some people more sick	114	95.0	6	5.0	0	0/0
God is enough protection against Covid-19 virus	114	95.0	6	5.0	0	0.0
I trust my pharmacists/chemist to give me	104	86.7	16	13.3	0	0.0

medicine against covid-19 virus infection if at all I contact it						3
I may not be able to afford Covid-19 vaccines	116	96.6	4	3.3	0	0.0
Covid-19 vaccine is a scam to make money by some people or government	108	90.0	12	10.0	0	0.0
Some people take the vaccine and they still have covid-19 infections	98	81.7	16	13.3	6	5.0
There is no need to take the vaccine since I have not had any sickness since the inception of the outbreak	106	88.3	10	8.3	4	3.3

Table 5: Result showing level of perception by scoring

	Scoring	Frequency	%
Good	50 – 70	68	66.7
Fair	35 – 50	41	34.2
Poor	>35	11	9.1
Total		120	100

Table 6: Attitudes towards covid-19 vaccines n=120

Question	Yes	%	No	%	Don't know	%
I will take Covid-19 vaccines if it is available within my environment	72	60.0	42	35.0	6	5.0
I will take the vaccine if it is free of charge	56	46.7	46	38.3	18	15.0
I will take the vaccine if it will not cause any side effects or permanent sickness to my body	48	40.0	62	51.7	10	8.3
I will take the vaccine if it is safe	98	81.7	16	13.3	8	6.7
I will take the vaccine if it will protect me against the Covid-19 infection	76	63.3	40	33.3	4	3.3
Rubbing of hand with sanitizer offer enough protection for me	46	38.3	56	46.7	18	15.0
Only children and the aged need vaccines against covid-19	32	26.7	82	68.3	6	5.0
I prefer taking herbs to vaccine for protection against infection	76	63.3	44	36.7	0	0.0
Taking medication or drugs is better than taking vaccine against infection	72	60.0	42	35.0	6	5.0
Negative reports about the vaccines from some quarters is discouraging me against	56	46.7	46	38.3	18	15.0

taking the vaccines

I have taken the covid-19 vaccine **34** **32.0** 86 68.0 0 0.0

Table 7: Results showing attitude towards Uptake of covid -19 Vaccine

	Scoring	Frequency	%
Positive	35 – 55	66	55.0
Neutral	20 – 35	24	20.0
Negative	>20	30	25.0
Total	`	120	100

Factors affecting acceptance of covid-19 vaccine among respondents

Table 8: Factors affecting acceptance of Covid-19 vaccinesn=120

Question	Agree	Disagree	χ^2	p-value		
Rapid development of the vaccines is a source of concern	106	88.3	10	8.3	1058.78	0.004
Religious factors do not encourage me to take the vaccines	106	88.3	14	11.7	1078.58	0.004
Distance to the nearest immunization centre is too long	114	85.0	4	3.3	1148.58	0.0038
Adverse side effects of vaccines is discouraging me from taking the vaccines	100	83.3	20	16.7	1125.47	0.0039
Covid-19 vaccines is cheap or free of charge	114	95.0	6	5.0	1148.54	0.0038
Covid-19 vaccine is imported and therefore very reliable	114	95.0	6	5.0	1148.54	0.0038

Test of Hypotheses

Table 9: Result of Chi-square test of relationship between perception and attitude of drivers towards uptake Covid-19 vaccines.

Hypothesis variable	Chi-Square Test Results			
	Z	Df	χ^2	P-value
perception*attitude	271.22	12	98.63	0.043
Constant	19.005	12		

Analysis of indeptinterview

Indept interview was carried out among ten(10) of the respondents on perception and attitude towards uptake of Covid-19 vaccine.

All respondents reported that they were aware of Covid-19. They referred to it as lockdown disease This is because at the inception of the pandemic in Nigeria, there was near complete restriction on movement

and economic activities all over the country. Thus, people readily remember and called it lockdown disease.

Excerpts respondents 3: ***“Yes, I am aware. The disease that causes lockdown and people cannot go out freely. We cant drive about and make money. It was a terrible time. I remember the disease”***

The response of Respondents is also similar.

Respondents 8: Excerpts: ***“that china infection that cause lockdown everywhere. I know it. It is gone now. It is not killing people again”***

With regards to signs and symptoms of Covid-19 infection, most respondents 80% could list correct symptoms of the covid-19 infection.

Excerpts respondents 4: ***“The signs as they announce it on radio and television are long and dry cough, sneezing, fever, difficult breathing, dizziness, sudden death. It is not that I have seen it before but people on television and radio mention it like that”***

Also excerpts respondents 1: ***“The signs include sneezing, headache, coughing and sore throats” when you have catarrh that vitamin c and antifeil or procold cannot treat, it is probably covid”.***

When asked if respondents has taken the covid-19 vaccine, Only 20% of respondents orally interviewed have taken only one jab of the covid vaccine even when it was made readily available across the street and primary health care centres.

Excerpts respondents two: ***“Yes, I have taken the vaccine, though it was not easy at all. It first weakened me for some days. And because of that effect I cannot take the second jab. I am scared”***

Also, similarly, respondents 8 reported: ***“Yes, I have taken the vaccine when I heard it is now in a primary health care facility which is near my house.”***

Many people had refused to take the vaccine due to ignorance about the advantage of the vaccine. Some also thought it is a sign of the devil to take them to hell fire (666 sign) while some believed in the efficacy of herbs and medical drugs to cure them should they contract the disease. Even as some people still contract the infection if the jobs taken is not complete.

Excerpts: respondents 4 ***“No, I cannot take the vaccines at all. I have not contacted the disease so I don’t need it. Even if I have the disease I will use herbs to cure it. The vaccine can give me more infection.***

Also, respondents 7. Excerpts: ***”No, I will never take that thing (vaccine). It is a sign of the end. Once you take it, you will go to hell fire. It is a 666 sign. I heard those who took the vaccine still die of covid so what is the importance of taking it”***

Perception about the efficacy of the vaccine is poor. A larger part of respondents (80%) has poor perception about the vaccine.

Excerpts respondent 8: ***“I don’t need the vaccine at all. The disease is not killing people at all, government is just exaggerating it. What about HIV/AIDS, or even malaria that is killing many people? Have they given vaccine for them? The vaccine they give for this one is even making people more sick, nawa oh.”***

This was buttressed by the respondents 10

“It is just a ploy by oyinbo people to deceive us into accepting the mark of the beast so that they will not go to heaven. How many people are dying now as a result of the diseases that they lockdown everywhere then? God has immune us already, no need for any vaccine at all. Government is just wasting time and money”

Therefore, there are many angles to the perception of the vaccines depending on religious beliefs, level of education or awareness. All these come into play to affect the acceptability of the vaccine among people.

Discussion

This study revealed that only about half, 54% of respondents has taken Covid-19 vaccine. This is low when compared to other studies in Nigeriadespite government enormous effort to achieve 100% coverage of the vaccine. This is lower to 63% reported in Delta ^[18]. Level of acceptance and uptake of covid-19 vaccine roughly correspond to the level of education of respondents as observed by^[18]. Government has made tremendous efforts to ensure 100% coverage of covid-19 vaccine i.e achieve herd immunity. They made the vaccine free of charge, take the vaccine to the people instead of the people coming to them, they ensure good advocacy with community and religious leaders, sensitization of the populace through various mass media and making it part of protocol in certain government office and activities. Despite these efforts, most people still did not consider it imperative to take the vaccine.

Knowledge of Covid-19 disease

About 66% of respondents demonstrated good knowledge of covid-19 in this study. This rate is high when compared to study of ^[18]. This may not be unconnected with fact that Covid-19 is a worldwide pandemic and lock down disease hence everybody is sensitised about cause and prevention. The accuracy and vigour with which information about the virus vis-a-vis modes of transmission, prevention tips and symptoms was disseminated to the public should also be devoted to the vaccines distribution and advocacy for acceptance. Knowledge is repository to attitude and acceptance, therefore, knowledge of the vaccine should be given a priority.

Attitude towards uptake of Covid-19 vaccines

Only 55% of respondents showspositive attitude towards Covid-19 vaccines in this study. Although this value is similar in value identified by^[17], it is low when compared to the level of publicity and advocacy the government has devoted to the vaccines.This study established a significant relationship between attitude and uptake of vaccine by the people. Some respondents erroneously believed that the vaccine could kill or incapacitate them while some believe that it would not let them enter the kingdom of God. They were very worried that the western world was attempting to implant something within them.

Factors influencing Covid-19 vaccine uptake

Several factors were responsible for the low rate of covid-19 uptake recorded in this study. These factors include education level, age, religion, perception of risk, knowledge of the virus. These factors are similar to the ones identified in thestudy of factors influencing attitude and perception of covid-19 vaccine^[12]. Education plays an important role in acceptance of inoculation in Nigeria^[17]. Religion factors also plays important role in positive attitude and vaccine acceptance and uptake among the people. People with serious religious inclination are well disposed to vaccination than those who were

not^{[12][19]}. It was discovered that people who heard the message of covid-19 virus and its vaccination from their religious leader consent easily to taking the vaccine than others. This study discovered a significant relationship between perception and uptake of covid-19 vaccine. The perception of contracting the disease most especially among people that have good knowledge and attitude of the virus positively influenced the uptake of the vaccines^{[12][20]}.

Conclusion

It is therefore concluded that the knowledge of people about covid-19 is good and perception of people regarding covid-19 vaccine is moderately high, there is a positive attitude towards the uptake of covid-19 vaccine. However, less than half of the respondents have taken the vaccine and some factors have been influencing the respondents against taking the Covid-19 vaccines. The positive or reinforcing factors should be exploited by policy makers to further improve the uptake of vaccines by the people.

Conflict of Interest

There is no conflict of interest from the team of the researchers.

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