



Major factor affecting the acceptance of covid-19 vaccination in Anambra State, Nigeria

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Abstract

This paper examined the major factor affecting the acceptance of COVID-19 vaccination in Anambra state, Nigeria. The Health Belief Model was adopted as the theoretical framework. The study adopted the mixed methods research design. The multistage sampling procedure was used to select 378 respondents. The structured questionnaire and In-Depth Interview (IDI) guide were the instruments for data collection. The quantitative data were coded and processed using the Statistical Package for Social Sciences (SPSS) version 20. Frequency tables and chart were used to analyze, describe and present the quantitative data, while the qualitative data were analyzed using manual content analysis. One research hypothesis was formulated and tested using chi-square inferential statistics. The findings of the study revealed that fear and uncertainty about COVID-19 vaccines is the major factor affecting the acceptance of COVID-19 vaccination in Anambra state, Nigeria. Based on the findings of the study, the work recommended among others that the government and Non Governmental Organizations (NGOs) should work as a team to sensitize the general public about the safety and the importance of accepting the vaccines.

Keywords: COVID-19, Disease, Lockdown, Pandemic, Vaccination, Vaccine.

Introduction

The outbreak of the COVID-19 disease in Wuhan, China in December 2019 challenged the ingenuity of scientists to bring to fore their expertise in order to put an end to the deadly COVID-19 disease (MoronkolaIyanda & Omokhabi, 2020). The prompt development of COVID-19 vaccines is the hallmark of this ingenuity displayed by scientists in the face of a ravaging global pandemic. Though at the early stages of the pandemic, non-pharmaceutical measures like lockdowns, hand-washing and sanitizing, use of nose masks were proposed by health authorities and the government, it has become clear that vaccines will prove more effective in the fight against COVID-19 (Daly et al., 2021). Owing to the ravaging impact of the disease and the huge success stories recorded in the battle against previously ravaging infections, COVID-19 vaccines were developed and it was expected that people would see it as a welcome development. Unfortunately it seems that widespread vaccine hesitancy and



refusal threaten hopes that the government had of ending the pandemic as soon as possible in Nigeria (Oyekale, 2021).

Opposition to vaccines is not a new event. It has been listed as one of the major global health threats by World Health Organization (WHO (2019). Succi (2018) confirmed that vaccine hesitancy and opposition led to the outbreak of measles in parts of Brazil in 2016, 16 years after the last case of measles was recorded. Salmon et al. (2015) earlier postulated that vaccine hesitancy could lead to the emergence of a stronger and deadlier variant of a disease, and indeed according to the WHO, a stronger variant of the COVID-19 disease known as omicron has emerged.

COVID-19 continues to pose various challenges to the government and to individuals. Adesoji and Asongu (2020) opined that COVID-19 represents both a public health threat and an economic crisis. While the health sector is struggling to contain the disease, the economic sector is crumbling as a result of the pandemic. Kanu (2020) revealed that the outbreak of the pandemic has brought difficulties for citizens of nations across the globe, especially citizens of developing nations. Ozili (2020) argued that the outbreak of the pandemic has affected global travel business, national healthcare systems, the food industry, events industry, education and global trade.

Fegert, Vitiello, Plener and Clemens (2020) agreed that the COVID-19 is profoundly affecting life around the globe. They decried that isolation; contact restrictions and economic shutdown have completely altered the psychosocial environment in affected countries. They further affirmed that these measures have the potential to threaten the mental health of children and adolescents significantly. The pandemic has led to anxiety, lack of peer contact and reduced opportunities for stress regulation. Similarly, Court (2020) stated that lockdown measures have increased feelings of loneliness, isolation, restlessness and anxiety, as millions of people have been quickly forced to adapt to new realities and make drastic lifestyle changes. Court (2020) further revealed that pandemics have had a detrimental impact on the mental health of affected populations throughout history. The Ebola virus caused widespread panic and anxiety, depression resulting from the sudden deaths of friends, relatives, and colleagues, and stigmatization and social exclusion of survivors. And the Spanish Flu pandemic of 1918-1919 had a long-standing impact on the mental health of survivors as a result of the massive and



sudden loss of life which plunged many into a chronic state of helplessness and anxiety (Court, 2020).

Ozoh, Akinkugbe, Olukoya and Adetifa (2023) stated that vaccination against COVID-19 is the most cost-effective mitigation strategy against the ongoing pandemic. They further revealed that of the nearly 10 billion doses of COVID-19 vaccines administered globally, only about 10% have been administered in low-income countries like Nigeria. Vaccine hesitancy is a major impediment to vaccine access and acceptance in low income countries like Nigeria and even in high-income countries (MacDonald, 2015). Vaccine hesitancy refers to a delay in acceptance or refusal of vaccination despite the availability of vaccination services (MacDonald, 2015). Lin, Tu and Beitsch (2021) revealed that global reports of COVID-19 vaccine hesitancy indicate rates as high as 70%. They attribute vaccine hesitancy in the face of the Covid-19 pandemic to factors like low perceived risk of disease, safety concerns, religious and cultural preferences, political factors and concerns related to the rapidity of development and conspiracy theories.

While there have been efforts and interventions by the World Health Organization (WHO), the World Bank and other global partners through COVID-19 Vaccines Global Access (COVAX) facilities and the African Vaccine Acquisition Trust (AVAT) to ensure equitable vaccine distribution and access, most low and middle income countries did not meet the WHO 70% population coverage by mid-2022 (Ozoh, Akinkugbe, Olukoya & Adetifa, 2023).

The World Bank (2021) reported that in a bid to scale up vaccine access and uptake in the country, the federal government of Nigeria applied for and received approval from the world bank board of directors for a 400 million U.S. dollars credit in additional financing from the International Development Association (IDA) to provide upfront financing for safe and effective COVID-19 vaccine acquisition and deployment within the country. Similarly, the federal government in a bid to scale up equitable access and uptake of COVID-19 vaccine has launched projects like the COVID-19 Preparedness and Response Project (COPREP). However, these interventions have largely been ineffective in scaling up COVID-19 vaccine access and uptake (Ozoh, Akinkugbe, Olukoya & Adetifa, 2023).

Oyo-Ita et al. (2021) affirmed that in the past, interventions focusing on traditional rulers as agents of social change have been used to address the problem of low vaccine acceptance.



Similarly, Akwataghibe et al. (2019) revealed that in the past, in spite of interventions like Reaching Every Ward (REW) which focused on outreaches, improved access for underserved and hard-to-reach areas, community mobilization, support supervision and monitoring and use of data to improve vaccine coverage, the problem of low vaccine acceptance still persists. It is against this backdrop that this study seeks to find out the factors affecting acceptance of COVID-19 vaccination in Anambra state, Nigeria.

Research Question

What is the most important factor affecting the acceptance of COVID-19 vaccination in Anambra state?

Research Hypothesis

Male respondents are more likely to accept COVID-19 vaccination than their female counterparts in Anambra state.

Theoretical Framework

The Health Belief Model has been adopted as the theoretical thrust of this work. It was developed in the 1950s by Irwin Rosenstock, Godfrey Hochbaum, Stephen Kegeles and Howard Leventhal at the U.S Public Health Service to investigate the failure of screening for tuberculosis. The model asserts that the decision to engage in a health seeking behavior is dependent on a person's assessment of the perceived susceptibility to a disease, perceived severity of a disease, perceived benefits of engaging in health seeking behaviour and perceived barriers to engaging in health seeking behaviour.

Relating the premises of the health belief model to this work, many people see COVID-19 as a mere hoax while many others see it as a rich man's disease or a disease for politicians. Thus, many people feel they are not at risk of contracting it. Thus, they do not care about taking the vaccine (Ebonyi & Abok, 2020).

In terms of perceived severity, there is widespread belief that COVID-19 is just another form of malaria that can be easily treated. The exponents of this belief argue that the statistics of people dying from COVID-19 is being manipulated and inflated by the government. They



therefore argue that COVID-19 is not a life-threatening disease; hence there is no need for vaccination (BBC News Pidgin, 2021).

In terms of perceived benefits, many persons are wary of the vaccine. Many question the safety of the vaccine and the possibility of the vaccine having grievous side effects. Many people believe that both the disease and the vaccines are biological weapons designed to reduce global population, especially the population of blacks. Thus, they do not perceive any benefit of being vaccinated (Obi-Ezeani et al, 2021). Finally, for the ones who would want to take the vaccination, factors like location, cost, time, etc. could stand as barriers to getting vaccinated (Okunola, 2021).

The Health Belief Model is best suited for this work because it explains why people accept or reject COVID-19 vaccination, including factors that influence their vaccination decision. It also explains how people's perception of COVID-19 vaccination affects their decision to either accept or refuse the vaccine.

Materials and Methods

The study was carried out in Anambra state, Nigeria. The study adopted the multi-stage sampling procedure which involves the breakdown of sampling process into different stages, as well as the application of different sampling techniques such as simple random sampling in selecting the respondents. Multi-stage sampling procedure was relevant for this study because of the large size of the study population. Using the 2023 population projection of 6,580,079, a sample size of 378 was determined using the Cochran (1963) formula. The target population for this study were adults male and female aged 18 years and above, resident in Anambra state at the time of the study. The study adopted the mixed methods research design. The method involves the combination of quantitative and qualitative technique in data collection and presentation (George, 2021). A researcher-developed questionnaire was used to collect the quantitative data, while the In-Depth Interview (IDI) was used to collect the qualitative data. A uniform set of questionnaires were administered to all the respondents. The researchers got approval from the respondents before administering the questionnaires. Purposive sampling technique was adopted to select the participants for the qualitative aspect of the study based on

their knowledge of the theme of the study. The quantitative data collected from the field was processed using the Statistical Package for the Social Sciences (SPSS) version 21 software. However, the data was analyzed using descriptive statistics such as frequency distribution and simple percentages. The data was also presented using tables. Moreover, the formulated hypothesis was tested using the chi-square (χ^2) inferential statistics. On the other hand, the qualitative data collected through IDI was analyzed using the manual content analysis. This involved first transcribing the interviews and thereafter reading the interview notes and transcripts to gain an overview of the body and context of the data collected. Subsequently, the variables and ideas in the data were coded and organized under distinct theme. Each theme was discussed and necessary illustrative quotes were extracted to support and clarify the quantitative data.

Data Analysis

378 questionnaires were administered by the researcher, out of which 363 (96%) of the questionnaires were correctly filled and returned. The analysis for this study was based on the 363 correctly filled and returned questionnaires.

Results/Findings

Socio-demographic Data of Respondents

This section deals with the socio-demographic data of respondents like gender, age, marital status, educational attainment, religious affiliation, occupation and place of residence as presented in Table 1 below.

Table 1: Distribution of respondents by socio-demographic characteristics

| Variables | Frequency | Percent |
|--------------------|------------------|----------------|
| 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 |
| 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 |

Field Survey, 2023

Table 1 reveals that 52.6% of the respondents were female, while 47.4% were male. On the age distribution of the respondents, majority of the respondents (54%) were aged 18-27 years while 1.1% were aged 68 years and above. On the marital status of the respondents, 64.7% were single while 0.3% was divorced/separated. 49.6% of the respondents had SSCE/GCE as their highest educational qualification as at the time of the study while 1.7% of the respondents had no formal education. In terms of religious affiliation, 93.9% of the respondents were Christians while 0.6% of the respondents were atheists. In terms of occupation, 38.6% of the respondents were students while 2.8% of the respondents were unemployed. Finally 68% of



the respondents of the respondents were urban dwellers while 32% of the respondents were rural dwellers.

Analysis of Research Question

This section deals with the analysis of data and interpretation of findings with regards to the research question and objective of this paper.

Question

What is the most important factor affecting the acceptance of COVID-19 vaccination in Anambra state? The findings are presented in table 2 below:

Table 2: Respondents' views on the major factor affecting the acceptance of COVID-19 vaccination

| Responses | Frequency | Percent |
|--|------------|------------|
| Accessibility to vaccination centers | 31 | 8.5 |
| Advice from health workers | 11 | 3 |
| Workplace policy | 11 | 3 |
| Fear and uncertainty about the vaccine | 234 | 64.5 |
| All of the above | 1 | 0.3 |
| Other, specify | 51 | 14.1 |
| Not applicable | 363 | 100 |
| Total | | |

Field Survey, 2023

Table 2 above shows that 64.5% of the respondents indicated that fear and uncertainty about the vaccine is the major factor affecting the acceptance of COVID-19 vaccination while 0.3% of the respondents indicated other reasons not captured in the options. This finding is in tandem with an IDI respondent's view:

Uncertainty about the vaccine is the major factor affecting the acceptance of COVID-19 vaccination in the state. You know, the way the disease just appeared suddenly and how it spread, the way everything was going fast, people did not believe it's real.

Some people said eh, this is how Ebola came and went, this one will go too. So people were both scared and uncertain about taking the vaccine. Then there were reports that the vaccine was a strategy to reduce our population (chuckles). So you see, people were not willing to take it (Female, 30 years, Public Servant).

Another respondent said this:

Some people are not certain about the disease or even the genuineness of the vaccine, and not believing, they would not accept the vaccine. For example, in my place, there are some people there who don't believe in the existence of COVID-19 and the vaccine. They kind of see both the COVID-19 and the vaccine as ways of taking people's lives (Male, 23 years, Student).

The respondents were also asked how those factors affect the acceptance of COVID-19 vaccination. Their responses are captured in figure 1 below:

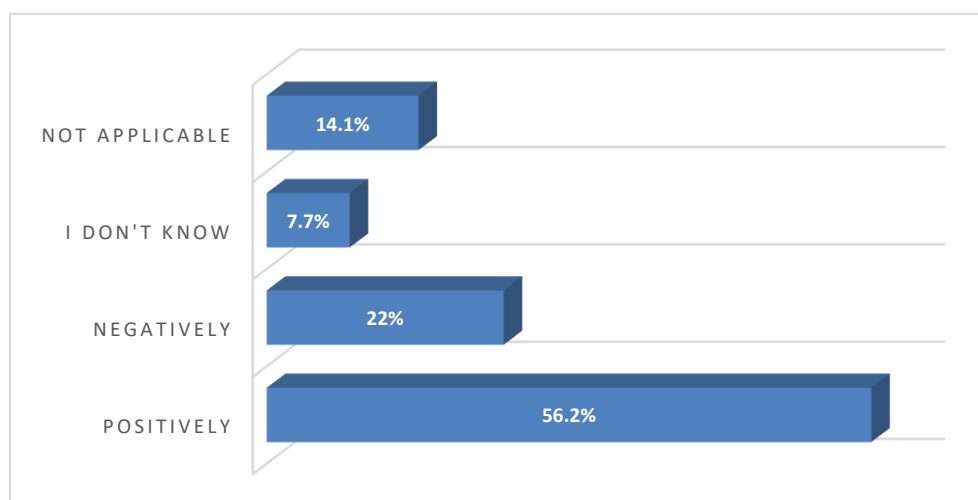


Figure 1: Respondents' views on how the factors affect the acceptance of COVID-19 vaccination

Field Survey, 2023

Figure 1 above reveals that 56.2% of the respondents indicated that the factors affect acceptance of COVID-19 vaccination positively, while 7.7% of the respondents indicated that they do not know how they affect COVID-19 vaccination.



Test of Hypothesis

In this section, the hypothesis formulated to guide this study was tested using chi-square inferential statistics and interpreted.

Male respondents are more likely to accept COVID-19 vaccination than their female counterparts in Anambra state.

Table 4: Relationship between gender and acceptance COVID-19 vaccination in Anambra state

| | | | Did you accept the COVID-19 vaccination? | | Total | X ² |
|----------------------|----------------|----------------|--|-----|-------|--|
| | | | Yes | No | | |
| What is your gender? | Male | Count | 57 | 115 | 172 | X ² =0.457 DF=1 P=0.499 |
| | | Expected Count | 54 | 118 | 172 | |
| | Female | Count | 57 | 134 | 191 | |
| | | Expected Count | 60 | 131 | 191 | |
| Total | Count | 114 | 249 | 363 | | |
| | Expected Count | 114 | 249 | 363 | | |

Field Survey, 2023

The P value > 0.05 (which is the level of significance), we therefore reject the substantive hypothesis and accept the null hypothesis. Thus, males are not more likely to accept COVID-19 vaccination than their female counterparts in Anambra state. It then implies that there is no significant relationship between gender and acceptance of COVID-19 vaccination in Anambra state.

Discussion of Findings

The findings of this study reveal that fear and uncertainty about the safety of COVID-19 vaccines is the major factor affecting the acceptance of COVID-19 vaccination in Anambra state. Tobin et al., (2021) in their study also discovered that fear and distrust for the vaccines is the major factor affecting the acceptance of COVID-19 vaccination. Olatunji et al. (2020)

revealed that misinformation about the perceived risk of taking the vaccine is widespread. Thus, many people believe that the vaccine would predispose them to future health challenges that could prove fatal. Similarly, Elimat, Abualsamen, Almomani, Alsawalha and Alalii (2021) in their study also found out that fear of the perceived risk and side effects of the COVID-19 vaccine is main factor affecting COVID-19 vaccine acceptance. Imhoff and Lamberty (2020) opined that there is a widespread belief that COVID-19 is a biological weapon aimed at controlling world population. Omoju et al., (2021) decried the role of social media in spreading misinformation and unfounded claims about the fatal risk of the vaccines. However, the finding of Alqudeimat et al., (2021) is at variance with the finding of this study. Their study found gender to be the major factor affecting the acceptance of COVID-19 vaccination. They also reported that males are more likely to accept COVID-19 vaccination than females.

This study found that there is no significant relationship between gender and acceptance of COVID-19 vaccination. This finding is at variance with an earlier study by Zintel et al., (2022) which revealed a significant relationship between gender and acceptance of COVID-19 vaccination. The study reported that males were more likely to accept COVID-19 vaccination than females. This finding is however in line with the finding of a study by Presotto et al., (2022) which revealed no significant relationship between gender and acceptance of COVID-19 vaccination.

The findings of this study have further strengthened the postulations of the health belief model which was adopted as the theoretical framework of this paper. It states that amongst other factors, people's risk perception of a disease greatly influences their decision to either accept or reject any health care option presented to them, including vaccination. Thus, if people perceive a disease to be very risky, they are likely to take steps to protect themselves against such a disease, even if it entails getting vaccinated. Similarly, if there is a low risk perception of a disease, many people may not consider it worth the stress of going through a health care routine. By extension, people's risk perception of a healthcare option can influence their decision to either accept or reject it.

The findings of this study could be useful in formulating and implementing effective vaccination policies aimed at boosting COVID-19 vaccination uptake. This paper could also



serve as a reference material for other researchers writing on COVID-19 vaccination or other related topics.

Conclusion

There are many factors affecting the acceptance of COVID-19 vaccination in Anambra state, Nigeria. The major factor however is fear and uncertainty about the COVID-19 vaccines and this is negatively affecting the uptake of the vaccines in the state, resulting in low level of COVID-19 vaccination uptake in the state. The government and NGOs should therefore come together to sensitize the general public about the safety and the importance of accepting the vaccines.

Recommendations

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

1. The government and NGOs should work as a team to sensitize the general public about the safety and the importance of accepting the vaccines.
2. Individuals and media outlets peddling false rumours about the safety of the vaccines should be heavily sanctioned.
3. Vaccination should be decentralized such that health officials can go to people's homes, shops, offices, markets, streets, etc to administer the vaccines to people, rather than people converging at various vaccination centres or hospitals for the vaccines. This will boost the uptake of COVID-19 vaccination.

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