http://www.inosr.net/inosr-experimental-sciences/

Mukwaya
INOSR Experimental Sciences 11(3):39-46, 2023.

International Network Organization for Scientific Research **ISSN: 2705-1692**

Assessment of Factors Influencing the Uptake of Covid-19 Vaccine among People Living in Ishaka, Bushenyi District in Uganda

Mukwaya, Apollo Nicholas

Department of Medicine and Surgery, Kampala International University, Uganda.

ABSTRACT

The study aimed at investigating the factors influencing the uptake of COVID-19vaccines among people in Ishaka, Bushenyi District in Uganda. Understanding the factors that influenced the uptake of COVID-19 vaccines is of great help in creating strategies to increase vaccine coverage in order to rapidly bring the pandemic to an end. A quantitative cross section study approach was conducted, sample size was 317 participants. Data was collected using an interviewer-administered questionnaire and the data analyzed using SPPS. The analyzed data was then presented in form of tables and graphs. According to the study majority of the participants 67.8% were males and minority 31.2% were females. Most of them 34.1% aged between 31-40 years with 52.5% not married. Most 40.7% had attained secondary, 35.6% tertiary and 23.7% primary level. Majority 74.1% were Christians, 22.7% Muslim while minorities 3.2% were pagans. Most participants 31.5%were business men, 25.9% working in the private sector, 19.2% students, and 14.2% civil servants while 6%were unemployed. 166. 80.1% live in an urban area. Of the participants earn less than one million a month, 25.2% no monthly salary, 9.5% earn between one million and two million while minority 4.7% were earning more than two million. It was found that 99.7% participants knew about covid-19 while only 0.3% did not know. It was found that 74.4% of the participants had not been vaccinated while 25.9% had been vaccinated. Those who were not vaccinated, only 27.7% were willing to get vaccinated and 72.3% were not willing to get vaccinated. The COVID-19 vaccination rate among people in Ishaka Bushenyi was low despite most people having the knowledge about Covid-19 vaccine and good attitude towards covid-19 vaccine. There uptake of the vaccine remained low with most people fearing the side effects of the vaccine.

Keywords: Covid-19, Vaccine, Ishaka, Bushenyi District and Uganda.

INTRODUCTION

Corona virus disease-2019 (COVID-19) is an emerging public health problem threatening the life of over 2.4 million people globally [1-7]. The WHO identified this severe form of pneumonia caused by a new corona virus leading to severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) on 31 December 2019 in Wuhan, China [8-11]. On March 26, 2020, it was declared as a pandemic disease [12-15]. Corona virus disease 2019 (COVID-19) is the disease of the respiratory tract caused by the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) [16-20]. COVID 19 disease is said to be mainly transmitted through contact with respiratory droplets produced by an infected person and its clinical manifestations range from asymptomatic cases and mild upper airway infection, up to severe and fatal cases with pneumonia and acute respiratory failure [21-25].

Globally, the new Corona virus has infected close to 132 million people with more than 2.8 million deaths as of April 7, 2021. In the United States alone, the number of COVID-19 cases surpassed 30.5 million with more than 552,000 deaths. The infections and associated morbidity and mortality continue to increase worldwide with intermittent flare ups even in countries that were assumed to have brought it under control [26]. Currently, the WHO reports that COVID-19 deaths in Africa have surged by 40% ever since the virus was reported on the continent on 14 February 2020. This

surge comes as Africa is battling new and more contagious variants for which it has geared up its largest-ever vaccination drive [27-29]. Uganda launched its mass COVID-19 vaccination program on 10th/03/2021 therebyjoining a host of countries in Africa to initiate jab inoculations. According to the Ministry of Health, Uganda aims at vaccinating at least 49.6% of its population (21,936,011) with Oxford University–AstraZeneca COVID-19 vaccine at different phases [27].

METHODOLOGY

Study design

A quantitative cross section study approach was conducted in order to assess the socio-demographic factors regarding the uptake of COVID-19 vaccine among people living in Ishaka, Bushenyi District

Study Site

The study was conducted in Ishaka town, Bushenyi-Ishaka municipality, in Bushenyi district. Study population

The study was conducted among people living in Ishaka, Bushenyi District

Inclusion criteria

It included people living in Ishaka, Bushenyi District that were available at the time of collectingdata and willing to participate in the study.

Exclusion criteria

Those who decline to participate in the study.

Sample size determination

The sample size was to be determined using the Kish Leslie‟s formula (1965)

$$n = \frac{(Za/2)^2 p(1-p)}{e^2}$$

n=317 people

Where n is the required sample size, p is the approximate number of people living in Ishaka, Bushenyi District, and e is the permissible error in the estimate

Sampling procedure

A simple random and purposive sampling technique was used to choose respondents toparticipate in the study, from whom the data was collected.

Data collection method and tools

Data was collected using an interviewer-administered questionnaire which was adopted from Bono et al., (2021), and adjusted to fit this study. The researcher met with the targeted respondents that participated in the study, after obtaining permission for data collection from respondents. Each participant was required to give an informed consent before enrolling in the study. The researcher assisted the respondents in filling the questionnaires by explaining to the respondents for clarifications. The properly filled questionnaires were then collected and then data taken for analysis. The researcher used structured questionnaires and participants were asked similar questions and from options, they picked the best alternative. A pen and paper was used to record the necessary information.

Data analysis

The qualitative data collected was statistically analyzed and documented using SPSS v.16. The analyzed data was then presented in form of tables and graphs as shown in chapter four, discussed as in chapter five and conclusion made.

Ethical considerations Consent

Informed consent was sought from Participants regarding the research. Each participant's choice

to participate or not was respected and data collected from participants was kept confidential.

RESULTS

In this study majority of the participants 215(67.8%) were males and minority 102(31.2%) were females. Most of them 108(34.1%) aged between 31-40 years, 80(25.2%) aged between 21-30 years, 52(16.4%) 41-50 years, 40(12.6%) 18-20 years, 27(8.5%) 51-60 years and 10(3.2%) 61-70 years old.

Table 1 showing the age range of the participants

	Frequency	Percentage
18-20 years	40	12.6%
21-30 years	80	25.2%
31-40 years	108	34.1%
41-50 years	52	16.4%
51-60 years	27	8.5%
61-70 years	10	3.2%

Most 129(40.7%) had attained secondary, 113(35.6%) tertiary and 75(23.7%) primary level. Majority 235(74.1%) were Christians, 72(22.7%) Muslim while minorities 10(3.2%) were pagans. Most participants 100(31.5%) were business men, 82(25.9%) working in the private sector, 61(19.2%) students, 45(14.2%) civil servants while 19(6%) were unemployed. 166(52.5%) were not married while 151(47.6%) were married while. 254(80.1%) live in an urban area while 63(19.9%) live in a rural setting. Majority 192(60.6%) of the participants earn less than one million a month, 80(25.2%) no monthly salary, 30(9.5%) earn between one million and two million while minority 15(4.7%) were earning more than two million.

Table 2: showing the socio-demographics of participants

	FREQUENCY	PERCENTAGE
GENDER		
Male	215	67.8%
Female	102	31.2%
EDUCATION LEVEL		
Primary	75	23.7%
Secondary	129	40.7%
Tertiary	113	35.6%
OCCUPATION		
Business person	100	31.5%
Civil servants	45	14.2%
Private sector	82	25.9%
Retired persons	10	3.2%
Still a student	61	19.2%
Unemployed	19	6%
RELIGION		
Christian	235	74.1%
Muslim	72	22.7%
Pagan	10	3.2%
MARITAL STATUS		
Married	151	47.6%
Not married	166	52.5%
Monthly income		
1million to 2 million	30	9.5%
Less than 1 million	192	60.6%
More than 2 million	15	4.7%
No monthly salary	80	25.2%
NATURE OF RESIDENCE		
Rural	63	19.9%
Urban	254	80.1%

It was found that 316 (99.7%) participants knew about covid-19 while only 1(0.3%) did notknow, as in table 2 below.

Table 3: showing the knowledge of participants on covid-19 vaccine

	Frequency	Percentage
Have heard about covid-19 vaccine		
Yes	**316**	**99.7%**
No	**1**	**0.3%**
Can one be re-infected after recovering from COVID-19 infection?		
Yes	**187**	**60.0%**
No	**130**	**40.0%**
COVID-19 can be prevented by vaccine		
Yes	**254**	**80.1%**
No	**63**	**19.9%**
There is currently an effective vaccine against COVID-19		
Yes	**299**	**94.3%**
No	**18**	**5.7%**

It was also found that 187(60.0%) thought one can get re-infected while 130(40.0%) thought re-infection is impossible. It was also found that 254(80.1%) Participants believed that covid-19 can be prevented through vaccination while 63(19.9%) thought it cannot be prevented.
It was also found that 299(94.3%) believed that there is an effective vaccine against covid-19 while 18(5.7%) believed there wasn't any effective vaccine.
It was found that 235(74.4%) of the participants had not been vaccinated while 82(25.9%) had not been vaccinated. Those who were not vaccinated, only 65(27.7) % were willing to get vaccinated and 170(72.3%) were not willing to get vaccinated.

Table 4: showing the uptake and attitude on the covid-19 vaccine

	Frequency	Percentages
Have you ever been vaccinated		
Yes	82	25.9%
No	235	74.4%
TOTAL	**317**	**100%**
If you answered "No" above, are you willing to be vaccinated against COVID-19?		
Yes	65	27.7%
No	170	72.3%
TOTAL	**235**	**100%**
If you answered "No" above, what are the possible reasons for refusing to take the COVID-19 vaccine		

I don‟t think COVID-19 exists	1	0.6%
I think the vaccine is not effective	18	10.6%
I think the vaccine is designed to harm us	32	18.8%
I am scared of side-effects of the vaccine	69	40.6%
My body is naturally strong, I don‟t need a vaccine to fight COVID-19	15	8.8%
I already had COVID-19, so I think I am immune to the disease	21	12.4%
The COVID-19 pandemic is finished in my country, no need for a vaccine now	14	8.2%
TOTAL	**170**	**100%**
COVID 19 vaccine is Importance to protect oneself from infection		
Disagree	45	14.2%
Neutral	15	4.7%
Agree	257	81.1%
TOTAL	**317**	**100%**
COVID 19 vaccine is Importance to protect others from infection		
Disagree	67	21.1%
Neutral	10	3.2%
Agree	240	75.7%
TOTAL	**317**	**100%**

According to the study, the reason for vaccine refusal differed among individuals with 69(40.6%) individuals fearing side effects, 32(18.8%) thinking that the vaccine would it cause harm, 21(12.4%) had already suffered from COVID-19,18(10.6) had it in mind that the vaccine is not effective, 15(8.8%) had strong immunity, 14(8.2%) believed that the pandemic had endedand 1(0.6%) had it in mind that COVID-19 never existed. Participants were also evaluated on their thought about covid-19 vaccine ability to protect oneself, it was found that 257(81.1%) agreed, 15(4.7%) were neutral and 45(14.2%) disagreed. The study also evaluated on thought about the ability of the covid-19 vaccine weather other people from infection and it was foundthat 240(75.7%) agreed, 10(3.2%) neutral and 67(21.1%) disagreed with this statement According to this study, the participants who believed of having immunity, feared side effects were less likely to take up the covid-19 vaccine.

DISCUSSION

According to the study it was found that 74.4% of the participants had not been vaccinated while25.9% had been vaccinated this is not in line with the national statistics that showed that 45% of people in Uganda have received at least one vaccine dose, and 33% are fully vaccinated.

In this study majority of the participants 67.8% were males and minority 31.2% were females.This is in line with Most of them 34.1% aged between 31-40 years, this is not in line with the study aimed at determining socio-demographic factors associated with acceptance of vaccinesand clinical trials of COVID-19 in western Uganda, the acceptance rate for COVID-19 vaccination where most participants were aged 18–20 years 25.2%aged between 21-30 years however most participants in this study were male that concurs with this study.

Most 40.7% had attained secondary, 35.6% tertiary and 23.7% primary level this may be because this research was carried out in town. Most participants 31.5% were

business men, 25.9% working in the private sector, 19.2% students, and 14.2% civil servants while 6% were unemployed. 52.5% were not married while 47.6% were married while. 80.1% live in an urban area while 19.9% live in a rural setting.

According to this study, only 27.7% were willing to get vaccinated this concurs with the findings in the study in Democratic Republic of Congo (DRC) in which doctors had a low (27.7%) acceptability for COVID-19 vaccines despite the study being done among doctors. however, this was not in line with the study done by Viswanath *et al.* [26], where about 65– 68% of the sample in their study was willing to get a vaccine for themselves or children this difference may be because of population size in which the research was conducted plus the sampling technique used. And neither does it agree with research done by Bongomin *et al.* [30] where 70.1%) participants were willing to accept the COVID-19 vaccine.

According to this study, the participants who believed of having immunity were less likely to take up the covid-19 vaccine, this concurs with the study were participants who agreed or strongly believed that they have some immunity against COVID-19 were also significantly less likely to accept the vaccine, Bongomin *et al.* [30]

African countries (Democratic Republic of Congo, Benin, Uganda, Malawi, and Mali) had lower acceptance odds compared to Brazil. Individuals who perceived taking the vaccine as important to protect themselves had the highest acceptance odds at 95% effectiveness [31] this was in line with the findings of this study

According to this study, the reason for vaccine refusal differed among individuals with the most 40.6% individuals fearing side effects, this agrees with the study that the main reasons underpinning vaccine refusal were fear of side effects (41.2%) and lack of confidence in vaccine effectiveness (15.1%) [31-32].

CONCLUSION

Very few People living in Ishaka Bushenyi district have been vaccinated against COVID-19. Most people also have the knowledge about Ccovid-19 vaccine and good attitude toward covid- 19 vaccine. Despite the knowledge people of Ishaka have about the COVID-19 Vaccine, there uptake of thevaccine has remained low with most people fearing the side effects of the vaccine.

REFERENCES

1. Olum, R. and Bongomin, F. (2020). Coronavirus Disease-2019: Knowledge, Attitude, and Practices of Health Care Workers at Makerere University Teaching Hospitals, 8: 1–9. https://doi.org/10.3389/fpubh.2020.00181
2. Obeagu, E. I., Babar, Q., Vincent, C. C., Okafor, C. J., Eze, R., Chijioke, U. O., Ibekwe, A. M. and Uduchi, I. O. (2021). Pulmonary Embolism in Covid-19 Pandemic: A Threat to Recovery of the Infected Patients. Journal of Pharmaceutical Research International, 33(42A):90-8.
3. Obeagu, E. I., Babar, Q., Uduchi, I. O., Ibekwe, A. M., Chijioke, U. O., Okafor, C. J. and Vincent, C. C. (2021). An Update on Transfusion Related Immunomodulation (TRIM) in a Time of COVID-19 Pandemic. Journal of Pharmaceutical Research International, 33(42A):135-46.
4. Okorie, N., Adeniran, O. C., Adimabua, O. P., Obeagu, E. I. and Anastasia, E. (2022). Pathological Changes among Norvegicus Rattus Exposed on Novel Smoked Bambusa Vulgaris (Bamboo) Leaf: Cigarette Substitute during COVID-19 Lockdown in Nigeria. Journal of Advances in Medical and Pharmaceutical Sciences, 24(7):30-9.
5. Nakyeyune, S., Ikpenwa, J. N., Madekwe, C. C., Madekwe, C. C., Tolulope, A. A., Ajayi, D. T., Obeagu, E. I. and Hassan, A. O. (2022). COVID 19 Omicron: The Origin, Presentation, Diagnosis, Prevention and Control. Asian Journal of Research in Infectious Diseases, 3:25-33.
6. Etido, A., Obeagu, E. I., Okafor, C. J., Chijioke, U. O., Vincent, C. C. and Mojo-Eyes, G. C. (2021). The Dynamics of Innate and Adaptive Immune Response to Sars Cov-2 Infection and Its Limitations in Human Beings. Journal of

Pharmaceutical Research International, 33(45A):10-25.
7. Obeagu, E. I., Nwosu, D. C. and Obeagu, G. U. (2022). Interleukin-6 (IL-6): A Major target for quick recovery of COVID-19 patients. Int. J. Curr. Res. Biol. Med., 7(2): 1-19. DOI:http://dx.doi.org/10.22192/ijcrbm.2022.07.02.001
8. Fiolet, T., Guihur, A., Rebeaud, M. E., Mulot, M., Peiffer-smadja, N. and Mahamat-saleh, Y. (2019). Effect of hydroxychloroquine with or without azithromycin on the mortality of coronavirus disease 2019 (COVID-19) patients: a systematic review and meta-analysis. *Clinical Microbiology and Infection*, *2020.* https://doi.org/10.1016/j.cmi.2020.08.022
9. Ogar, C. O., Okoroiwu, H. U., Obeagu, E. I., Etura, J. E. and Abunimye, D. A. (2021). Assessment of blood supply and usage pre-and during COVID-19 pandemic: a lesson from non-voluntary donation. Transfusion Clinique et Biologique, 28(1):68-72.
10. Obeagu, E. I. and Babar, Q. (2021). Covid-19 and Sickle Cell Anemia: Susceptibility and Severity. J. Clinical and Laboratory Research, 3(5):2768-0487.
11. Obeagu, E. I. (2022). COVID 19: Factors Associated with Implementation and Practice of Covid-19 Prevention. Int. J. Adv. Multidiscip. Res., 9(9):37-42.
12. Shamshirian, A., Hessami, A., Heydari, K. and Alizadeh-navaei, R. (2020). The Role of Hydroxychloroquine in the Age of COVID-19: A Periodic Systematic Review and Meta- Analysis the Role of Hydroxychloroquine in the Age of COVID-19: A Periodic SystematicReview and Meta-Analysis. 0–24.
13. Nnodim, J., Njoku-Obi, T., Ohalete, C. and Obeagu, E. I. (2022). Perspective of Covid 19 Hesistancy. Madonna University journal of Medicine and Health Sciences, 2(1):235-8.
14. Obeagu, E. I., Babar, Q., Vincent, C. C. and Anyanwu, C. O. (2021). Infants Immunization: Challenges of other Vaccines Due to Covid-19 Pandemic. Journal of Bioinnovation, 10(4):1056-66.
15. Obeagu, E. I., Scott, G. Y., Amekpor, F., Ofodile, A. C. and Chukwueze, C. M. (2023). A Systematic Review on the role of untreated inflammation of the genital tract in SARS COV 2 transmission. Madonna University journal of Medicine and Health Sciences, 3(1):19-24.
16. Furtado, R. H. M., Berwanger, O. and Fonseca, H. A. *et al.* (2020). *Articles Azithromycin in addition to standard of care versus standard of care alone in the treatment of patients admitted to the hospital withsevere COVID-19 in Brazil (COALITION II): a randomised clinical trial. Coalition Ii.* https://doi.org/10.1016/S0140-6736(20)31862-6
17. Obeagu, E. I., Hamisi, S. and Bunu, U. O. (2023). An update on cytokine storm in covid-19 infection: Pivotal to the survival of the patients. Int. J. Adv. Res. Biol. Sci., 10(3):171-80.
18. Obeagu, E. I. (2020). Mental Health Care during the COVID-19 Pandemic. Journal of Public Health and Nutrition, 3(5).
19. Asogwa, E. I., Obeagu, E. I., Abonyi, O. S., Elom, C. O., Udeoji, D. U., Egbumike, C. J., Agunwah, E. U., Eze, C. N., Akamike, I. C. and Esimai, B. N. (2021). Mitigating the Psychological Impacts of COVID-19 in Southern Nigeria; Public Awareness of Routine Exercises and Preventive Measures. Journal of Pharmaceutical Research International, 33(30A):72-83.
20. Hassan, A. O., Obeagu, E. I., Ajayi, D. T., Tolulope, A. A., Madekwe, C. C., Madekwe, C. C., Ikpenwa, J. N. and Nakyeyune, S. (2022). COVID 19 Omicron: The Origin, Presentation, Diagnosis, Prevention and Control. Asian Journal of Research in Infectious Diseases, 11(1): 25-33.
21. Gbinigie, K. and Frie, K. (2020). Should azithromycin be used to treat COVID-19? A rapid review. 1–8. https://doi.org/10.3399/bjgpopen20X101094
22. Okorie, N., Obeagu, E. I., Adeniran, O. C., Onyema, A. S. and Agwu, U. (2022). Codeine Substitute Challenges Drug and Substance Abuse Controls in Nigeria: Histopathology Evaluations of Norvegicus rattus on Lacatomtom. Journal of Complementary and

Alternative Medical Research, 19(1):8-22.
23. Ifeanyi, O. E., Mercy, O. H., Prayer, N. N. and Chijindu, O. H. (2020). Cytokines, coagulation profile and haematological changes in covid 19 patients as indicators of their health staus: A review. European Journal of Biomedical, 7(7):724-9.
24. Obeagu, E. I., Scott, G. Y., Amekpor, F., Ugwu, O. P. and Alum, E. U. (2023). Covid-19 Infection and Diabetes: A Current Issue. International Journal of Innovative and Applied Research, 11(1):25-30.
25. Hassan, A. O., Obeagu, E. I., Ajayi, D. T., Tolulope, A. A., Madekwe, C. C., Madekwe, C. C., Ikpenwa, J. N. and Nakyeyune, S. (2022). COVID 19 Omicron: The Origin, Presentation, Diagnosis. Prevention and Control. Asian Journal of Research in Infectious Diseases, 11(1):25-33.
26. Viswanath, K., Bekalu, M., Dhawan, D., Pinnamaneni, R., Lang, J. and Mcloud, R. (2021). *Individual and social determinants of COVID-19 vaccine uptake*, 1–10.
27. Echoru, I., Ajambo, P. D., Keirania, E. and Bukenya, E. E. M. (2021). Sociodemographic factors associated with acceptance of COVID-19 vaccine and clinical trials in Uganda: a cross-sectional study in western Uganda, 1–8.
28. Okoroiwu, H. U., Okafor, I. M., Asemota, E. A., Ogar, C. O. and Uchendu, I. K. (2021). Coping with COVID-19 pandemic in blood transfusion services in West Africa: the need to restrategize. Hematology, Transfusion and Cell Therapy, 43:119-25.
29. Ifeanyi, O. E. (2020). Emerging clinical & medical challenges and appropriate solutions during COVID-19 pandemic times. Med Clin Rev., 6(5):108.
30. Bongomin, F., Olum, R., Andia-biraro, I., Nakwagala, F. N., Hassan, K. H., Nassozi, D. R., Kaddumukasa, M., Byakika-kibwika, P., Kiguli, S. and Kirenga, B. J. (2021). COVID-19 vaccine acceptance among high-risk populations in Uganda, 1–15. https://doi.org/10.1177/20499361211024376
31. Bono, S. A., Faria, E., Villela, D. M., Siau, C. S., Chen, W. S., Pengpid, S., Hasan, M. T., Sessou, P., Ditekemena, J. D. and Amodan, B. O. (2021). Factors Affecting COVID-19 Vaccine Acceptance: An International Survey among Low- and Middle-Income Countries, 1–19.
32. Daniel, M. F. and Nyanchoka, O. A. (2023). Assessment of the impact of COVID-19 on access of HIV care and Antiretroviral Therapy at selected health facilities in Bushenyi District, Uganda. INOSR Scientific Research. 9(1), 1-12.

Mukwaya, Apollo Nicholas (2023). Assessment of Factors Influencing the Uptake of Covid-19 Vaccine among People Living in Ishaka, Bushenyi District in Uganda. INOSR Experimental Sciences 11(3):39-46.