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The Attitude of People in Anambra State, Nigeria towards COVID-19 Vaccination

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ABSTRACT

This work investigated people's attitudes towards COVID-19 vaccination in the Anambra state, Nigeria. The 5C Model of Vaccination was adopted as the theoretical framework. The study adopted a mixed methods research design, using the multi-stage sampling procedure in selecting 378 respondents. A structured questionnaire and In-Depth Interview (IDI) guide served as instruments for data collection. The quantitative data were analysed using the Statistical Package for Social Sciences (SPSS) version 21, while the qualitative data were analysed using manual content analysis. One research hypothesis was formulated and tested using chi-square inferential statistics. The study found a negative attitude towards COVID-19 vaccination in Anambra state, Nigeria. The study recommended that the government, health workers, and NGOs work cooperatively to enlighten the public on the importance of accepting COVID-19 vaccination.

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1. INTRODUCTION

COVID-19 is a disease caused by the coronavirus. Its symptoms include fever, cough, weakness, headache, and diarrhoea [1], [2]. It first broke out in Wuhan, China, in December 2019, and within a short period, it became a global pandemic that brought every aspect of our lives to an abrupt halt [3]. COVID-19 has become the deadliest public health crisis the world has faced in over a century [4]. The outbreak and spread of COVID-19 have had enormous and unprecedented effects on the socio-economic lives of people while altering the day-to-day national and international governance structures with profound implications [5]. COVID-19 spreads when an infected person breathes out droplets that contain the virus. These droplets can be breathed in by other people or drop on their eyes, noses, or mouths, and in some circumstances, they may contaminate surfaces they touch [6].

Non-pharmaceutical measures like washing hands, use of hand sanitisers, nose masks, and social distancing have been encouraged to curtail the spread of the disease by health authorities like the World Health Organization and have proven relatively effective in containing the disease [7]–[9]. Scientists' creativity, however, has led to the development of vaccines showing high efficacy against the COVID-19 disease [10]. Some COVID-19 vaccines the World Health Organization approved include Oxford/AstraZeneca, Johnson and Johnson, Moderna, Pfizer/BioNTech, Sinopharm, Sinovac, and COVAXIN [11].

Vaccines enhance the immune system through their ability to respond to and remember specific encounters with pathogenic antigens that attack our bodies [12]. Vaccines are biological preparations that provide immunity against certain infectious diseases [13], [14]. Vaccination refers to the method, pattern, or procedure of administering vaccines. Vaccines protect us against deadly diseases and build our immunity against certain diseases we might be exposed to [15]. Thus, vaccinated people are less likely to pass on an infectious disease to others. For decades, several success stories in addressing many fatal pandemics have been directly associated with vaccine development and effective utilisation [16]. Despite this, there seems to be widespread vaccine apathy in Nigeria. Vaccine hesitancy has a long history and is influenced by fear, doubts, religious beliefs, culture, and personal choices of people. Lack of belief in the existence of COVID-19 could be responsible for the low acceptance and uptake of the COVID-19 vaccines in Nigeria [17]. This is partly a result of distrust of the government and a plethora of conspiracy theories surrounding the virus and the vaccines [17]. Profound and widespread doubts about the disease are a significant reason behind Nigeria's widespread apathy towards COVID-19 vaccination [18]. There are misinformation and unfounded rumours about the disease and the vaccine [19]. There have been rumours that COVID-19 vaccines may contain poisonous substances that are meant to control the global population [20]. Many studies have been carried out to ascertain the level of COVID-19 uptake in Anambra state, Nigeria. However, This paper is situated to uncover the attitude of the people of Anambra state, Nigeria, towards COVID-19 vaccination and make recommendations as necessary to boost vaccine uptake in the state. The direction of this study is important because the level of vaccine uptake largely depends on people's attitudes towards vaccination. Against this backdrop, this paper evaluates people's attitudes towards COVID-19 vaccination in the Anambra state of Nigeria. This paper aims to determine people's general attitude towards COVID-19 vaccination in the Anambra state of Nigeria. The hypothesis will be tested to see if a significant relationship exists between education level and people's attitude towards COVID-19 vaccination in Anambra state, Nigeria.

2. METHOD

The study was done in Anambra state, South-east Nigeria. It employed the multi-stage sampling procedure, which involves dividing the process into distinct phases and blending/using different sampling methods. The study's multi-stage sampling procedure was appropriate because the target population was significant. A sample size of 378 was

determined using the Cochran formula [21]. The target population for this study was adults, defined as people aged 18 years and above. This research employed a mixed methods research design, which involves the synergy of quantitative and qualitative approaches in data collection and presentation [22]. Questionnaires were used to collect quantitative data, while an In-Depth Interview (IDI) was employed to collect qualitative data. Approval was sought from the respondents before administering the questionnaires. A purposive sampling technique was employed in selecting the participants for the in-depth interview based on their knowledge of the study's theme. The quantitative data collected from the field were cleaned, coded, and analysed using Statistical Package for the Social Sciences (SPSS) version 21 software. The data were presented using tables. Illustrative quotes from the IDI were extracted to support and elucidate the quantitative data. Finally, the chi-square ($\mathcal{X}^2$) inferential statistics was used to test the formulated study hypothesis.

3. RESULTS AND DISCUSSION

Out of 378 administered questionnaires, only 363 (96%) of the questionnaires were accurately filled and returned. The analysis for this study was consequently done with the 363 correctly filled and returned questionnaires.

3.1. Demographic Data

The demographic data of the respondents are shown in Table 1 below.

Table 1. Demographic data of the respondents

Variables	Frequency	Per cent
Gender		
Male	172	47.4
Female	191	52.6
Total	363	100
Age		
18-27	196	54.0
28-37	75	20.7
38-47	46	12.7
48-57	21	5.8
58-67	21	5.8
68 Years And Above	4	1.1
Total	363	100
Marital Status		
Single	235	64.7
Married	112	30.9
Divorced/Separated	1	0.3
Widowed	15	4.1
Total	363	100
Education		
No Formal Education	6	1.7
FSLC	11	3.0
SSCE/GCE	180	49.6
OND/NCE	27	7.4
Bachelor's Degree/HND	114	31.4

Variables	Frequency	Per cent
Postgraduate Degree	25	6.9
Total	363	100
Religion		
African Traditional Religion	13	3.6
Christianity	341	93.9
Islam	7	1.9
Atheism	2	0.6
Total	363	100
Occupation		
Unemployed	10	2.8
Student	140	38.6
Self-Employed	99	27.3
Civil/Public Servant	48	13.2
Farming	21	5.8
Trading	15	4.1
Other, Specify	30	8.3
Total	363	100
Residence		
Rural Area	116	32.0
Urban Area	247	68.0
Total	363	100

Table 1 shows that 52.6% of the respondents were female, while 47.4% were male. In terms of the age distribution of the respondents, 54% of the respondents were aged 18-27 years, while 1.1% of the respondents were aged 68 years and above. Regarding the marital status of the respondents, 64.7% of them were single, while 0.3% were divorced/separated. 49.6% of the respondents had SSCE/GCE as their highest educational qualification, while 1.7% had no formal education. 93.9% of the respondents were Christians, while 0.6% were atheists. 38.6% of the respondents were students, while 2.8% were unemployed. Finally, 68% of the respondents lived in urban areas, while 32% lived in rural areas.

3.2. Research Findings According to the Questions

What is the general attitude towards COVID-19 vaccination in Anambra state, Nigeria? The findings are presented in Table 2 below.

Table 2. Respondents' views on their attitude towards COVID-19 vaccination

Responses	Frequency	Per cent
Positive	108	29.8
Negative	149	41.0
Indifferent	106	29.2
Total	363	100

Table 2 shows that 41% of the respondents indicated that their attitude towards COVID-19 vaccination is negative, while 29.2% were indifferent. Thus, most respondents had a negative attitude towards COVID-19 vaccination. This view was corroborated by one of the IDI respondents, a student who revealed that *some believe that the vaccine was*

produced to massacre the people and reduce the population. Some believe white people produced it to massacre Africans. Some believe that, well, the government knows what they are doing. They just want to kill the people. So, people's attitude towards the vaccine is just negative.

Interestingly, one IDI respondent, a public servant, believed that social class and social status were crucial in determining people's attitudes towards COVID-19 vaccination. F*irst, I will say many people have different attitudes towards vaccination. For example, rich people fully accepted the vaccine. They trusted the vaccine that it would bring a cure for the disease. The poor people felt that taking the vaccine would do more harm than good. Some felt that when they took it, they were still going to get sick, and some felt like they were going to react. I think some of the poor people who took the vaccine reacted to it, while the rich people who took it did not react to it. They just felt normal. So, I think different people have different attitudes towards the vaccine.*

Another IDI respondent, a nurse, stated that, *generally, the attitude has become positive recently. However, they were initially unwilling to give in to the vaccination because of many stories surrounding it. So many people are exaggerating the reactions you get when you take the vaccine.*

The respondents were further asked what influenced their attitude towards COVID-19 vaccination. The responses are presented in Table 3 below.

Table 3. Respondents' views on what influenced their attitude towards COVID-19 vaccination

Responses	Frequency	Per cent
Social media	64	17.6
Advice from health workers	65	17.9
Uncertainty about the disease	128	35.3
Fear of the unknown	77	21.2
Other, specify	29	8
Total	363	100

Table 3 shows that 35.3% of the respondents opined that uncertainty about the disease influenced their attitude towards COVID-19 vaccination, while 8% indicated that various other factors influenced their attitude towards the vaccine. One of the IDI respondents, a student, aptly puts it thus: *some people are not sure about the disease or even the genuineness of the vaccine and do not believe they would accept the vaccine. For example, in my place, there are some people there who do not believe in the existence of COVID-19 and the vaccine. They see both COVID-19 and the vaccine as ways of taking people's lives.*

3.3. Test of Hypothesis

The hypothesis formulated to guide this study was tested using chi-square inferential statistics and interpreted. A significant relationship exists between the level of education and people's attitude towards COVID-19 vaccination in Anambra state, Nigeria.

Table 4. The relationship between the level of education and attitude towards COVID-19 vaccination in Anambra state, Nigeria.

			What is your attitude towards COVID-19 vaccination?			Total
			Positive	Negative	Indifferent	
What is your highest formal educational qualification?	No formal education	Count	1	5	0	6
		Expected Count	1.8	2.5	1.8	6
	FSLC	Count	0	6	5	11
		Expected Count	3.3	4.5	3.2	11
	SSCE/GCE	Count	54	75	51	180
		Expected Count	53.6	73.9	52.6	180
	OND/NCE	Count	8	4	15	27
		Expected Count	8	11.1	7.9	27
	Bachelor's degree/HND	Count	35	53	26	114
		Expected Count	33.9	46.8	33.3	114
	Postgraduate degree	Count	10	6	9	25
		Expected Count	7.4	10.3	7.3	25
Total		Count	108	149	106	363
		Expected Count	108	149	106	363

X^2=25.985, DF=10, P-Value=0.004

With the P-value of $0.004 \leq 0.05$, we therefore accept the substantive hypothesis. Thus, there is a significant relationship between the level of education and people's attitude towards COVID-19 vaccination in Anambra state, Nigeria. This implies that people's level of education affects their attitude toward COVID-19 vaccination in Anambra state, Nigeria.

3.4. Discussion

The study found a negative attitude towards COVID-19 vaccination in Anambra state, Nigeria. The finding is at variance with Beg et al. [23], who found in their study in Pakistan that most respondents had a positive attitude towards COVID-19 vaccination. This finding aligns with James et al. [24], whose study revealed a negative attitude towards COVID-19 vaccination among most respondents. The study equally found that the negative attitude toward vaccination is a result of people's uncertainty about COVID-19 disease. Another study found that uncertainty and outright doubt about the existence of COVID-19 are the significant factors shaping people's attitudes and opinions about COVID-19 vaccination [17]. Uncertainty about the existence of the disease has led many people to resort to religion to protect themselves against the "uncertain disease," thus, people prefer to pray and use anointing oil, herbs, and talismans to accept COVID-19 vaccination [25]. In the same vein, it was observed that a large number of Nigerians hold the view that the disease is a biological weapon designed by the government of China to

reduce the population of the world [26]. This propaganda is spread through social media [27]. The authorities should ensure that unfounded rumours and propaganda like these are dispelled.

This study also found a significant relationship between the education level and people's attitudes towards COVID-19 vaccination. This finding is in line with another study, which found a significant relationship between the level of education and the attitude towards COVID-19 vaccination [28]. This implies that a person's level of education influences their attitude towards COVID-19 vaccination. Education enlightens people and enables them to process and analyse information logically without resorting to rumours and unfounded claims. The government should make adequate provisions to ensure that people acquire education.

These findings could be helpful to the authorities in charge of making vaccination policies in designing and implementing vaccination strategies aimed at sensitising the public on the importance of vaccination and quelling doubts and uncertainties about the safety of COVID-19 vaccines.

4. CONCLUSION AND RECOMMENDATION

4.1. Conclusion

There is a negative attitude towards COVID-19 vaccination in Anambra state, Nigeria. This is mainly responsible for the widespread COVID-19 vaccine hesitancy reported in the literature. Consequently, this could lead to a surge in COVID-19 cases in the state, especially as new disease variants are discovered. A concerted effort from the government, health workers, civil society, and the general public must address the state's negative attitude towards COVID-19 vaccination.

4.2. Recommendation

The following recommendations have been made based on the findings of this research:

1. The government, health workers, and NGOs should work cooperatively to enlighten the general public on the importance of accepting COVID-19 vaccination. This could be done using traditional and social media to reach a wide and varied audience.
2. The government, health workers, NGOs, and knowledgeable individuals using traditional and social media should refute rumours and misleading vaccine claims.

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