

Hindrances to COVID-19 Vaccination Among the yet Unvaccinated of Clinical Medical Students¹

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ABSTRACT

Background: Being a major cause of morbidity and mortality in the world today, people need to be protected to prevent increase in spread of infection. Most people are shy of taking this protection of COVID-19 Vaccination as a result of factors including doubt of sincerity and intent of the vaccine by manufacturers amongst other factors. This study is aimed at understanding the impedance to COVID-19 vaccine uptake among the study population.

Methodology: A Descriptive Cross-sectional Study. Statistical Package for Social Sciences (SPSS) was used for data entry and data analysis.

Results: Substantial number of respondents 66 (41.3%) are of the opinion vaccine development was rushed while 71 (44.4%) are uncertain of effectiveness of vaccine even as 65 (40.6%) agree to the fear of side effects. Very few 1 (0.6%) stayed away from the vaccine due to religious reasons.

There existed a statistically significant relationship between age and status of vaccination ($p = 0,001$), those between age 23 – 25 years were unlikely to receive the vaccine.

CONCLUSION: Many reasons abound to COVID-19 Vaccine non-uptake among clinical medical students especially doubts of sincerity of vaccine intent of the vaccine manufacturers.

RECOMMENDATIONS: Myths around the COVID-19 Vaccine has to be addressed by wide health education, sensitization and awareness creation.

Keywords: *Hindrances; COVID-19 Vaccination; yet vaccinated; clinical medical students*

INTRODUCTION

Most people with the COVID-19 infection have mild symptoms, but some people become severely ill. Older adults and people who have underlying medical conditions are at increased risk of severe illness from COVID-19. Currently, there have been about 503,604,985 cases and 6,195,647 deaths worldwide and in Nigeria, we have 4,977,858 tested, 255,606 confirmed cases, 2,671 active cases 249,669 discharged cases and 3,142 death^{[1], [2]}

Being a major cause of morbidity and mortality in the world today, people need to be protected to prevent increase in spread of infection. The main means to that protection is COVID- 19 vaccination. However people are shy of taking this main protection due to a number of hindrances occasioned especially by doubt of the sincerity and intent of these vaccines by the manufacturers amongst many other factors.

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COVID-19 vaccine is in most cases freely available. Most time, information on these vaccines is shrouded in controversy. Vaccination among health workers and indeed medical students is impeded by the uncertainty of possible complications and side effects.

In Nigeria, there have been about 251,694 confirmed cases of Covid-19 with 3,123 deaths reported to WHO. And about a total of 18,567,498 vaccine doses have been administered. [3]

Limited research has looked into Vaccine uptake of students. COVID- 19 vaccination being the principal means of prevention from the virus, it is important to understand the hindrances to its uptake especially among clinical students as this study pursues.

The study will help in formulating strategies to increased understanding and therefor up take of the COVID-19 Vaccine and indeed other vaccines of clinical importance in this present world of emerging and re-emerging tropical diseases.

METHODOLOGY

Study Area

The University of Nigeria and Enugu State University Teaching Hospital served the study area. These Teaching Hospitals are in Enugu. Enugu is the capital of Enugu State in the South East geopolitical zone of Nigeria while the study population were medical students of the University of Nigeria Teaching Hospital as well as Enugu State University Teaching Hospital (ESUTH).

Study Design

A Descriptive Cross-sectional Epidemiological Study.

Data Analysis

Statistical Package for Social Sciences (SPSS) was used for data entry and data analysis.

Inclusion Criteria

Clinical medical students of University of Nigeria and ESUTH.

Exclusion Criteria

University of Nigeria Enugu Campus and Enugu State University of Teaching Hospital students from other faculties. Clinical medical students who were not unavailable and unwilling to participate in the study.

Sample Size

Sample size formula [4]

Minimum sample size, $n = Z^2 p (1-p)/d^2$

Where $Z = 1.96$ at 95% confidence limit

$P =$ Prevalence of COVID-19 from a previous study (9.6%) [5]

$d =$ Margin of error tolerated usually 5% (or 0.05)

$$N = \frac{1.96^2 \times 0.096(1-0.096)}{(0.05)^2}$$

$$= 127.96 \text{ Students}$$

An addition of 10% to make up for attrition will bring the sample size to;

$$10\% \text{ of } 127.96 = 12.796$$

Minimum Sample Size = $127.96 + 12.796 = 140.756$

Approximately 141 students. With 10% attrition rate added, a total of 160 respondents was used for this study

Sampling Method

A multi stage sampling was used to select the 160 respondents into the study from both schools.

Stage 1. The students were stratified into years of study, 4th, 5th and 6th year for both medical schools

Stage 2: The class lists were utilized as sampling frame and the samples gotten by imputing the required number per class matched against numbers from the sampling frame into a randomization site which produced numbers randomly, until the require sample was achieved for both schools.

Data Collection

Data collection was with a self-administered questionnaire. The questionnaire was semi-structured and pre-tested..

Ethical Considerations.

Verbal and written consent was sort and obtained from the participants prior to the study. The respondents was reassured of strict confidentiality as well as fact that they could withdraw from the study at any time with no consequences.

RESULTS

Table 1: Captures hindrances to receiving the COVID-19 Vaccine, substantial number of respondents 66 (41.3%) believe that vaccine development was rushed hence not much confidence in the vaccine; 71 (44.4%) are uncertain of effectiveness of vaccine even as 65 (40.6%) strongly agree to the fear of side effects. However very few 1 (0.6%) stayed away from the vaccine based on faith or religious reasons.

Table 2: Reflects a statistically significant relationship between age and status of vaccination ($p=0.001$), those between age 23-25 years were unlikely to receive the vaccine.

Table 3: A Bar Chart showing those that have received the COVID-19 Vaccination against those hadn't received. 79.38% has received the Vaccine as against 20.62% respondents who affirmed had not.

DISCUSSION

Achievement of a high COVID-19 Vaccination rate is critical to the control of the virus especially for healthcare workers and people in the hospital environment.

This study reflects a low COVID-19 vaccination acceptance of the respondents. It is instructive that only (20.6%) respondents had received the COVID-19 vaccine, corroborating with findings of a study in Congo that reported a 27.7% health care workers willingness to accept a COVID-19 vaccine when available. The reasons/ hindrances to poor COVID-19 Vaccine acceptance from this study are attributable to the rush in the development of the vaccine, possible side effects of the vaccine and uncertainty of vaccine effectiveness. Faith/ religious considerations was low (0.6%) as a hindrance to vaccine uptake among respondents in this study. This corroborates the findings of a study of the Attitudes towards vaccines and intention to vaccinate against COVID-19: implications for public health communications, done by Paul E and colleagues, showing that there is a general mistrust in the benefits and safety of vaccines and concerns about their unforeseen effects are the key barriers to vaccine acceptance. [6], [7] However, contrary to studies done in Ghana among junior doctors where 66.9% of junior doctors were willing to accept the COVID-19 vaccine and 78% acceptability rate among doctors in Israel [8] In many countries, anti-vaccination and misinformation are seen biggest obstacles to successful immunization and community immunity. [9], [10]

It is important to note that a shown by various researches, the quality, content and dissemination of health education about vaccines will help in promoting acceptability, reduce hesitancy and guide informed decisions about vaccination [10]. This way various myths regarding the vaccines could also be addressed.

This study also reflects a statistically significant relationship between age and vaccination status of respondents. This is similar to the findings of a study in Canada where perception of COVID-19 vaccine safety differed by age, sex and education with females, older adults, and individuals with less than a bachelor's degree reporting lower perceived COVID-19 vaccine safety. ^[11]

CONCLUSION: Many reasons abound to COVID-19 non-uptake among clinical medical students especially doubts about sincerity of vaccine intent of the vaccine manufacturers.

RECOMMENDATIONS: vaccine Myths around the COVID-19 has to be addressed by wide health education, sensitization and awareness creation.

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DECLARATIONS

Ethics approval and consent to participate

Permission for the study was got from the Ethics Committee of the University of Nigeria Teaching Hospital.

Consent for publication

The Authors duly grant consent for publication.

Availability of data and material

The materials and data for this study is available and retrievable.

Competing interests

There are no competing interests.

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Authors' contributions

Chinedu Idoko authored the manuscript, James Akpeh was involved in intellectual review and update of the manuscript, Favour Emmanuel, Marvel Emeka-Ugwu, Shalom Elijah Ebinne, and Ajuluchukwu Ekwueme were involved in data collection and analysis of data.

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Table 1. Hindrances to being vaccinated among the participants yet to receive vaccine

S/N	FACTORS	STRONGLY AGREE n(%)	AGREE n(%)	NOT CERTAIN n(%)	DISAGREE n(%)	STRONGLY DISAGREE n(%)	RECEIVED VACCINE n(%)
1	VACCINE IS NOT EASILY ACCEASSIBLE	10 (6.3%)	17 (10.6%)	24 (15.0%)	66 (41.3%)	10 (6.3%)	33 (20.6%)
2	VACCINE IS INEFFECTIVE	5 (3.1%)	19 (11.9%)	71 (44.4%)	25 (15.6%)	7 (4.4%)	33 (20.6%)
3	FEAR OF SIDE EFFECT	65 (40.6%)	41 (25.6%)	11 (6.9%)	7 (4.4%)	3 (1.9%)	33 (20.6%)
4	VACCINE DEVELOPMENT WAS RUSHED	32 (20.0%)	66 (41.3%)	18 (11.3%)	7 (4.4%)	4 (2.5%)	33 (20.6%)
5	I DONT HAVE ANY COMORBIDITIES	9 (5.6%)	60 (37.5%)	38 (23.8%)	17 (10.6%)	3 (1.9%)	33 (20.6%)
6	IT IS AGAINST MY FAITH	1 (0.6%)	3 (1.9%)	19 (11.9%)	60 (37.5%)	44 (27.5%)	33 (20.6%)
7	I DON'T BELIEVE IN VACCINES		3 (1.9%)	19 (11.9%)	40 (25.0%)	65 (40.6%)	33 (20.6%)
8	HAD BAD EXPERIENCES WITH VACCINES IN THE PAST	2 (1.3%)	4 (2.5%)	17 (10.6%)	70 (43.8%)	34 (21.3%)	33 (20.6%)
9	I DON'T TRUST THE GOVERNMENT/PHARMACEUTICALS	9 (5.6%)	65 (40.6%)	28 (17.5%)	18 (11.3%)	7 (4.4%)	33 (20.6%)
10	I HAVE A COMPROMISED IMMUNE SYSTEM	3 (1.9%)	3 (1.9%)	14 (8.8%)	35 (21.9%)	72 (45.0%)	33 (20.6%)
11	COVID19 IS NOT SERIOUS ENOUGH	2 (1.3%)	8 (5.0%)	30 (18.8%)	36 (22.5%)	51 (31.9%)	33 (20.6%)
12	I'M CONCERNED ABOUT THE LONG TERM IMPACT OF VACCINE ON MY HEALTH	60 (37.5%)	40 (25.0%)	17 (10.6%)	6 (3.8%)	4 (2.5%)	33 (20.6%)

Table 2 Association between Respondents received Vaccination and Socio-demographic factors

HAVE YOU RECEIVED COVID-19 VACCINATION				
(%)				
	NO	YES	<i>CHI-SQUARE</i>	<i>P-VALUE</i>
FACTORS				
AGE				
– 20-22	11(8.7)	8(24.2)	16.67	0.001
– 23-25	89(70.1)	11(33.3)		
– 26-28	24(18.9)	11(33.3)		
– 29 AND ABOVE	3(2.4)	3(9.1)		
GENDER				
– FEMALE	56(44.1)	15(45.5)	0.02	0.89
– MALE	71(55.9)	18(54.5)		
LEVEL OF TRAINING				
– 400	7(5.5)	6(18.2)	5.89	0.05
– 500	42(33.1)	8(24.2)		
– 600	78(61.4)	19(57.6)		

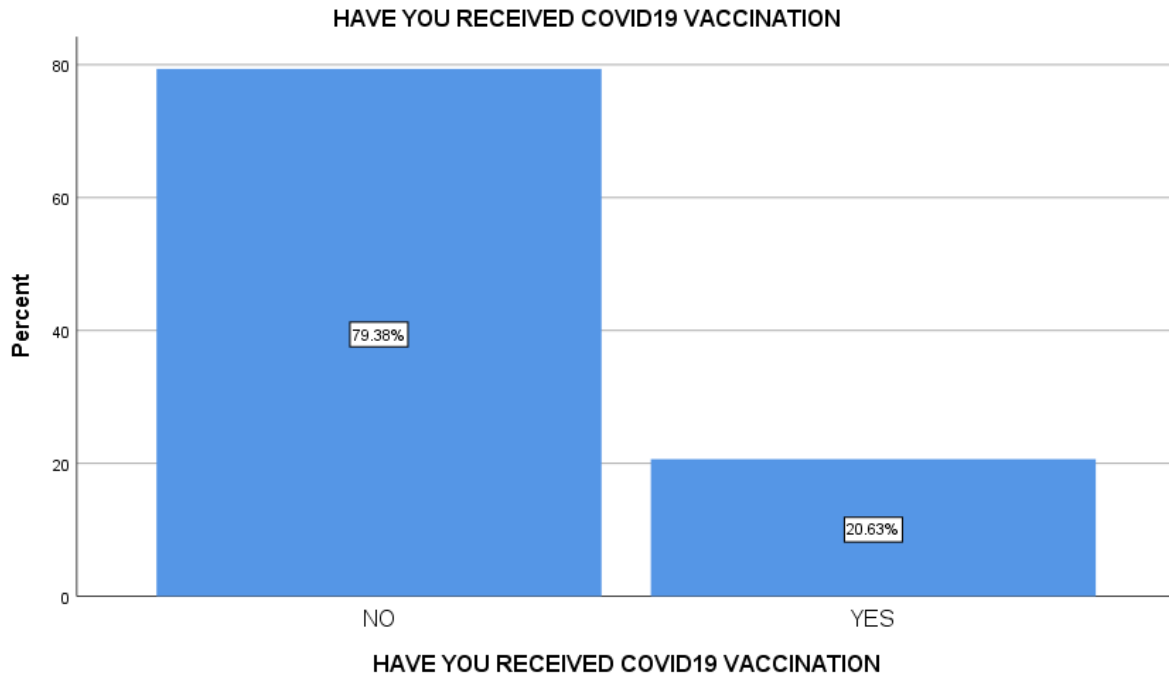


Fig. 1: Percentage of those received and have not received vaccine.