COVID-19 VACCINE HESITANCY IN A RURAL COMMUNITYOF NIGERIA.

ABSTRACT

Introduction: Vaccine hesitancy is a major challenge to public health, particularly in the context of the COVID-19 pandemic. This research was aimed at examining COVID-19 vaccine hesitancy in the Idumebo Community, Irrua, Edo State, Nigeria, to understand the factors influencing vaccine acceptance and refusal.

Objective: The primary objective of this research was to determine the level of knowledge, uptake, and reasons for vaccine hesitancy among residents of Idumebo, Irrua Edo State. By exploring these factors, the study aimed to provide insights that can inform targeted interventions to improve vaccine acceptance rates in the community.

Method: A descriptive cross-sectional study was done among residents of age 18-60 years in Idumebo, utilizing structured questionnaires to gather data on socio-demographic characteristics, knowledge of COVID-19, and attitudes towards vaccination. Ethical considerations were prioritized, with institutional and community consent obtained before data collection.

Results: The findings showed a high degree of awareness of COVID-19 among participants, with a majority acknowledging the contagious nature of the disease. However, vaccine hesitancy was observed among a subset of respondents, with reasons ranging from concerns about safety and efficacy to misinformation and mistrust. These results underscore the need for targeted educational campaigns and community engagement to address vaccine hesitancy effectively.

Conclusion: It was concluded that the study brought to light the complex dynamics of COVID-19 vaccine hesitancy in the Idumebo Community, revealing the necessity of tailored interventions to address barriers to vaccine acceptance. By fostering a better understanding of community attitudes and concerns, public health authorities can develop strategies to enhance vaccine uptake and combat the spread of COVID-19 in the region**.**

KEY WORDS: VACCINATION, COVID-19, HESISTANCY, COMMUNITY, IMMUNIZATION

ABBREVATIONS

FDA: Food and Drug Administration Agency

SARS: Severe Acute Respiratory Syndrome

SDGs:Sustainable Development Goals

SAGE: Strategic Advisory Group of Experts

VPDs: Vaccine Preventable Diseases

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Vaccination is regarded as one of the most important success in public health. Immunization programs have played an all important role in bringing the rate of deaths and diseases from several infectious diseases to its barest minimum and have nearly eliminated some diseases in certain nations [1].Vaccination programs are effective in reducing the occurrence and spread of vaccine-preventable diseases (VPD) especially when there is a high rate of vaccine acceptance. Beyond protecting those who receive the vaccines directly, extensive vaccination coverage also offers indirect benefits to the whole community through herd immunity. This reduces the transmission of VPDs, consequently reducing the infection risk among those who are still vulnerable in the community.[1]

Vaccine hesitancy occurs when individuals resist and are not willing to get vaccinatedin spite of the availability of vaccines. Vaccine hesitancy is a worldwide issue that has significant effect on immunization effort [2].

The refusal to take vaccines long before now has been associated with the outbreak of many diseases both in advanced and developing countries. For instance, in Northern Nigeria in 2003/2004 the failure to take polio vaccine due to its rejection did not only multiply polio

incidence five times the previous datain Nigeria but also led to outbreaks across three continents. The rejection was empowered by rumors and lack of trust which are foundations of vaccine hesitancy.[3] It is a serious problem not only for the persons that reject it but also for the community as a whole as refusal to be vaccinated hinders communities to be incapacitated in achieving a high level of uptake that confers herd immunity in the communities, thus leading to the increase in the risk of an outbreak of a vaccine-preventable organism starts circulating in that community.[4]

Several factors contribute to vaccine hesitancy, as identified by the World Health Organization and expanded upon by various authors. These include complacency, confidence, convenience, risk assessment, and a sense of collective responsibility. [5] As per confidence, creating personal trust and vaccination acceptance implies that hope in the vaccines should be earned via a good delivery system, and the policy made[6].For Convenience,factors such as physical access to vaccines, their availability, affordability, and willingness to pay; geographical accessibility; the ability to understand the language used in immunization services; and the overall appeal of these services all contribute to vaccine hesitancy [6].In curtailing vaccine hesitancy,the "2030 Agenda" for sustainable development was adopted on September 25, 2015. This agenda includes 17 Sustainable Development Goals (SDGs) and 169 targets, which were established to follow up on the Millennium Development Goals (MDGs)[7]. The Sustainable Development Goal 3, which is to "Ensure healthy lives and promote well-being for all at all ages"; inscribed within this goal are targets related to Universal Health Coverage (UHC), which focus on accomplishing comprehensive health coverage. This includes financial risk protection, access to quality essential healthcare services, and ensuring that everyone has access to safe, effective, quality, and affordable essential medicines and vaccines[7].

After thorough study, the Strategic Advisory Group of Experts (SAGE) working group concluded that the efficiency of immunization could be improved by identifying and analyzing factors contributing to vaccine hesitancy, alongside implementing evidence-based strategies to increase vaccine uptake[8].

The most effective interventions for increasing vaccine uptake include strategies that: focus directly on populations that are unvaccinated or under-vaccinated; aim to improve knowledge and awareness about vaccines, which have shown considerable practical breakthrough; improve easy accessibility to vaccination services; are channeled to specific groups such as local communities and healthcare workers (HCWs) [8].

Communications is a major tool in the goal to address vaccine hesitancy;however, this alone will not solve the vaccine hesitancy challenge [8].The process of educating and passing the knowledge about vaccines in younger individuals (children, adolescents, and young adults) may provide a good avenue to sharpen the future of vaccine acceptance behavior of parents and adults and minimize the rise of hesitancy [8].

Coronavirus disease 2019 (COVID-19) is an acute illness from a novel coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; previously referred to as 2019-nCoV). This virus was first discovered in an outbreak of respiratory illnesses in Wuhan City, Hubei Province, China.[9].The initial report of the outbreak to the World Health Organization (WHO) was made on December 31, 2019. Subsequently, on January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency. [10,11].On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic, marking the first

time it had issued such a declaration since it classified H1N1 influenza as a pandemic in 2009 [12].

Coronaviruses belong to a large family of viruses, with seven types known to infect humans. Some coronaviruses that usually infect animals have adapted to infect humans as well.SARS-CoV-2 is likely one such virus, postulated to have originated from a sea food market [13]

The major way people contract SARS-CoV-2 is due to the exposure to respiratory droplets that houses the virus, especially within a distance of 6 feet. Other transmission routes include contact transmission, such as through handshakes, and airborne transmission from droplets that remain in the air and travel long distances, generally exceeding 6 feet [14,15,16].By February 15, 2022, there were more than 412 million confirmed cases of COVID-19 globally, resulting in close to 6 million deaths. [17]

COVID-19 can present in various ways, from displaying no symptoms or mild symptoms to severe illness and death. Typical symptoms include fever, cough, and shortness of breath. Other reported symptoms include general discomfort and respiratory distress. [20,21]. To help combat the menace, it was seen that mRNA vaccine from Pfizer, Johnson and Johnson and Moderna were subsequently approved by the Food and Drug Administration Agency (FDA) in the USA

1.2 STATEMENT OF THE PROBLEM

The benefits of immunization are beyond doubts proven to be true with relevant documentations. Immunization is among the most effective and economical health interventions available, saving numerous lives and enhancing health and well-being worldwide. However, to mitigate the morbidity and mortality associated with vaccine-preventable diseases and their complications, and to effectively manage these diseases in communities, it is crucial to achieve high vaccination uptake rates. [22]

Upcoming variants of Coronavirus disease 2019 (COVID-19) have resulted in over 3000 deaths in Nigeria, with vaccination continuing to be a critical method for lowering the mortality rate. Although the government is actively working to vaccinate a majority of its population to achieve herd immunity, widespread myths and beliefs have negatively influenced the perceptions of many Nigerians, posing challenges to the acceptance of the COVID-19 vaccine.[40]

A study conducted in Kwara State, Nigeria, reviewed ten peer-reviewed articles on the acceptance rate of the COVID-19 vaccine. It found that acceptance rates among adults varied from 20.0% to 58.2% across the six geopolitical zones of the country. Reasons for not accepting the vaccine included fear of adverse effects, propaganda, and conspiracy theories.

Vaccine hesitancy can arise from various factors, one of which includes concerns about vaccine safety. However, there are numerous other reasons that can contribute to hesitancy. These include myths, such as the incorrect belief that vaccines cause infertility in women; misinformation; a lack of trust in healthcare professionals or the healthcare system itself; influence from prominent leaders; financial costs; and geographic obstacles to accessing vaccines.[24]

Considerable discussion and worry persist about the disparities in access to COVID-19 vaccines and the uneven distribution between low-income and middle-income countries compared to high-income nations. African nations, predominantly low-income, also encounter challenges such as lack of reciprocation following vaccine trials conducted within their populations and the necessity to establish local vaccine production. Other issues include inadequate access to laboratory facilities for SARS-CoV-2 testing and the need to expand testing and sequencing to identify local variants of the virus.[25]

In this situation, it is crucial for countries to improve and empower research on vaccine effectiveness, allocate funding for and ensure access to effective vaccines, bolster robust and high-capacity storage infrastructure, maintain an efficient cold chain, and implement effective pharmacovigilance. Addressing vaccine hesitancy and identifying priority groups for vaccination are also essential. To achieve optimal vaccine uptake, accurate health communication and robust community engagement are necessary to disseminate reliable information. These issues require prompt attention from national governments, with assistance from partners like the World Health Organization (WHO) and the Africa Centres for Disease Control and Prevention. [26].It is important to note however that in March, 2022, the amount of positive coronavirus (COVID-19) cases did not increase in Nigeria, however it was recorded that there were about 3,140 casualties and more than 200 thousand recoveries in the country [19].

1.3 JUSTIFICATION OF STUDY

Although numerous studies have been done on vaccine hesitancy, that on the hesitancy on a disastrous wide spreading pandemic like COVID has not be exhausted. This study is thus directed toward the residents in a COVID-19 endemic area, using Idumebo,Irrua. Edo State as a case study.

An endemic community and not just any community is best suited for this research as it gives an access to numerous data and due to the fact that the greatest impact of the disease is felt by the residents in this area, they stand to gain more from vaccination as it can lift the burden of the disease from them. Also, this study can add knowledge on vaccine hesitancy since there are very few researches conducted on the topic in sub-Saharan Africa and even Nigeria.

The importance of this study cannot be overemphasized due to the fact that the findings in this research will play a major role of determining the need to provide vaccines after a successful trial

stage or take a step back and wait for a more receptive time when the people in areas affected by the COVID-19 virus are more willing to receive the vaccine.

Hence, we can say that the results of this study will affect the overall distribution of the vaccine in terms of the attitude, commitment and willingness to seek the necessaries from every individual involved in the production and distribution of the vaccine.

The results of this research can also help in knowing the attitudes, feelings, fears and behaviors of the people towards receiving the vaccine, thereby giving us an idea of the cause of the hesitancy and how to tackle these problems in order to find solutions that will put these problems to rest, thus making the vaccine more receptive.

1.4 GENERAL OBJECTIVE

To assess vaccine hesitancy in a COVID-19 endemic community in IdumeboIrruaEsan Central Local Government Area Edo State, Nigeria.

1.4.1 SPECIFIC OBJECTIVES

1.To determine the knowledge of COVID-19 among the residents of Idumebo,IrruaEsan Central Local Government Area.

2. To determine the uptake of COVID-19 vaccine among the residents ofIdumebo,IrruaEsan Central Local Government Area.

3. To ascertain why COVID-19 was not accepted by those who refused to take the vaccine.

TowardsCOVID-19 vaccine.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1. STUDIES ON THE KNOWLEDGE OF COVID-19

In a cross-sectional study involving 1,996 individuals aged 16 and older in Cape Verde, data were gathered through an online self-reporting questionnaire from April 5 to April 12, 2020. The results regarding knowledge indicated that the overall correct response rate concerning COVID-19 knowledge was 82%. Furthermore, the participants' knowledge had an impact on their COVID-19 prevention and control behaviors[29]

A cross-sectional survey was carried out among 2,083 undergraduate students from various government and private universities in Jordan during the early phase of the pandemic (March 19-21, 2020). Data was collected using a validated, structured, self-administered, online questionnaire designed to evaluate their knowledge of COVID-19. Results showed that 56.5% of the students displayed good knowledge, while 40.5% demonstrated moderate knowledge. However, 3.0% exhibited poor knowledge about COVID-19. The average knowledge score among the students was 80.1%, which falls within the range of good knowledge.[30]

In the national lockdown in North central Nigeria, a cross-sectional online survey was conducted to assess COVID-19 knowledge using a semi-structured questionnaire and the Snowball sampling technique. From the 589 responses collected, the demographic breakdown showed that 80.6% of the respondents were aged 18-39 years, 59.6% were male, 90.4% held at least a college bachelor's degree, and 56.2% resided in urban areas. Notably, 99.5% of respondents demonstrated good knowledge of COVID-19. [28]

A cross-sectional study involving 300 healthcare workers who consented to participate was conducted at the Irrua Specialist Teaching Hospital in Edo State, Nigeria. The study, focused on

the knowledge and management of COVID-19, collected data using self-administered questionnaires between April and May 2020. Statistical analysis was performed using the Statistical Package for Social Sciences, employing the Chi-square test and logistic regression with a 95% confidence interval. Ethical standards were strictly adhered to throughout the study.

The findings indicated that 117 (39.0%) of the respondents were willing to volunteer in the COVID-19 response efforts. Specifically, respondents who felt confident in their ability to identify a suspected case, communicate risks effectively, and those who supported the idea of their facility being a treatment center were 3.55, 2.07, and 2.30 times more likely to volunteer, respectively ($P<0.001$, $P=0.04$, and $P=0.02$ respectively). Furthermore, 207 (69.0%) of the respondents believed that the facility was adequately prepared to manage confirmed COVID-19 cases. The commitment of management was identified by 255 (85.0%) respondents as the primary indicator of the facility's readiness to manage cases, while the availability of personal protective equipment was considered the least significant factor, mentioned by only 166 (55.3%) respondents[42].

A cross-sectional survey was conducted among health workers at private health facilities in the Edo Central and Edo North Senatorial districts of Edo state from May to June 2020. Data were gathered using pre-tested questionnaires, and analysis was performed using the Statistical Package for Social Science (SPSS). The chi-square test of significance and logistic regression were applied with a 5% significance threshold. Out of 204 health workers, 153 participated, resulting in a 75.0% response rate.

Of the respondents, 88 (57.5%) demonstrated good knowledge of COVID-19, while 80 (52.3%) held negative perceptions of the virus. A majority, 95 (62.1%), believed that private health

facilities should contribute to the response, especially in screening for suspected cases (85.4%). Thirty-one (20.3%) respondents were willing to participate in the COVID-19 response if their facilities were called upon.

In terms of practices towards COVID-19 prevention, 61 (39.9%) respondents demonstrated poor practices, whereas 92 (60.1%) exhibited good practices. Significant associations were found between practice and educational level ($\chi 2 = 14.10$, $P < 0.01$), profession ($\chi 2 = 15.28$, $P = 0.01$), and previous training in infection prevention and control (IPC) ($\chi 2 = 18.16$, $P < 0.01$). [43]

2.2 STUDIES ON THE UPTAKEOF COVID-19 VACCINE

A recent cross-sectional descriptive study was conducted among older adults in Egypt to investigate the relationships among COVID-19–related health literacy, perceived risk, and willingness to receive a COVID-19 vaccine. The study involved 414 older adults who filled out various questionnaires on their perceptions of COVID-19 risk, their intention to get vaccinated, and their level of health literacy concerning COVID-19. The findings indicated that over half of the older adults perceived a high risk of COVID-19 infection. Additionally, 31.6% expressed reluctance towards vaccination, and 39.4% displayed low health literacy related to COVID-19. A significant positive correlation was observed between the older adults' perceived risk of COVID-19, their intentions to get vaccinated, and their health literacy about the virus. [34]

A cross-sectional descriptive study involving a self-reporting e-survey and questionnaire at vaccination centers across various cities in Pakistan was conducted with 502 participants. The results showed that the majority of participants held a positive attitude towards the vaccine. About 47.4% of respondents were confident in the vaccine’s efficacy and benefits. However, the most commonly feared symptom was pain at the injection site, reported by 49.8% of

respondents, followed by asthenia (43.0%), muscle pain (29.5%), and swelling (24.5%) at the site of vaccination. Notably, females expressed more fears about experiencing symptoms than males.[35]

A qualitative study in Kentucky, USA, using an interviewer-administered questionnaire revealed that participants who viewed COVID-19 as a significant risk often had personal health concerns and reported taking protective actions. A slightly smaller percentage of participants took measures to protect others, especially family members. A minority displayed an a nonchalant attitude towards the risk, only adopting preventive measures when necessary. Acceptance of the COVID-19 vaccine was poor, with many participants expressing doubts about their need for the vaccine, its safety, the importance of personal rights, and concerns over future vaccine availability.[36]

2.33 STUDIES ON WHY COVID-19 IS NOT ACCEPTED

In a study examining the factors influencing COVID-19 vaccine acceptance in the US, an online survey was conducted with 672 participants to determine the best method for determining vaccine acceptance using readily available demographic information such as age, gender, race, and education. Out of the studied participants, 450 (67%) indicated they would accept a COVID-19 vaccine if suggested. The results revealed higher acceptance rates among males (72%) than females, older adults (≥55 years; 78%) compared to younger adults, Asians (81%) compared to other racial and ethnic groups, and individuals with a college or graduate degree (75%) over those with less education.

The study also analyzed how COVID-19 vaccine acceptance compared to influenza vaccine uptake. The results revealed: 1) individuals who did not finish high school had a very low rate of

influenza vaccination (10%), but 60% of this group expressed willingness to get the COVID-19 vaccine; 2) unemployed participants showed lower rates of both influenza vaccination and COVID-19 vaccine acceptance compared to those who were employed or retired; and 3) Black Americans reported lower rates of vaccination for both influenza and COVID-19 compared to other racial groups in the study. Additionally, there were geographic differences in vaccine acceptance, with Department of Health and Human Services (DHHS) regions 2 (New York) and 5 (Chicago) showing less than 50% acceptance of the COVID-19 vaccine [37].

A cross-sectional study among college students in the USA focused on their openness to COVID-19 vaccination, exploring their intentions and behaviors related to getting vaccinated. The study included over 1,600 participants. Half of the students reported that they had already been vaccinated. Among those who had not been vaccinated, 49% stated they did not plan to get the vaccine, and 22% were still undecided. The main reasons for their hesitancy were a lack of trust in the thorough testing of the vaccine (85%), fear of possible side effects (78%), doubts about the vaccine's safety (72%), mistrust towards the US government (61%), and negative media reports about the vaccine (60%) [38].

In a cross-sectional study conducted across various African and Middle Eastern countries, 1,880 residents participated by responding to a while structured questionnaire. The survey aimed to measure attitudes and beliefs about vaccines in general, with a particular focus on the COVID-19 vaccine. Results showed that 66.81% of respondents were in favor of receiving the COVID-19 vaccine, while 33.19% did not intend to be vaccinated. Vaccine hesitancy was mainly due to concerns about potential side effects, fear of becoming ill from the vaccine, and a lack of reliable information promoting the vaccine.[39]

CHAPTER THREE

3.0 METHODOLOGY

3.1 STUDY AREA

The study was carried out among residents living in Idumebo community of IrruaEsan central local government area of Edo state. Idumebo is a quarter in Irrua town where the prestigious Specialist Teaching Hospital (ISTH) and Mudiame University are located.

It lies on geographical coordinates of latitude 6^0 44'21.56"N and a longitude of 6^0 13'8.45"E.

From the Independent National Electoral Commission Population statistics, Idumebo has a total number of about 2000indigenious community dwellers. Idumebo is blessed with abundant natural resources like timber, kaolin and clay. The terrain is suitable for mainly farming and other agricultural activities.

3.2 STUDY DESIGN

A descriptive cross-sectional study was employed for this research.

3.3 STUDY POPULATION

The study participants were from IdumeboCommunity which cut across the adolescents, youths and the elderly in different areas of profession or irrespective of status.

3.4 STUDY DURATION

The study duration is intended to last from March 2022 to September 2022.

3.5a INCLUSION CRITERIA

- Persons who are 18years of age and above who have resided inIdumebo community of Irrua for more than one year.
- Residents who stay permanently in the community.

3.5b EXCLUSION CRITERIA

- Visitors to thecommunity
- Those who are not present on the day of administration of questionnaire.
- Those who were ill and bedridden (speech defect)

3.6 SAMPLE SIZE ESTIMATION

Sample size is estimated using Cochran's formula for cross sectional surveys [51]

Sample size $n = \frac{Z^2Pq}{d^2} = \ldots\ldots\ldots\ldots\ldots\ldots$

n= Sample size

Z = Standard normal deviation, set at 1.96 to correspond to 95% confidence interval.

P = Prevalence of condition under study taking from the highest value in the literature in previous studies.

q = 1-P

d = Error margin allowed from the study which is a measure of level of accuracy.

For this study;

Z = 1.96

P = 95.1% i.e 0.951 (prevalence value in the study determining the benefits of vaccination in Turkey)[40]

d = 0.05

From the formula above

Sample size $n = \frac{Z^2Pq}{d^2}$

or $n = \frac{Z^2P(1-P)}{d^2}$

$n = \frac{(1.96)^2 \times 0.951 \times (1-0.951)}{(0.05)^2}$

$n = \frac{3.8416 \times 0.951 \times 0.049}{0.0025} = \frac{0.177728586}{0.0025}$

n = 71.6, approximately 72

From the calculation above, the estimated sample size is 72.

Attrition or non-response rate = 10% of sample size

$72 \times \frac{10}{100} = 7.2 = 7$

10% of sample size will be added to cover for possible non-response during the course of study. Therefore, the estimated sample size is 72 + (10% of 72) =7.2+72= 79.2. A total of 79respondents.

3.7 SAMPLINGTECHNIQUE

A random sampling technique was made use of in the study in which each participant had an equal chance of being chosen for the study so that an unbiased representation of the total

population was achieved. The houses that made up the sample were chosen by balloting, after which the questionnaires was distributed.

3.8 STUDY INSTRUMENT

Questionnaire: a structured questionnaire was employed for the study, having obtained informed consent from the Hospital Research Committee, Local Government Council, Community head and participants.

The questionnaire covered the following sections:

PART 1: SOCIO DEMO-GRAPHIC DATA

PART 2: ASSESSMENT OF KNOWLEDGE OF COVID-19

PART 3: ASSESSMENT OF THE AWARENESS OF COVID-19 VACCINE

PART 4: ASSESSMENT OF UPTAKE OF COVID-19 VACCINE

PART 5: ASSESSMENT OF WHY COVID-19 IS NOT ACCEPTED

3.9 PRETESTING

To ensure the reliability, the instrument was pretested among consenting adult participants at Usenu, Irrua who fit into the inclusion criteria. The questionnaire was administered to 10% of sample size 79 which was 8 participants in Usenu, Irrua. The data collected wereanalyzed and used to design the standardized structured questionnaire.

3.10 RELIABITY AND VALIDITY OF MEASUREMENT OF DATA.

Face validity was obtained by giving a self-structured questionnaire to the supervisor to check, scrutinize and correct before distribution.

3.11 DATA COLLECTION METHOD

Data was collected using interviewer administered questionnaire.

3.12 DATA ANALYSIS

Statistical analysis to examine the association between proportions was conducted using the appropriate statistical tests in Statistical Package for the Social Sciences (SPSS) version 25. The significance level was established at $p < 0.05$, with the construction of 95% confidence intervals and odds ratios where relevant. The relationship between the dependent and independent variables was assessed using the Chi-square test.

The data was analyzed using the descriptive statistical methodswhich was represented in frequency distribution tables, percentage and bar chart.

SCORING SYSTEM:A scoring system of 70% and above was assigned for good knowledge while below 70% was assigned to poor knowledge.

3.13 ETHICAL CONSIDERATION

3.14a Institutional consent

The consent for this research was sought for from the department of Community Medicine Ambrose Alli University Ekpoma. Ethical approval for the study was sought from the ethical review board Irrua Specialist Teaching Hospital. Consent was also gotten from the Medical Officer of Primary Health Care from Esan Central Local Government Area, Irrua.

3.14b Community entry and Individual consent

Community entry was done by obtaining permission from the community leader. Both verbal and written informed consents were obtained from respondents before the questionnaires were administered. The purpose of the research was explained to the respondents as best as possible and they were made to understand that information gotten was going to be strictly confidential and stored in files, kept away from unauthorized access and soft copy stored in pass-worded laptops which will be available to only the researchers.

CHAPTER FOUR

4.0 RESULTS

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS.

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
AGE AS AT LAST BIRTHDAY		
18-25	8	11.1
26-30	18	36.1
31-35	12	16.7
36-40	10	13.9
41-45	16	22.2
46-50	1	1.4
51-60	7	9.7
TOTAL	72	100

Mean age of 31.8 + Standard deviation of 10.5

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
GENDER		
MALE	55	76.4
FEMALE	17	23.6
TOTAL	72	100

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
MARITAL STATUS		
SINGLE	43	59.7
MARRIED	19	26.4
DIVORCED	6	8.3
SEPERATED	2	2.8
WIDOWED	2	2.8
TOTAL	72	100

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
LEVEL OF EDUCATION		
PRIMARY	6	8.4
SECONDARY	17	23.6
TERTIARY	49	68.1
TOTAL	72	100

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
RELIGION		
CHRISTIAN	55	76.4
ISLAM	10	13.9
AFRICAN TRADITIONAL RELIGION	7	9.7
TOTAL	72	100

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
OCCUPATION		
UNSPECIFIED	6	8.3
BUSINESS	5	6.9
CARPENTER	2	2.8
CIVIL SERVANT	2	2.8
DOCTOR	6	8.3
ENGINEER	2	2.8
FARMER	6	8.3
LAB SCIENTIST	2	2.8
LECTURER	2	2.8
NURSE	2	2.8
PHARMACIST	1	1.4
STUDENT	24	33.3
TEACHER	6	8.3
TRADER	6	8.3
TOTAL	72	100

From the socio- demographic characteristics of respondents, theage at which participants had their last birthday ranged from 18-60 years, with most of the respondents (22.2%) belonging to age group41-45. The mean age was 38. There are more singles(59.7%).Most participants(68.1%) hadtertiary level of education, majority(76.4%) are Christians and most respondent (33.3%) are students.

TABLE 2: ASSESSMENT OF KNOWLEDGE OF COVID-19

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
HAVE YOU HEARD OF COVID-19 BEFORE		
YES	72	100
NO	0	0
VARIABLE	**FREQUENCY (n= 72)**	**PERCENT (%)**
CONTAGIOUS		
YES	72	100
NO	0	0
TRANSMISSION OF THE DISEASE		
YES	72	100
NO	0	0
CONTACT WITH INFECTED PERSONS		
YES	64	88.9
NO	8	11.1
CONTACT WITH THE SECRETION OF AN INFECTED PERSON		
YES	64	88.9
NO	8	11.1

NONE USE OF FACE MASK AND PROTECTIVE EQUIPMENT		
YES	65	90.3
NO	7	9.7

VARIABLE	FREQUENCY (n= 72)	PERCENT (%)
TRANSMISSION AIRBORNE		
YES	71	98.6
NO	1	1.4
PROTECT YOURSELF FROM THE DISEASE USE OF FACE MASK		
YES	69	95.8
NO	3	4.2
AVOID CONTACT WITH INFECTECTED PERSONS		
YES	72	100
NO	0	0
REGULAR WASHING OF HANDS		
YES	70	97.2
NO	2	2.8
USE OF HAND SANITIZER		
YES	69	95.8
NO	3	4.2

REPORTING INFECTED CASES		
YES	69	95.8
NO	3	4.2

Based on the assessment of respondent on the knowledge of COVID-19, a vast majority(100%) of participants have heard of COVID-19,and (100%) believe that it is contagious, also, (100%) know that it is transmitted, about(88.9%) believe that it is transmitted through contact with an infected person, another (88.9%) believe that it is contacted from secretions of an infected person, a vast majority of respondents(90.3%) believe that none use of face mask and protective equipmentincreases the chancesof getting infected andspreadofthedisease.(97.2%) of respondents believe that regular hand washing reduces the spread of the disease and (95.8%) also acknowledge that the use of hand sanitizer reduces infection spread.

TABLE 3: ASSESSMENT OF THE UPTAKE OF COVID-19 VACCINE.

VARIABLE	**FREQUENCY**	**PERCENT**
FEAR OF THE COVID-19	**(n= 72)**	**(%)**
VACCINE		
YES	64	88.9
NO	8	11.1
PAIN		
YES	48	66.7
NO	8	11.1
NEEDLES/INJECTIONS		
YES	47	65.3
NO	9	12.5

BEING INFECTED WITH THE VIRUS		
YES	47	65.3
NO	11	15.3
FAILURE OF POTENCY OF THE VACCINE		
YES	58	80.6
NO	4	5.6
CONGENITAL MALFORMATION OF THE		
BABIES[WOMEN OF REPRODUCTIVE AGE]		
YES	28	38.9
NO	24	33.3
CAUSES STERILITY		
YES	30	41.7
NO	24	33.3
REACTIONS LIKE FEVER		
YES	51	70.8
NO	11	15.3
DO YOU THINK THE VACCINE WILL BENEFIT		
YOU IN ANY WAY		
YES	53	73.6
NO	15	20.8
LIFE IMMUNITY AGAINST THE DISEASE		
YES	23	31.9
NO	27	37.5

REDUCED SEVERITY OF THE DISEASE		
YES	62	86.1
NO	6	8.3
ACCEPTANCE THIS VACCINE		
YES	36	50.0
NO	34	47.2
REASONS		
FEAR OF REACTIONS	21	29.2
CONSPIRACY THEORIES AROUND THE VACCINE	14	19.4
IT IS AGAINST MY FAITH	1	1.4
I DON'T LIKE THE VACCINE	2	2.8
NO TIME	2	2.8

A cross-sectional study on the assessment of the uptake of COVID-19 vaccine show that (88.9%) have reservation on the COVID-19 vaccine, a vast majority of respondents(66.7%) expresses concern on the pain felt during the vaccination process, (65.3%) expresses discomfort on the use of needle/injection during vaccination,(65.3%)expresses fear of being infected with the virus through vaccination, and majority of respondent(80.6%) doubt the potency of the vaccine and lastly, about (50%) of participants do not accept the vaccine for reasons such as;fear of reactions, conspiracy theories, religious reasons and dislike for the vaccine, etc.

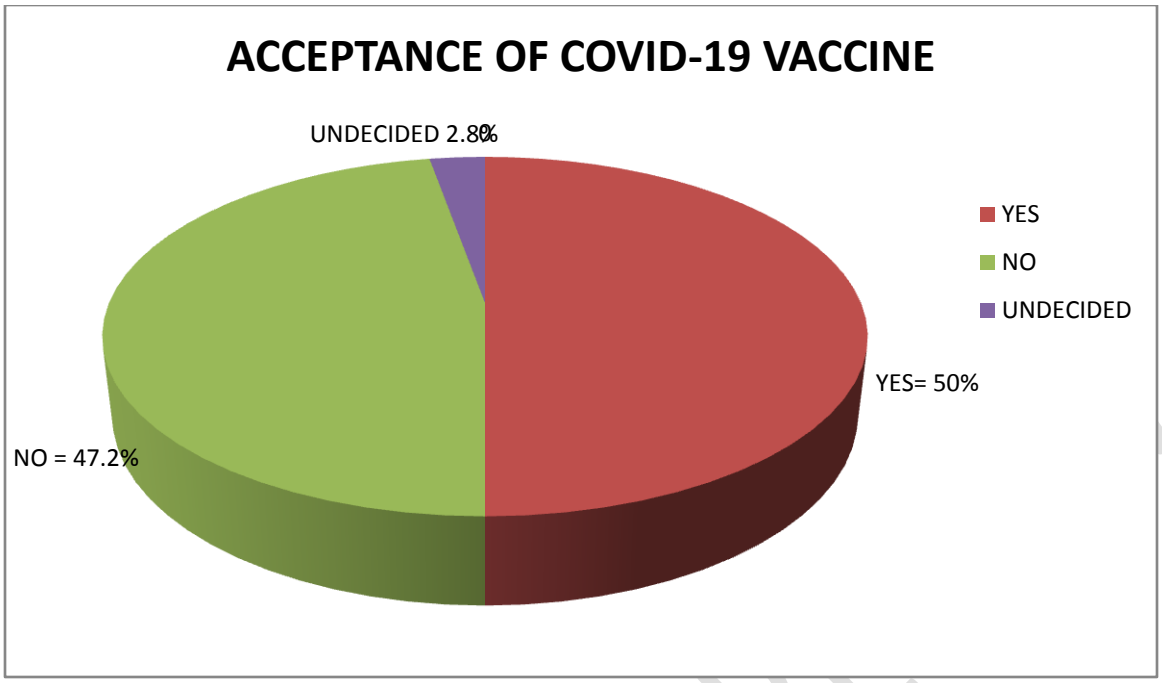

Fig 1: Showing

TABLE4.1: ASSOCIATION BETWEEN SOCIAL DEMOGRAPHIC FACTORS AND UPTAKE OF COVID-19 VACCINE

VARIABLE		UPTAKE		P-VALUE
FEARS OR WORRIES ON THE USE OF COVID-19 VACCINE				
AGE		YES	NO	TOTAL(%) P-VALUE
18-25		6	2	8(11.1) 0.421
26-30		18	0	18(25.0)
31-35		10	2	12(16.7)
36-40		8	2	10(13.9)
41-45		14	2	16(22.2)
46-50		1	0	1(1.4)
51-60	7	0		7(9.7)
TOTAL	64	8		72(100)

Table 4.1 shows the association between socio-demographic factors and the uptake of the vaccine. It was observed that there was no statistical significance between uptake of vaccine and the age group of respondents(p=0.421) as the level of statistical significance is greater than the set level of statistical significance of p=0.05. However there was no statistical significance between uptake and other socio-demographic factors.

TABLE4.2:ASSOCIATION BETWEEN COVID-19 VACCINE ACCEPTANCEAND UPTAKE

VARIABLE		UPTAKE				P-VALUE
VACCINEACCEPTANCEMAYBE		YES	NO	TOTAL(%)P-VALUE		
YES		2	32	2	36 (50.0)	**0.015***
NO		2	19	13	34(47.2)	
TOTAL	4	53	1572(100)			

Table 4.2 shows the association between COVID-19 acceptance and non-acceptance of the vaccine. It was observed that there was statistical significance between receptiveness of vaccine and non-receptiveness of respondents(p=0.015) as the level of statistical significance is less than the set level of statistical significance of p=0.05.

CHAPTER FIVE

5.0 INTRODUCTION

The global COVID-19 vaccination strategy outlining the steps to achieving effective and equitable distribution of vaccine have met with some reservations within Africa most especially within the sub-sahara Africa and in Nigeria to be precise.

From this study, to assess Covid-19 hesitancy in Idumebo Community Irrua, Edo State, a descriptive cross-sectional study was employed for this research, the socio- demographic characteristics of respondents residing at Idumebo,Irrua, Esan central local government area of Edo state. The age at which participants had their last birthday ranged from 18-60 years, with most of the respondents (22.2%) belonging to age group 41-45. The mean age was 38. There are more singles(59.7%).Most participants(68.1%) had tertiary level of education, majority(76.4%) are Christians and most respondent (33.3%) are students.

A cross-sectional assessment of respondent on the knowledge of COVID-19, a vast majority(100%) of participants have heard of COVID-19,and (100%) believe that it is contagious, also, (100%) know that it is transmitted, about(88.9%) believe that it is transmitted through contact with an infected person, another (88.9%) believe that it is contacted from secretions of an infected person, a vast majority of respondents(90.3%) believe that none use of face mask and protective equipment increases the chances of getting infected and spread of the disease. (97.2%) of respondents believe that regular hand washing reduces the spread of the disease and (95.8%) also acknowledge that the use of hand sanitizer reduces infection spread. A comparable study was carried out with 2,083 undergraduate students from various public and private universities in Jordan during the early phase of the disease (March 19-21, 2020). This survey aimed to evaluate their knowledge of COVID-19. Results indicated that 56.5% of the participants demonstrated good knowledge, 40.5% had moderate knowledge, and 3.0% displayed poor knowledge about COVID-19. The average knowledge score among the students was 80.1%, which falls within the range of good knowledge [30].

A cross-sectional study on the assessment of the uptake of COVID-19 vaccine show that (88.9%) have reservation on the COVID-19 vaccine, a vast majority of respondents(66.7%) expresses concern on the pain felt during the vaccination process, (65.3%) expresses discomfort on the use

of needle/injection during vaccination,(65.3%)expresses fear of being infected with the virus through vaccination, and majority of respondent(80.6%) doubt the potency of the vaccine and lastly, about (50%) of participants do not accept the vaccine for reasons such as; fear of reactions, conspiracy theories, religious reasons and dislike for the vaccine.A self-reporting electronic survey and questionnaire-based study was conducted at vaccination centers across various cities in Pakistan with 502 participants. The findings showed that the majority of respondents had a positive attitude towards the vaccine. About 47.4% confidently believed in the vaccine's efficacy. However, 49.8% of respondents expressed a fear of injection site pain, followed by concerns about asthenia (43.0%), muscle pain (29.5%), and swelling (24.5%) at the vaccination site. Additionally, female participants reported a greater fear of experiencing these symptoms compared to males.[35].

In a cross–sectional study done among college students in USA regarding the receptiveness of the vaccine, over 1600 student participated, half reported being vaccinated of those not vaccinated,49%did not intend to get vaccinated and 22% were indecisive.Reasons for hesitancy includes: not trusting if the vaccine was fully tested, fear of potential side effects, not trusting the US government and having read negative report from the media about the vaccine [38].

An overview cross- sectional study done among African countries and middle East countries to ascertain the acceptances, attitude, and belief relating to vaccines in general and the COVID-19 vaccine revealed that 666.81% of respondent would like to be vaccinated against COVID-19, while 33.19% refuse vaccination. Reasons for vaccine hesitancy includes: concerns regarding vaccine side effects, fear of getting sick from uptake of the vaccine, religious belief, and absence of accurate vaccine promotion news [39].

5.1 CONCLUSION

The growing evidence of increasing vaccination non- receptiveness remains a menace in curbing the spread of COVID-19 among the populace; hence efforttargetedat vaccine sensitization and improving vaccination coverage particularly among the priority group should be of utmost necessity. From the study, it was observed that majority demonstrated good knowledge but only just average agreed that accepting the vaccine will benefit them, with many participants

expressing their various fears ranging from mistrust, congenital anomalies, needle prick et cetera. There was a significant relationship uptake and COVID-19 vaccine acceptance.

5.2 RECOMMENDATIONS

In alliances with the global COVID-19 vaccination strategy outlining the steps toachieving effective and equitable distributions of vaccines.

TO THE GOVERNMENT:A proper sensitization and enlightenment of the populace of the benefits of vaccines through an effective, organized and informative media campaign. Also a coalition with W.H.O on the best practices of vaccine storage and administration. Lastly, an improvement on the already impoverished health system to the met global best practices.

TO THE COMMUNITY:Compliance to the rules and guidelines of government on covid-19 vaccination and control.

TO THE HEALTH WORKERS: To be readily available as concerning the process of vaccine administration and enlightenment of the general populace of the effectiveness and benefit of the COVID-19 vaccine and also educating the populace on the safe and effective ways of preventing spread of the disease.

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