

AWARENESS AND PREFERENCE OF STUDENTS TOWARDS COVID-19 VACCINE IN UNIVERSITY OF CALABAR

Oyira, Emilia James¹, Eban, Linus Kechi^{2*}, Akpan Ekaette Okon³, Agbor, Eshiga Otuokwa⁴, Rita Amokeye Ada⁵, Pauline Binang Obute⁶

¹Department of Nursing Science, University of Calabar, Calabar.

²Department, Pharmacology, University of Calabar.

³School of Midwifery, Ituk Mbang, Akwa Ibom State, Nigeria.

⁴School of Midwifery, Obudu, Cross River State, Nigeria.

⁵School of Basic Midwifery Momiaya, Ogoja, Cross River State.

⁶Department, Nursing Services, Ministry of Health.

Email: ¹emioyira@yahoo.com, ²linuskechi@gmail.com, ³ekaetteakpano@yahoo.com, ⁴eshiga2013@gmail.com.

⁵akeyeadaa@yahoo.com, ⁶paulncare@hotmail.com

Corresponding Author: Eban, Linus Kechi, Department of Nursing Science, University of Calabar, Calabar.

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Abstract

A Descriptive cross-sectional survey was conducted to assess the awareness and preference of students towards Covid-19 vaccine, University of Calabar. A total of 358 students from the Department of Nursing Science, University of Calabar were sampled through simple random sampling technique. The instrument of data collection was a structured questionnaire. Data collected were analyzed using frequencies, percentage, charts and means. The hypothesis was tested for significance at 0.05 level of significance, using the Chi-square (X²) analysis. The findings of the study revealed that 51.1% of the study participants expressed high awareness towards COVID-19 vaccine whereas 48.9% demonstrated low awareness. 54.7% exhibited positive preference toward the covid-19 vaccination, while 45.3% showed negative preference. There is no statistical influence between age and knowledge of covid-19 vaccine among students in University of Calabar. There is no statistical influence between year of study and attitude of students towards covid19 vaccine in University of Calabar. Findings reveal that study participants were aware of covid-19 vaccine perhaps could not utilize because of fear of complications.

Keywords: Awareness, Preference, Covid-19 Vaccine.

Introduction

In many countries across the world, health-related infections are the main source of public health issues, which ultimately lead to a rise in morbidity, mortality, and increased expenses in healthcare settings [1]. The symptoms can include fever, as well as flu-like ones including coughing, sore throats, exhaustion, and shortness of breath. Although there is evidence that it transmits from person to person, infection can be avoided if the respondent is informed and practices appropriate hygiene [2]

A conscious identification developed in the human mind for the advancement of humankind is knowledge. It is anticipated that the most effective preventive method for containing the pandemic will be COVID-19 vaccination. Prior to having insufficient knowledge about a topic, preference refers to a predetermined way of thinking and feeling about something [3]. Despite little progress being made in the general public's vaccination in Nigeria, there are still significant obstacles to complete vaccination against COVID-19 due to the numerous false reports and

contradictory information on social media, which have led to different views and perceptions that COVID-19 doesn't exist in Nigeria, it's a political agenda, etc., increasing the risk of transmission from person to person [4]. The large student body, high population density, and frequent interactions between students are among aspects of universities that can enhance the likelihood of COVID-19 spreading throughout campuses, necessitating the implementation of preventative measures and vaccinations. Students are one of the population subgroups with a high risk of infection with COVID-19 and the main source of knowledge and belief in vaccines in society [5].

The Badran Theory [6] which claimed that awareness and preference and practice form a trio of interaction elements marked by dynamism and unique interdependence, served as the basis for this study. The information and preference of the society concerning Covid-19 are crucial for adhering to the effective procedures established by health care authorities towards the eradication of Covid-19 in Nigeria [7]. Awareness affects preference, and preference predicts practice. Nursing students, who are Reserved Nurses, possess the professionalism of medical professionals and unique qualities of school students. Their awareness and preference willingness to receive the Covid-19 vaccine may have a significant impact on the public's acceptance of vaccines both now and in the future

Methodology

The descriptive research design was chosen for this investigation. The students of the University of Calabar served as the study's setting.

Sample and Sampling Technique

To enable the researcher to choose the three hundred and fifty eight (358) students who made up the sample for this study, a simple random sampling approach was used. The sample was determined using the formula provided by Yaro Yamane, as stated below; $n = \frac{N}{1+N(e^2)}$

Where, N = population of nursing students = 3500

e = Significance coefficient = 0.05

$$n = \frac{3500}{1+3500(0.05^2)}$$

$$n = \frac{3500}{1+(3500 \times 0.0025)}$$

$$n = \frac{3500}{1+ 8.75}$$

$$n = \frac{3500}{9.75}$$

$$n = 358$$

The sample used for this study was three hundred and fifty eight (358) students.

Validity & Reliability

The degree to which the interpretations of the data obtained during the data collection procedure of a research questionnaire are justified relies on the specific purpose for which the test is designed. This is known as the validity of the instrument. The researcher established the research instrument's face validity and content validity. The researcher created an instrument that reflected the variables being studied in order to accomplish this.

Additionally, the researchers were able to developed tool for change of the items, assessment, and approval of the instrument. The item in the instrument was based on the specified objectives. The consistency with which an

instrument measures what it is designed to measure is referred to as reliability. The test-retest approach was used to determine reliability. Here, the researcher collected data by giving 20 questionnaires to students in Faculty of Education who weren't included in the study. Following that, the same set of persons were given the questionnaires after three (3) weeks, and the results of the two tests were associated using Pearson's Product Moment Coefficient, yielding a reliability coefficient of 0.87 as shown below;

Test-Retest Reliability table on awareness and preference of covid19 vaccine among students

| Variable | No of items | Testing | Mean | Standard deviation | r _{cal} |
|--------------------------------------|-------------|-----------------|------|--------------------|------------------|
| Awareness of vaccine among students | 6 | 1 st | 6.81 | 3.44 | 0.8114 |
| | | 2 nd | 5.91 | 2.98 | |
| Preference of vaccine among students | 6 | 1 st | 5.73 | 4.21 | |
| | | 2 nd | 4.12 | 3.64 | |

Procedure for Data Collection

Simple percentages and frequency tables were used to evaluate the data obtained from the questionnaire, and the Chi-Square test statistic at the 0.05 level of significance was used to test the hypothesis.

Ethical Consideration

Ethical approval was obtained from ethical committee, Cross River State and permission was granted. The research's topic was introduced, and guidelines for completing the surveys were provided. The researchers promised the participants that all information must be used exclusively for educational purposes and that client names were kept private and confidential. By providing the respondents with enough information to allow them to voice their feelings, the consent was successfully obtained.

Data analysis and result presentation

Table 1: Socio-Demographic data of respondents (n= 358)

| Variable | Frequencies | Percentage (%) |
|-------------|-------------|----------------|
| Age | | |
| 18-22years | 104 | 29.1 |
| 23 -27years | 69 | 19.3 |
| 28-32years | 79 | 22.0 |
| 33-37years | 58 | 16.2 |
| 38-42years | 48 | 13.4 |
| Sex | | |
| Male | 157 | 43.9 |

| | | |
|-----------------------|-----|------|
| Female | 201 | 56.1 |
| Marital status | | |
| Married | 69 | 19.3 |
| Single | 289 | 80.7 |
| Separated | 0 | 0.0 |
| Religion | | |
| Christianity | 236 | 65.9 |
| Muslim | 9 | 13.7 |
| Others | 113 | 31.6 |
| Academic Level | | |
| 200 | 156 | 43.6 |
| 300 | 89 | 24.9 |
| 400 | 66 | 18.4 |
| 500 | 47 | 13.1 |
| Mode of entry | | |
| Direct | 90 | 25.1 |
| Generic | 268 | 74.9 |

Table 1 represent the socio-demographic data of students which reveals that majority of the respondents 104(29.1%) were within the age range of 18 – 22years, 69(19.3%) respondents were within 23 – 27years, 79(22.0%) respondents were within 28 – 32years, 58(16.2%) respondents were within 33 – 37years while 48(13.40%) of the respondents were within 38 – 42years. On assessing the sex of the respondents, data reveals that majority of the respondents 201(56.1%) were female while 157(43.9%) respondents were male.

As regards marital status of the respondents, majority of the respondents 289(80.7%) were single while 69(19.3%) respondents were married. Nonetheless, a greater proportion of the respondents 236(65.9%) were Christian, 9(13.7%) of the respondents were Muslim while 113(31.6%) of the respondents were of other religion such as Jehovah’s Witness & Eckankkar. Also, out of 358 respondents 156(43.6%) respondents were in 200Level, 89(24.9%) were in 300L, 66(18.4%) were in 400Level while 47(13.1%) were in 500L.

Lastly, as regards mode of entry, 268(74.9%) respondents were admitted through jamb into the department of nursing while 90(25.1%) respondents were admitted through direct entry.

Table 2: Awareness of students towards covid19 vaccine

| | YES | | NO | | X |
|------------------------------------|-------|------|-------|------|------|
| | Freq. | % | Freq. | % | |
| Have you heard of covid19 vaccine? | 184 | 51.4 | 174 | 48.6 | 1.51 |

| | | | | | |
|--|-----|------|-----|------|------|
| Do you know what causes covid19? | 185 | 51.7 | 173 | 48.3 | 1.52 |
| Do you know that not taking the vaccine for two doses periodically one can contact covid19 | 171 | 47.8 | 187 | 52.2 | 1.47 |
| Do you know that receiving the vaccine every six months prevent covid19 | 190 | 53.1 | 168 | 46.9 | 1.53 |
| Do you know that not washing your hands in every procedure leads to contacting covid19 that will warrant vaccine | 172 | 48.0 | 186 | 52.0 | 1.48 |
| Do you know that inappropriate scrub of the floor leads to covid19 that will warrant vaccine, | 200 | 55.9 | 158 | 44.1 | 1.60 |
| Total | | | | | 9.11 |

*Mean ($\bar{X} \pm SD$) Score of 1.5 and above indicates high awareness towards vaccines while 1.5 below indicates low awareness

Table 2 revealed that 184(51.4%) respondents affirm that they have heard of vaccine while 174(48.6%) respondents had contrary opinion. Also, 185(51.7%) respondents affirmed that they know the causes of covid19 while 173(48.3%) said no. Furthermore, 171(47.8%) respondents affirmed that not taking the vaccine periodically in two doses leads to covid19 while 187(52.2) had contrary opinion. However, 190(53.1%) respondents said yes that they know that receiving the dose every six months prevent covid19 meanwhile 168(46.9%) respondents said no.

In addition, 172(48.0%) respondents stated that not washing your hands in every procedure leads to contacting covid19 that will warrant vaccines but 186 (52.0%) respondents did not. Again, 200(55.9%) respondents disclosed that inappropriate scrub of the floor leads to covid19 that will warrant vaccine, but 158 (44.1%) respondents did not.

Following the results in Table 2, the table showed the total mean score obtained by the respondents is 9.11 out of 18.0. The highest mean score per item is 1.60 out of 3.0, and it was obtained on inappropriate scrub of the floor leads to covid19 that warrant vaccine. The lowest mean score per item is 1.45 out of 3.0, and it was obtained on not taking vaccine every six months leads to covid19. This is followed by a mean score of 1.48 which is obtained on not washing your hands in every procedure leads to contacting covid19 that will warrant vaccine.

Table 3: Preference of students towards covid19 vaccines

| | SA | | A | | D | | SD | | X |
|--|-------|------|------|------|-------|------|------|------|------|
| | Freq. | % | Freq | % | Freq. | % | Freq | % | |
| I like covid19 vaccine because it reduces the rate of bacteria in my system especially in a school environment. | 150 | 41.8 | 79 | 22.1 | 88 | 24.6 | 41 | 11.5 | 2.94 |
| I like covid19 vaccine because its gives room for proper communication | 97 | 27.1 | 43 | 12.0 | 92 | 25.7 | 126 | 35.2 | 2.31 |

| | | | | | | | | | |
|--|-----|------|-----|------|----|------|-----|------|-------|
| without fear preventing the spread of covid19. | | | | | | | | | |
| I do not like covid19 vaccine because that, it is not the best substances for preventing covid19. | 104 | 29.1 | 87 | 24.3 | 68 | 18.9 | 99 | 27.7 | 2.54 |
| I feel that social distancing from one another is the best covid19 vaccine among students in school. | 121 | 33.8 | 98 | 27.4 | 42 | 11.7 | 97 | 27.1 | 2.67 |
| I like covid19 vaccine because it does not have side effect it's free and it prevent covid19 from occurring. | 89 | 24.0 | 114 | 31.8 | 38 | 10.6 | 117 | 32.7 | 2.48 |
| I feel that not taking covid19 vaccine for a long time can reduce your trust in communicating with others freely. | 128 | 35.8 | 68 | 18.9 | 87 | 24.3 | 75 | 21.0 | 2.69 |
| Total | | | | | | | | | 15.63 |

*Mean ($\bar{X} \pm SD$) Score of 2.5 and above indicates positive attitude towards covid19 vaccine, while 2.5 below indicates negative attitude.

The above table revealed that 150(41.8%) respondents strongly agreed to like covid19 vaccine because it reduces the rate of bacteria in their system especially in a school environment. 79(22.1%) agreed, 88(24.6%) disagreed while 41(11.5%) strongly disagreed. Also, 97(27.1%) respondents strongly agreed to like covid19 vaccine because its gives room for proper communication without fear preventing the spread of covid19. 43(12.0%) agreed, 92(25.7%) disagreed while 126(35.2%) respondents strongly disagreed. Nevertheless, 104(29.1%) respondents strongly agreed that covid19 vaccines are not the best substances for preventing covid19. 87(24.3%) respondents agreed, 68(18.9%) respondents disagreed while 99(27.7%) respondents strongly disagreed. However, 121(33.8%) respondents strongly affirmed that social distancing from one another is the best covid19 vaccine among students in school apart from the vaccine its self, 98(27.4%) respondents agreed, 42(11.7%) respondents disagreed meanwhile 97(27.1%) strongly disagreed.

Furthermore, majority of the respondents 117(32.7%) strongly disagreed that they like covid19 vaccine because it does not have side effect it's free and it prevent covid19 from occurring. 38(10.6%) disagreed, 114(31.8%) agreed while 89(24.0%) strongly agreed. Lastly, 128(35.8%) strongly agreed that not taking covid19 vaccine for a long time can reduce your trust in communicating with others freely. 68(18.9%) agreed, 87(24.3%) disagreed while 75(21.0%) strongly disagreed.

Hypothesis I:

In the University of Calabar, there is no discernible relationship between the year of study and students' preference toward the COVID-19 vaccine. Chi-square (X^2) analysis was used to assess data on students' years of study and their preference toward the COVID19 vaccine in order to test this hypothesis. Respondents with good preference toward the COVID19 vaccine (average mean scores above ≥ 2.5) made up 196 (54.7%) of the sample, while those with negative preference (average mean scores below 2.5) made up 162 (45.3%). In Table 5, the outcome of the Chi-square (X^2) analysis is shown.

Table 5: Chi-square (X^2) analysis of influence between student's year of study and preference of students towards covid19 vaccine in University of Calabar, Calabar

| Level of study | Preference of students towards covid19 vaccine | | Total | df | Sig. | X^2 Crit | X^2 Cal | Decision |
|----------------|--|----------|-------|----|------|------------|-----------|----------|
| | Positive | Negative | | | | | | |
| 200L | 102 | 54 | 156 | 3 | 0.05 | 7.815 | 29.9653 | Rejected |
| 300L | 49 | 40 | 89 | | | | | |
| 400L | 17 | 49 | 66 | | | | | |
| 500L | 28 | 19 | 47 | | | | | |
| Total | 196 | 162 | 358 | | | | | |

$P > .05$; $\alpha = .05$; $df = 3$; Critical $X^2 = 7.815$; Calculated $X^2 = 29.9653$

Table 5's Chi-square (X^2) analysis result showed that, at 0.05 level of significance and 3 degrees of freedom, the computed value of 29.9653 is greater than the critical value of 7.815 there. As a consequence, the null hypothesis, which claimed that there was no relationship between the year of study and students' preference regarding the covid19 vaccination at the University of Calabar, was rejected. The outcome indicate favoring students in the 300 Level of study.

Discussion of findings

According to the study's findings, 51.1% of participants had a good awareness of the COVID-19 vaccine whereas 48.9% had a poor awareness. This suggests that 48.9% of the study sample's participants had never heard of the COVID-19 vaccine or understood its benefits to the body. The findings are consistent with Daniel's study [8], which found that pupils' understanding was rated as outstanding ($>70\%$), good (50-69%) and weak (50%). The Independent sample t-test was used to evaluate the disparity in knowledge based on demographics. 233 students in all gave their agreement to take part in the study, and 51.1% of them were female. 48 students (20.6%) demonstrated strong knowledge of the Covid-19 vaccination. The bulk of students have weak knowledge. The understanding and attitude of medical students concerning the COVID-19 vaccine should be improved by educational intervention in the form of training. However, a study conducted in Bangladesh also shown that the general public's understanding of COVID-19 vaccines is lacking [9]. A research in Spain found that neither the general public nor hospitals were aware of the most fundamental precautions to take to stop the virus from spreading

The results of this survey showed that most students 54.7% science department at the University of Calabar have positive preference toward the covid19 vaccination, while 45.3% have negative preference. The results of this study are consistent with those of an institution-based cross-sectional study on attitudes concerning Covid-19

immunization and hesitation among 626 study participants in Gondar city that was carried out by Maria Cordina, Mary, Lauri, and Josef [10]. The participants in the study were gathered using a multistage sampling technique. The information was gathered via a self-administered survey that had been pretested. To evaluate characteristics related to knowledge and attitude about the COVID-19 vaccine, bivariable and multivariable logistic regression analyses were conducted. A p-value of less than 0.05 was used to assert a certain level of significance. 50% of participants in this trial (95% CI: 45.9, 53.7) indicated a favorable opinion of the COVID-19 vaccination [11]. Additionally, having a positive attitude toward receiving the COVID-19 vaccine was significantly connected with marital status, being a health science student, media exposure, being well-informed about the COVID-19 vaccine, and having a father who has completed their primary education.

Conclusion

Findings show that students at the University of Calabar appear to have little awareness of the many features of the COVID-19 vaccination, despite the fact that they have heard about it and have been hesitant to get it because of potential side effects. Therefore, lecturers in the nursing science department should put more effort into educating the students about the COVID-19 virus in order to change their attitudes toward the COVID-19 vaccine.

References

1. Al-Tawfiq, J.A., Momattin, H., Dib, J., Memish, Z.A., (2020). Ribavirin and interferon therapy in patients infected with the Middle East respiratory syndrome coronavirus: an observational study. *Int. J. Infect. Dis.* 20, 42–46.
2. Chen, Z. M., Fu, J. F., Shu, Q., Chen, Y. H., Hua, C. Z., Li, F. B., ... & Wang, Y. S. (2020). Diagnosis and treatment recommendations for pediatric respiratory infection caused by the 2019 novel coronavirus. *World Journal of Pediatrics*, 1-
3. Bell, S., Clarke, R., Mounier-Jack, S., Walker, J. L., & Paterson, P. (2020). Parents' and guardians' views on the acceptability of a future COVID-19 vaccine: A multi-methods study in England. *Vaccine*, 38(49), 7789-7798.
4. Chou, W. Y. S., & Budenz, A. (2020). Considering emotion in COVID-19 vaccine communication: addressing vaccine hesitancy and fostering vaccine confidence. *Health communication*, 35(14), 1718-1722.
5. Goh, K. J., Wong, J., Tien, J. C. C., Ng, S. Y., Duu Wen, S., Phua, G. C., & Leong, C. K. L. (2020). Preparing your intensive care unit for the COVID-19 pandemic: practical considerations and strategies. *Critical Care*, 24, 1-12.
6. Graffigna, G., Palamenghi, L., Boccia, S., & Barelo, S. (2020). Relationship between citizens' health engagement and intention to take the COVID-19 vaccine in Italy: a mediation analysis. *Vaccines*, 8(4), 576.
7. Jiang, N., Wei, B., Lin, H., Wang, Y., Chai, S., & Liu, W. (2021). Nursing students' attitudes, knowledge and willingness of to receive the coronavirus disease vaccine: A cross-sectional study. *Nurse Education in Practice*, 103148.
8. Deng, S. Q., & Peng, H. J. (2020). The Covid-19 Pandemic and the New Poor in Africa: the Straw that Broke the Camel's Back", African Governance and Development Institute Working Paper, No. 20/038, Yaoundé.
9. Dong, E., Du, H., & Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. *The Lancet infectious diseases*, 20(5), 533-534.
10. Maria, N., Zaid, A., Catrin, S., Ahmed, K., Ahmed, A. J., Christos, I., ... & Riaz, A. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78, 185-193.
11. Adamu, M. T. (2020) Important Notice Regarding Coronavirus or COVID-19 from Department of Microbiology, Faculty of Science, Gombe State University.