Original Research Article

How Demographic Factors Affecting Acceptability of COVID 19 Vaccination: Experience from Community Members in Iringa Municipality

Abstract

COVID 19 vaccination was fast key intervention against the COVID-19 pandemic. Vaccine acceptance among community members is essential to promote uptake. This study, aimed to examinehow demographic factors affecting accessibility of COVID 19 vaccination in Tanzania among community members. The study was qualitative and quantitative in nature where cross section research design was used to capture data at one time.

Questionnaire was used to collect data for statistical analysis from community members who were vaccinated and non-Vaccinated. Questionnaire was found to be suitable as it captures measurable data suitable for research questions. We collected quantitative data by using an interviewer administered questionnaire and qualitative data, using in-depth interviews and focus group discussions.Participants in the quantitative aspect were conveniently selected whereas those in the qualitative aspect were purposively selected based on their role in patient care, management, and vaccine provision. Snow ball and Simple random sampling was used to draw 108 respondents from the targeted population in the context of Iringa Municipality.Statistical Package for Social Science analysis software version 26 was used in the analysis of quantitative data and thematic analysis for the qualitative data.

Using descriptive statistical analysis,findings revealed that demographic factors had effect on acceptability on COVID19 vaccination on communitymembers.This study recommends There is a need to launch an effective vaccine education program on radio, television, print, and social media to increase knowledge about vaccination so that Tanzania can achieve immunization against COVID-19 among community members.

Key Word: Acceptability, COVID 19 vaccine, Vaccination, Demographic Variables

1. Introduction

Vaccinationis the most way in protecting public health from the corona virus disease (COVID19), leading to a decrease in the mortality and morbidity of infectious disease which save millions of lives annually (WHO 2021). Due to the Continue transmission of corona virus disease (COVID 19) and lack of effective measures such as pharmacological measures against virus infection and disease, vaccination became as major way to prevent corona virus disease (COVID 19).However, vaccines were produced more in response to pandemic,In Tanzania the little was known toward acceptability of Corona virus disease vaccination due to spread of fake news and misinformation and change in perception of disease risk (Lin *et al* ., 2021) andfurthermore,some of the studies had shown that there is problem in accepting the COVID 19 vaccine, and decided to find out what factors affecting the acceptability of COVID 19 vaccination programme among community members such demographic factor, (Yasor*et al*., 2021). Previous empirical studies have evidenced that older people, female and groups were at more risk of COVID 19 pandemic due to vaccine refusal (Ayaz *et al.,* 2022 and Ghare *et al.,* 2023).In Tanzania, Chilongola (2020) maintained occupation (teachers, health care workers, and students) were shown to be more hesitant about vaccination. In this study, healthcare workers (HCWs) were averse to get COVID-19 vaccine. Konje*et al.,* (2022):Amour*et al.,* (2023) found that uptake of the COVID-19 vaccine among health professionals was low, with less than a quarter being vaccinated across all surveyed districts in western Tanzania.

However, demographic factors had been shown to be factor affecting acceptability for COVID 19 vaccination among community members.The study focused to examine how the demographic factors can affect the acceptability of the COVID 19 vaccination among community member using the Health Belief Model of Jones (2015). In his Model, the author advocates that the model have key elements focus on individual beliefs about health conditions, which predict individual health related behaviors. In spite of the evidence that Demographic factors had effect on acceptability of COVID19 vaccination among community members, some of the empirical evidence had found employment status donot seem to affect a personto acceptthe vaccine againstCOVID-19 (Liu et al., 2021; Wang, Q. et al., 2021).Looking at agefor example, there are studies that observe no significant effect of age onCOVID-19 vaccination acceptability (Alley *et al*., 2021) or that youngerpeople are more acceptance to get vaccine than older people (Liu *et al.*,2021). Most research, however, points towards a larger vaccinationacceptance for COVID-19 among older generations (Acheampong *et al.*,2021; Banik *et al*., 2021; Cascini*et al*., 2021;

Kesselset *al*., 2021; Wang,Q. *et al*., 2021), as they are generally more afraid of severe healthconsequences in case of infection and have previously experienced othersuccessful vaccination campaigns. In terms of education, the findings arejust as mixed. In their review of vaccination acceptabilityonEducation level Solís Arce *et al*. (2021) find that less-educatedparticipants were more acceptable to get vaccine in most studies coveringSub-Saharan Africa. Nevertheless, Acheampong *et al*. (2021) find nosignificant effect of education on vaccination acceptance in Ghana. Ontop of that, higher levels of education are positively correlated withvaccination acceptance in adults in the United States (Kreps *et al*., 2021).Therefore, filled the gap by answering the research question that; how demographic factors affect the acceptance of COVID-19 vaccines.

2. Material and Methods

The study adopted qualitative and quantitative approach. As Kothari (2004) argued, Qualitative approach refers to a form of research which involves description to obtained data, while quantitative approach is defined as the generation of data in the quantitative form, which focus to enable collection and analysis of data made it simple to determine factors that had been affected the acceptability of COVID 19 vaccination in the current study, quantitative approach was used to allow a researcher to collect statistical data for research question on how demographic factor affecting the acceptability of COVID 19 vaccination. To obtain the statistical data, the author administered a structured survey to Community members in Iringa Municipality. Simple random sampling was used to draw valid sample of 54 non-Vaccinated and snow ball for 54 Vaccinated respondents from the population who were community members. 2 key informants from health facilities and 10 respondentsfor Focus group Discussion.

3. Results and discussion

Table 1 below present the finding on how demographic factors affect acceptance of vaccination in Iringa.

Table 1: Demographic factors of the respondents (n=108)

	Vaccinated		Non Vaccinated	
Age of Responders	N	%	N	%
18-27	8	14.8	25	46.3
28-37	9	16.7	17	31.5
38-47	12	22.2	6	11.5
48-57	13	24.1	5	9.3
58+	12	22.2	1	1.9
Total	**54**	**100**	**54**	**100**
Gender of respondents	n	%	N	%
Male	32	59.3	19	35.2
Female	22	40.7	35	64.8
Total	**54**	**100**	**54**	**100**
Education level of the respondents	N	%	N	%
Primary	21	38.9	13	24.1
Secondary	26	48.1	10	18.5
Certificate	2	3.7	5	9.3
Diploma	4	7.4	16	29.6
Degree	1	1.9	0	0
Uneducated	0	0	10	18.5
Total	**54**	**100**	**54**	**100**
Occupation of the respondents	N	%	N	%
Farmer	15	27.8	7	13
Entrepreneur	21	38.9	13	24.1
Employees	10	18.5	19	35.2

Unemployed	8	14.8	15	27.7
Total	**54**	**100**	**54**	**100**

Source; interview with respondents 2023

The interpretation of this results is elaborated as follows

3.1. Age

The respondents' ages ranged from 18 to 58+ with average years of 38 years. The ages were put into five groups, 18-27 years, 28-37 years, 38-47 years, 48-57 years and aged 58 and above. The distribution is presented in Table below. The categorization showed that aged between 48-57 years was the prominent group of accepting COVID 19 vaccine, representing 24.1% of all the respondents in the Vaccinated group. The reason for most respondents belonging to this group was most of them had high risk of getting Corona Virus Disease.

While for the non-vaccinated respondents, the greater number of the respondents in this category was 18-37 years, representing 46.3 % of all the respondents in the non-Vaccinated. They were not influenced to accept COVID 19 vaccine because of the some of the reasons such as their body had enough immunity which can help them to be safe and some of them, they had fear on COVID 19 vaccine can cause side effect to them.

During Focus group discussion, community members said people with more than 40 ages had more acceptability of COVID 19 vaccine, had fear of being affected with corona virus disease because they get different information from different source of information that COVID 19 it so dangerous. And for those who were not vaccinated most of youth were not accept vaccine because they get misinformation about COVID 19 vaccine and said Vaccine it not cures for them but it has side effect such it destroys reproductive system. Felt that the COVID-19 vaccines had potential adverse effects. The fear of potential adverse effects has been reported to be one of the major reasons leading to vaccine hesitancy (Lazarus, *et al*., 2021; Edwards *et al.*, 2021;). individuals aged 41-50 years were willing to receive the vaccine (Elhadi *et al*. 2021).

3.2. Sex

The findings on sex status showed that 59.3% of the respondents were males who accept to take COVID 19 vaccine and for non-Vaccinated 64.8% were female who were not accept to be

vaccinated. This showed that the Vaccine acceptance was higher among men compared to women. The low number of females to accept the COVID 19 vaccine was probably due to the male they are more affected with COVID 19 pandemic than women. From Focus Group Discussion with community member the following despondence were tapped; male was too mobile as they interact with the general population more often than female, females mention the use of other vaccines and medicines has limited their acceptance of other medicinal treatment. The findings of this study are similar with the report from reviewed literatures where it has been maintained. Nery *et al*., (2022); Tayyaba, *et al.* (2021**);** Echoru*et al*., (2021) found that Vaccine acceptance was higher among men compared to women.

3.3 Level of Education

Concerning level of education, the study revealed that 38.9% and 48.1% had primary and secondary level of education respectively had more acceptance on COVID 19 vaccine compared with other levels. Higher level of education acceptability of COVID19 vaccine was low for respondents who were vaccinated. This implies that COVID 19 vaccine acceptability was not determined by the level of education. For those who were not vaccinated, 29.6% of the respondents had Diploma level of education and uneducated were 18% The data revealed that majority of vaccinated respondents had primary and secondary level of education, this is due to the fact that, many of the community members had primary and secondary level of education in area data were collected, compared to those with high level of education. The difference in level of education means there could be difference on the way people perceive things or issues related with COVID 19. The difference in level of education aids the study to gather different opinion**.** From this study it may be on the people and place were data it's collected, gave us this result of few people with high level of education did not accept COVID 19 vaccine.

From Focus Group discussion, community members said that for people to be affected with COVID 19 pandemic it cannot depend on the level of education, everyone's can get Corona virus disease and more people either have low or high level of education not living with high-risk group were relatively having poor perception on COVID 19 vaccination, hence it greatly affected the acceptance of Covid-19 vaccine. Therefore, people living with high risk increasing the likelihood of vaccine acceptance and not the level of education. The findings of this study are similar with Nurul *et al.,* (2021) found that, people with low education levels, low income and

not living with high-risk groups were relatively having poor perception on COVID 19 vaccination,

3.4 Occupation

It was found by the study that among the vaccinated, 38.9% were entrepreneurs and 27.8% of respondents were famers had high accepted of COVID 19 vaccine than employees and unemployed,this implies that, entrepreneurs were most vulnerable to get COVID 19 disease. Compared to non-Vaccinated the study found that an employees had low acceptability on COVID19 vaccination, representing 35.2% were not taking the vaccine.

In focus group discussion, participants gave out the same reasons, Entrepreneurs were more acceptable to take COVID19 vaccine because were more vulnerable and needed to get self-protection and their families from pandemic. Evidence has shown that employees were likely to receive a COVID-19 vaccine if their employer recommended it (Lazarus *et al*., 2021). Steward *et al*., (2022) found that entrepreneurs were more likely to accept the COVID-19 vaccine than those employees

4. Conclusion

COVID-19 vaccines acceptability was higher in the general population particularly in elderly people, males, people with less education and Entrepreneurs. There is a need to make an effective vaccine education program on radio, television, print, and social media to increase knowledge about vaccination so that Tanzania can achieve immunization against COVID-19 among community members.

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