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Perception and Knowledge Level of Yam Farmers on COVID-19 Pandemic in Taraba State, Nigeria

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ABSTRACT

The main objective of the study was to determine the perception and knowledge of yam farmers on COVID-19 pandemic in Taraba State. A total of 120 respondents were purposively selected from 8 village communities of 4 local government areas of the state. The local government areas were: Wukari, Ibbi, Yorro and Zing. Data were collected on perception of farmers on COVID-19 pandemic, knowledge of yam farmers on COVID-19 disease and farmers source of information on COVID-19 pandemic. Data collected were presented using frequency and percentages, mean score and standard deviation. The result of the analysis revealed that the respondents perceived that COVID-19 pandemic poses danger to livelihood ($\bar{x}$=3.79), COVID-19 pandemic exists ($\bar{x}$=3.54), COVID-19 pandemic is contagious ($\bar{x}$=3.48) and COVID-19 pandemic brought health complications to farmers ($\bar{x}$=3.47). Respondents had good knowledge of COVID-19 pandemic as the majority (76.7%) know that maintaining social distance can prevent COVID-19 infection, about 76% were aware that COVID-19 is a contagious disease and 74.2% were knowledgeable that hand washing with soap on a regular basis can help to prevent COVID-19 infection. Respondents had multiple sources of information on COVID-19 pandemic as all (100%) of the farmers cited radio as a source of their information on COVID-19 pandemic, 90.8% rely on family members and 90% rely on friends as a source of their information on COVID-19 pandemic. It was recommended that government should establishing institutional frameworks, policies and procedures for pandemic preparedness and response.

INTRODUCTION

The COVID-19 pandemic virus was first identified and reported in Wuhan city of China in December, 2019 (Du, 2020). The virus was highly contagious, spread globally in a short period and was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020. Nigeria declared its confirmed first case of COVID-19 disease on February 27, 2020 (Jacob et al. 2020). Largely due to Nigeria's poor health system, WHO declared Nigeria as one of the 13 high-risk African nations for the transmission of COVID-19 disease (Marbot, 2020). The Nigeria Centre for Disease Control (NCDC, 2020), reported that 36 states in Nigeria and the Federal Capital Territory have recorded cases of COVID-19 disease. As of June 28, 2023, 266,675 confirmed cases

and 3,155 COVID-19 was reported in Nigeria according to the WHO COVID-19 Dashboard (WHO, 2023). Taraba State documented 1,473 cases of COVID-19 disease (Statista, 2022). Following global practice, there was an announcement of a statewide lockdown (Ibrahim et al 2020).

Irrespective of the obvious impacts of the pandemic on agriculture, farmers still differ in their perception of its effect. For example, a study conducted by Ogubuike et al., (2021), on knowledge, perceptions and practices of Corona Virus amongst female farmers in Nigeria, asserted that some farmers did not accept that COVID-19 disease exist, they perceived it as a political strategy for making money, some interpreted it as foreign-sourced disease from China, some perceived it as a severe fever akin to malaria and typhoid while others believed that COVID-19 exists and perceived it as a viral, deadly and contagious disease. Farmers' perception of the effects of COVID-19 on their agricultural cropping systems includes limited crop inputs all year round, limited ability to plant crops for the season, diminished crop yields and inability to hire machinery (Middendorf et al., 2021). Some farmers' perception is with respect to output cost, input cost, limited access to supplies, farmers' inability to continue farming because of a decrease in crop income, reduction in the purchasing power due to a decline in the household income and farmers' incapacity to maintain their farm activities due to health challenges (Martey et al., 2021).

West Africa accounts for over 90% of world yam production with Nigeria, the largest producer followed by Ghana and Cote d'Ivoire (FA0, 2020). Nutritional advantages yam offers includes proteins, fats, minerals and vitamins (Nyaboga et al., 2014). In terms of fiber, carbohydrates and minerals, yam mostly meets dietary demands of households (Degla & Sourokou, 2020). While yam is one of the most important staple root and tuber crops worldwide, it is still classified as an orphan crop because it is highly underutilized and receives little investment and research attention toward crop improvement (Degla & Sourokou, 2020). In addition, yam is often not prominent in the policies and resources of many governments and regional development agencies (Mignouna et al., 2019), even in this pandemic era. This therefore created the research gap on the perception and knowledge of yam farmers on COVID-19 pandemic. The overall purpose of this study was to ascertain the perception of COVID-19 pandemic by yam farmers in Taraba State, Nigeria. Specifically, the study sough to: ascertain knowledge levels of yam farmers about COVID-19 disease; ascertain ascertain yam farmers' perceptions of COVID-19 pandemic and ascertain farmers' source of information on COVID-19 pandemic.

METHODOLOGY

The study was conducted in Taraba State, Nigeria. The state is one of the states in north east geopolitical zone. The state lies between latitude $6^{0}30^{11}$ and $9^{0}36^{11}$ north of the equator and longitudes $9^{0}10^{11}$, $11^{0}50^{11}$ East of Greenwich Meridian (Abdulhamid et al., 2020). The state has a land area of 54,473km^{2} and a population of 3,331,885 people (National Bureau of Statistics, 2020). The state has two climatic seasons- the wet season, which begins in April and ends in October, and the dry season, which begins in November and ends in March. In the southern part of the State, annual rainfall and relative humidity are comparatively high (Hassan et al., 2022).

Multistage sampling procedure was used to select the sample size. In the first stage, two senatorial zones (Northern and Southern senatorial zones) were purposively selected for the study because of their proven strength and popularity in yam production. In the second stage, two high yam producing local government areas were purposively selected from each of the senatorial zones giving a total of four local governments. In the third stage, two dominant yam farming town communities were purposively selected in each of the selected local governments giving rise to 8 town communities. In the fourth stage, one village community was purposively selected from each of the selected town communities making a total of 8 village communities. In the last stage, 15 yam

farmers were randomly selected from each of the selected villages. Hence, a total of 120 respondents were used for the study. Data for this study were collected from the respondents using structured interview schedule and descriptive statistics such as frequency, percentages, mean score, standard deviation and were used to analyze the objectives.

RESULTS AND DISCUSSIONS

Respondent's Knowledge of COVID-19 Disease

Table 1 shows the Knowledge of the respondents on COVID-19. The result reveals that the majority (76.7%) of the respondents knew that maintaining social distance can prevent COVID-19 infection and fever, dry cough and fatigue are common symptoms of COVID-19, about 76% were aware that COVID-19 is a contagious disease, originated from China and can be contacted through contaminated surfaces. Also, 74.2% were knowledgeable that hand washing with soap on a regular basis can help to prevent COVID-19 infection and COVID-19 symptoms may appear 2-14 days after exposure to the virus, 73.3% of the respondents were aware that avoiding crowded places such as market can help to prevent the infection, COVID-19 can be transmitted through handshaking and COVID-19 symptoms include cold, cough and fever. Also, 71.17% were aware that COVID-19 virus is backed with scientific evidence, people aged 60 years and over and those with underlying medical problems are more likely to have severe cases of the virus and COVID-19 vaccine provide protection against COVID-19 disease. The result further shows that 67.5% of the respondents were aware that COVID-19 is the disease caused by a virus called SARS-COV-2 and it is necessary to take precautionary measures to prevent the infection by the COVID-19 virus were as 66.7% of the respondents were of the knowledge that vitamin and mineral supplements can help to strengthen the immune system against COVID-19. This finding is in agreement with the study conducted by Ogubuike et al., (2021), who found that 74.3% of farmers in Nigeria believe that dry cough, fever, sneezing and difficulty in breathing are the most common symptoms of COVID-19 pandemic. Also, Dhaka et al., (2021), found that the easiest strategy to avoid the spread of COVID-19 virus is to maintain social distance. Similarly, Lake (2020), found that COVID-19 is a contagious disease that spreads rapidly and poses a significant threat to health worldwide. Haque (2020), was of the opinion that handwashing is an old age concept that has been proven effective in slowing the transmission of COVID-19. Regular handwashing not only helps curb the spread of the virus but also offers notable health advantages and is a cost-efficient measure to alleviate the burden of COVID-19-related illnesses. Further analysis was carried out to determine the level of knowledge. The result is presented in figure 1.

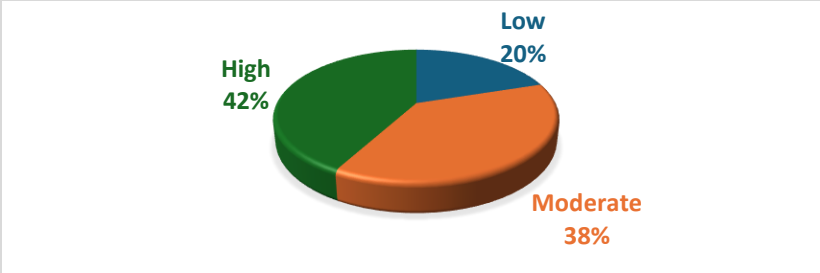


Figure 1: Knowledge level of respondents on COVID-19 disease

The result in Figure 1 depicts that greater proportion (42%) of the respondents had high knowledge of COVID-19 disease, 38% had moderate knowledge while 20% had low knowledge of COVID-19 disease. This implies that communication techniques have to be adjusted to meet the requirements of every knowledge group.

Table 1: Knowledge score about COVID-19 disease

Knowledge statements	Frequency	Percentage
Positive statement		
The most common symptoms of COVID-19 are fever, dry cough and fatigue	92	76.7
Maintaining social distance can prevent COVID-19 infection	92	76.7
COVID-19 is a contagious disease	91	75.8
COVID-19 can be contacted by contact with contaminated surfaces	91	75.8
COVID-19 pandemic started from China	91	75.8
COVID-19 symptoms may appear 2-14 days after exposure to the virus	89	74.2
Hand washing with soap on a regular basis can also help to prevent COVID-19 infection	89	74.2
Individuals should avoid going to crowded places such as markets to prevent infection	88	73.3
COVID-19 can be transmitted through handshaking	88	73.3
Covid-19 symptoms include cold, cough and fever	88	73.3
COVID-19 virus is backed with scientific evidence	86	71.7
People aged 60 years and over and those underlying medical problems are more likely to have severe cases of the virus	86	71.7
Covid-19 vaccine provide protection against Covid-19 disease	86	71.7
COVID-19 is the disease caused by a virus called SARS-COV-2	81	67.5
It is necessary to take precautionary measures to prevent the infection by the COVID-19 virus	81	67.5
Vitamin and mineral supplements can help to strengthen the immune system against COVID-19	80	66.7
COVID-19 is infectious disease	79	65.8
social distancing, isolation and quarantine can be used in preventing the spread of COVID-19	79	65.8
Black people are not immune to Covid-19 virus	79	65.8
COVID-19 pandemic is not like typhoid and malaria	77	63.9
Drinking gin, alcohol and herbal extracts cannot prevent contacting Covid-19	77	63.9
People who have COVID-19 experience some symptoms	74	61.7
antibiotics cannot be used as a means of prevention and treatment of COVID-19	72	60.0
COVID-19 variants include Omicron and Delta	65	54.2

Source: Field survey 2023

Respondent's Perception on COVID-19 Pandemic

Table 2 shows that the respondents had high perception in the following: COVID-19 pandemic poses danger to livelihood ($\bar{x}$=3.79), COVID-19 pandemic exists ($\bar{x}$=3.54), COVID-19 pandemic is contagious ($\bar{x}$=3.48), COVID-19 pandemic brought health complications to farmers ($\bar{x}$=3.47), COVID-19 pandemic is deadly ($\bar{x}$= 3.43), COVID-19 pandemic originated from China ($\bar{x}$=3.43), quarantine and social distancing can be used to prevent COVID-19 infection ($\bar{x}$=3.42), COVID-19 pandemic is scientifically proven ($\bar{x}$=3.39) and COVID-19 disease is curable ($\bar{x}$=3.28). The finding

implies that the respondents acknowledged the reality of the COVID-19 pandemic and its threat to health. The respondents' opinion may indicate that they are informed about the facts such as the scientific evidence, news from media and personal accounts of COVID-19 disease. They knew the severity of the disease, its impact on public health and the necessary measures to prevent its spread. Additionally, it suggests that the respondents are more likely to support measures that are critical to curbing the virus's spread such as vaccination, social-distancing and the use of face masks. Additionally, the fact that farmers are susceptible to higher risk of exposure because of their proximity to agricultural activities, interactions with farm workers and potential contact with contaminated surfaces may not be unrelated to their positive perception of the COVID-19 pandemic.

This finding reflects Akaninyene et al., (2022), study conducted on knowledge, attitude and perception of smallholder farmers on Corona Virus pandemic in Nigeria, which revealed that majority of the farmers believe that COVID-19 pandemic exists. Also, Obayelu et al., (2021), examined the impact of COVID-19 pandemic policies on smallholder farming households' incomes, employment and food security in Nigeria, and concluded that COVID-19 policies had negative impact on their livelihood.

On the other hand, the result shows that the respondents had low perception in the following areas: black people are immuned to COVID-19 pandemic ($\bar{x}$=1.92), COVID-19 pandemic is just like ordinary fever ($\bar{x}$=1.87), COVID-19 pandemic is set up to loot funds ($\bar{x}$=1.82), COVID-19 pandemic is meant to cause hardship in Africa ($\bar{x}$=1.78), COVID-19 pandemic does not exists ($\bar{x}$=1.72), taking precautionary measures against COVID-19 is not necessary ($\bar{x}$=1.69), COVID-19 pandemic is not transmittable ($\bar{x}$=1.68), COVID-19 pandemic is a scam ($\bar{x}$=1.62), COVID-19 disease has no cure ($\bar{x}$=1.55) and social distance and quarantine cannot be used to prevent COVID-19 infection ($\bar{x}$=1.53). The finding reveals that most of the respondents refute these claims. Also, the pandemic cannot be likened to a common fever because of its extensive impacts, which include a significant number of hospitalizations, fatalities and long-term health problems.

However, Ibrahim and Ekundayo (2020), conducted a study on misconceptionsss about COVID-19 pandemic among individuals in Nigeria. They assert that some people hold the belief that the COVID-19 virus will not be able to survive in equatorial regions due to the high temperatures that exist in these areas. They argue that the heat would be sufficient to destroy the virus.

Respondent's Information Source during COVID-19 Pandemic

Table 3 shows that farmers have multiple sources of information on COVID-19 pandemic. All (100%) of the farmers cited radio as a source of their information on COVID-19 pandemic. The effectiveness of radio in dispersing information to remote regions with limited access to other media, easy access and low-cost medium with broad audience can be attributed to this response. This agrees with Hudson et al. (2017), who stated that radio is one of the most widely utilized media for enlightening rural audiences throughout Sub-Saharan Africa because of its growing ownership and widespread use.

Table 3 also shows that respondents rely on family members (90.8%) and friends (90.0%) as a source of information on COVID-19 pandemic. This is not unconnected with the fact that COVID-19 pandemic is bedeviled with rumors and fake news that respondents sought to rely on family members and friends whom they entrust to source their information on COVID-19 pandemic. This supports the finding of Sokey and Adisah atta (2017), that studied constraints confronting rural people in assessing health information in Shai Osudoku rural district of Ghana, they found that the most preferred source of health information is family members.

Table 2: Perception of yam farmers on COVID-19 pandemic on yam production

Positive Perceptions	**Mean**	**Std. Deviation**
COVID-19 pandemic poses danger to livelihood	3.79*	3.81
COVID-19 pandemic exists	3.54*	0.93
COVID-19 pandemic is contagious	3.48*	0.98
COVID-19 pandemic brought health complications to farmers	3.47*	0.91
COVID-19 Pandemic is viral	3.47*	0.97
COVID-19 pandemic is deadly	3.43*	0.96
COVID-19 pandemic originated from china	3.43*	0.95
Preventive measures such as quarantine and social distancing can be used to prevent COVID-19 infection.	3.42*	0.89
COVID-19 pandemic is scientifically proven	3.39*	0.99
COVID-19 disease is curable	3.28*	1.02
COVID-19 pandemic is just like ordinary fever	1.87	1.05
COVID-19 pandemic is set up to loot funds	1.82	1.03
COVID-19 pandemic is meant to cause hardship in Africa	1.78	1.32
COVID-19 pandemic does not exist	1.72	1.03
Taking precautionary measures against COVID-19 is not necessary	1.69	1.00
Covid-19 pandemic is not transmittable	1.68	0.98
COVID-19 pandemic is a scam	1.62	0.98
COVID-19 disease has no cure	1.55	0.86
Social distance and quarantine cannot be used to prevent COVID-19 infection	1.53	0.85

Source: Field survey 2023. Cut-off points 2.5

Table 3 Further, revealed that (86.7%) of the respondents got their information via worship centres. In times of crisis, many individuals are likely to turn to religious institutions as their major source of information since they are frequently seen as reliable sources of information and guidance. Despite the lockdown measures imposed by government, people are allowed to attend only Friday prayers and Sunday church service in the study area. Additionally. Also, 85%, 80.8%, 65%, and 57.5% of the respondents sourced information from government-accredited health agency, fellow farmers, bulk SMS and internet respectively.

Notwithstanding, Table 3 also depicts that only 20.3% of the respondents got their information during COVID-19 pandemic via extension agents. Due to disruptions caused by the pandemic, extension agents and farmers alike may not have effectively utilized or leveraged the appropriate communication channels that are suitable for the time being. This corresponds with the finding of Akpan and Ekanem (2022), on assessing Agricultural extension worker's performance in Akwa Ibom State, Nigeria, during COVID-19 Pandemic. They found that during COVID-19 pandemic, agricultural extension workers in the State faced shortage of essential human and material resources which hindered their ability to provide crucial services to farmers.

In Table 3, yam farmers depend specifically fewer on Non-Governmental Organisations (NGOs) (17.5%) as a source of information on COVID-19 pandemic. This is likely because, NGOs may not have been able to provide information in a format that is accessible to rural farmers, who may have limited literacy skills. This contradicts Efe's (2020) finding that 54% of rural dwellers in Delta

North, Nigeria agree that NGOs are their preferred source of information during the COVID-19 pandemic.

Table 3: Information sources of yam farmers on COVID-19 Pandemic

Sources	Frequency	Percentage
Radio set	120	100
Family	109	90.8
Friends	108	90.0
Worship Centre	104	86.7
Government accredited health agency	102	85.0
Television	100	83.3
Fellow famers	97	80.8
Bulk SMS	78	65.0
Internet	69	57.5
Extension agent	24	20.3
Non-Governmental Organisations	21	17.5

Source: Field survey, 2023

CONCLUSIONS AND RECOMMENDATIONS

The study found that yam farmers in the surveyed area have a reasonable level of knowledge about COVID-19 disease and positive perception about COVID-19 pandemic. Based on the findings, the following recommendations were made:

i. Media outlets including radio, television and social media can help avert the adverse effects of the COVID pandemic by providing reliable information, launching public awareness campaigns, combating misinformation and highlighting best practices.

ii. Government should integrate public health into school curricula to ensure that the younger generation are well-prepared for understanding public issues.

iii. Relevant government ministries and should institutionalize preparedness and response mechanisms such as establishing institutional frameworks, policies and procedures for pandemic preparedness and response in case of outbreak of future pandemic.

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