



**DETERMINANTS OF ACCESS TO HEALTH EDUCATION IN EXTENSION SERVICE  
AND IMPLICATION FOR NUTRITION TRANSITION AMONG POULTRY FARMERS IN  
LAGOS STATE, NIGERIA**

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**ABSTRACT**

The study examined the determinants of access to health education among poultry farmers in Lagos State, Nigeria, and its implications for nutrition transition. A structured questionnaire was used to collect data from 93 poultry farmers, focusing on their socio-economic characteristics, level of access to health education, and dietary habits. The findings revealed that the majority (80.6%) of poultry farmers were male, with a significant proportion (67.7%) aged above 50 years, indicating an aging farming population. Majority (77.4%) of the respondents attended tertiary education, which suggests a high potential for knowledge assimilation and implementation of best practices. Despite this, access to health education on crucial topics such as family planning (75.3%), food hygiene protocols (59.1%), pathogenic and cardiovascular diseases (59.1%), and animal health (55.9%) was predominantly poor. These gaps in health education may affect the farmers' health outcomes and overall productivity. Additionally, findings indicated a high reliance on staple food consumption (87.9%), which raises concerns regarding dietary diversity and nutrition transition. The study shows the need for targeted interventions to improve health education outreach in extension services, promote better nutritional awareness, and enhance overall farm productivity. Strengthening extension services with tailored health education programs can mitigate health risks and foster a more resilient poultry farming sector in Lagos State.

**Keywords:** Health, Education, Extension, Services, Poultry, Farmers

**INTRODUCTION**

Access to health education is a critical determinant of the overall health and well-being of individuals and communities (Rizvi *et al.*, 2022). It plays a pivotal role in preventing diseases, promoting healthier lifestyles, and enhancing the quality of life (Oseni *et al.*, 2018). Within the context of agricultural communities, such as poultry farming in Lagos State, Nigeria (Famoye *et al.*, 2022), access to health education is of paramount importance as it directly impacts not only the well-being of farmers but also the quality of agricultural products they produce, including poultry products (Olaniyi *et al.*, 2018). This research focuses on the determinants of access to health education in extension services and their implications for nutrition transition among poultry farmers in Lagos State.

Lagos State, the economic and commercial hub of Nigeria (Kostov and Davidova, 2021), has witnessed a growing poultry industry (Famoye *et al.*, 2022). The expansion of the poultry sector is due to increased demand for poultry products in both urban and rural areas (Cranfield *et al.*, 2022), these include the growth of income and urbanization, which have led to a rise in consumer demand for animal-based proteins. Poultry, especially chicken, has become a popular choice due to its affordability and efficiency in production. Technological advancements and genetic improvements have also played a role in expanding the poultry sector. Additionally, the rising demand and trade, as well as challenges in other meat sectors, have further contributed to the growth of the poultry industry. So, it's no wonder that the demand for poultry products is on the rise in both urban and rural areas (Food and Agriculture organization of the United Nations 2023). However, this growth also brings



forth several challenges, including health-related issues affecting poultry farmers and consumers (Olutumise *et al.*, 2023). Access to health education plays a pivotal role in helping poultry farmers make informed choices about their diet, agricultural practices, and overall well-being.

Access to health education is a multifaceted issue influenced by various factors (Ajayi *et al.*, 2021). Among poultry farmers in Lagos State, the availability of extension services and the content of the information provided are crucial determinants of access to health education (Ma and Wang, 2020). Extension services that offer guidance on poultry farming practices, nutrition, and health awareness are instrumental in promoting healthier lifestyles and enhancing the overall well-being of farmers (Esiobu *et al.*, 2022). Such services not only equip poultry farmers with the necessary knowledge but also empower them to make informed choices about their diet and health, thereby preventing diseases (Octavio & Steven, 2020). Additionally, these services serve as a valuable resource for farmers seeking guidance on sustainable agricultural practices and the adoption of technologies that can improve the quality of poultry products (Famoye *et al.*, 2022).

While access to health education is vital, it is essential to recognize the disparities that exist among poultry farmers in Lagos State (Ali and Rose, 2020). The availability and quality of extension services are not uniform across all communities, leading to inequities in access to health education (Kostov and Davidova, 2021). Poultry farmers in urban areas may have better access to health education and a higher level of awareness about nutrition transition compared to their rural counterparts (Ngango *et al.*, 2022). This inequality can exacerbate the nutrition transition challenge, as urban farmers may be more exposed to processed and less nutritious foods (Roy *et al.*, 2023). To address this disparity, efforts are needed to ensure that extension services are accessible to poultry farmers in all regions of Lagos State (Kiresur *et al.*, 2017). Moreover, tailoring health education programs to the specific needs and circumstances of rural poultry farmers is essential to bridge the gap and promote healthier practices (Mugenyi *et al.*, 2021).

The implications of access to health education in the context of poultry farming extend beyond the health of the farmers themselves. It also affects the quality of poultry products and the well-being of consumers (Bae *et al.*, 2021). Poultry farmers who receive adequate health education are more likely to implement better hygiene and disease prevention practices in their farms (Olutumise *et al.*, 2023). This, in turn, contributes to the production of safer and higher-quality poultry products that meet health and safety standards (Esiobu *et al.*, 2022). Therefore, access to health education among poultry farmers not only safeguards their well-being but also has a positive ripple effect on consumers and the broader community.

One of the key areas where access to health education has a significant impact is in addressing the issue of nutrition transition (Islam *et al.*, 2021). As poultry farmers gain knowledge about healthier dietary choices and traditional diets (Mugenyi *et al.*, 2021), they are better equipped to make informed decisions about their food consumption patterns. Health education programs can highlight the nutritional value of traditional foods and promote their consumption (Oseni *et al.*, 2018). This, in turn, can help slow down the transition toward processed and less nutritious foods (Chau *et al.*, 2018). Healthier diets among poultry farmers not only contribute to their well-being but also play a role in promoting community health by reducing the prevalence of diet-related diseases (Ali and Rose, 2020).

Consequently, access to health education is a critical determinant of the overall health and well-being of poultry farmers in Lagos State, Nigeria. The availability of extension services, the content of the information provided, and the equitable distribution of these services play pivotal roles in shaping the health and nutrition patterns of poultry farmers. As the poultry industry in Lagos State continues to grow, it is essential to prioritize and invest in health education programs that empower farmers to make informed decisions about their diet, agricultural practices, and overall well-being. The benefits extend beyond individual farmers, impacting the quality of poultry products, consumer health, and the community at large. Therefore, promoting access to health education among poultry farmers is not only a matter of personal well-being but also a crucial step towards healthier and more sustainable agricultural practices in Lagos State, Nigeria. The study is therefore aimed at examining the level of access to health education in extension service among poultry farmers, identifying the



determinant of access to health education among poultry farmers and investigating the influence of access to health education in extension service on the level of nutrition transition of poultry farmers in Lagos State, Nigeria.

## **METHODOLOGY**

### **Study Area**

The research was conducted in Lagos State which is located in the southwestern Nigeria. It lies between latitude 6.5244N of the equator and longitude 3.3792E of the Greenwich meridian. It's situated along the Gulf of Guinea and is bordered by Ogun state to the north and east.

According to 2006 census, the population of Lagos state was estimated to be around 9million people. The population of Lagos state has likely experienced substantial growth since 2006, driven by rapid urbanization and increasing numbers of residents. Lagos is not only the most populous state in Nigeria but also one of the fastest growing cities in the world. It is the major economic hub in West Africa, which is characterized by its bustling markets, diverse population, and significant cultural and economic activities.

### **Sampling Technique**

A Multistage sampling process was used to select respondents in the study area. At the first stage, two Local Government Areas (Agege and Alimosho) were purposively selected due to their prominence in poultry farming. The second stage involves the purposive selection of poultry farmers in the local government areas (Agege and Alimosho). In the third stage the individual poultry farmers were pre-listed to obtain a sampling frame, then the simple random sampling technique was employed to select a representative sample size (n) calculated using the Yamane formula.

### **Method of Data Collection**

Primary data were utilized for this study and were obtained using a well-structured questionnaire as the main research instrument. The questionnaires were administered to the selected poultry farmers who willingly participated in the study. Questionnaires included closed-ended questions to capture data on socio-demographic characteristics, access to health education, nutrition practices, and challenges faced by poultry farmers in accessing health education.

### **Methods of Data Analysis**

This study employed the following analytical tools based on the objectives of the study.

- (i) Descriptive Statistics: Frequency distributions, mean, standard deviation and percentages were employed to outline the socioeconomic attributes of the poultry farmers as in objectives one
- (ii) Regression analysis to identify determinant of health education access among poultry farmers.

## **RESULTS AND DISCUSSION**

### **Socio-economic Characteristics of the Poultry Farmers in the Study Area**

Results in Table 1 present the socio-economic characteristics of the poultry farmers in the study area. The results indicated that there are more (80.6%) male poultry farmers than female farmers (19.4%). This finding could be due to the high labor demand of the venture. These findings are consistent with a study by Kumar and Singh (2018), which also reported a higher proportion of male poultry farmers due to the physically demanding nature of poultry farming.

It was observed from the results in Table 1 that the minority of poultry farmers in the area are in their active age, with approximately 32.2% of them falling within the age range of 21 to 50 years. This indicates that the industry is not mainly propelled by individuals in their productive age. In contrast, 67.7% of poultry farmers are above the age of 50. This could bring attention to a possible knowledge and experience disparity, as older farmers typically hold valuable wisdom and expertise accumulated throughout their years. These findings are in line with research by Folitse *et al.* (2019), which also found a higher percentage of older poultry farmers in the industry. The results also revealed that 90.3% were married while 6.5% and 3.2% were single and widowed. Results in Table 1 further shows the educational level of the respondents in the study area. It was observed that 3.2% of



the respondents had completed primary school education while 19.4% and 77.4% had completed secondary tertiary education, respectively. This implies that majority of the farmers in the study area were well-educated. This can be advantageous for poultry farmers as a well-educated population can better understand and implement advanced agricultural practices. Additionally, they may have the knowledge and skills to adapt to new technologies and innovations in the industry. These findings align with those of a study by Folitse *et al.* (2019), which also found a high level of education among poultry farmers in a similar setting. The majority of the respondents (64.7%) had a family size ranging from 6 to 10, while 35.4% had family size 2 to 5. This indicates that a larger percentage of the respondents had relatively larger households. Family size can play a role in various aspects of farming, including labor availability and resource management.

In addition, the results in Table 1 revealed that 6.4% of the respondents had 200 to 500 birds while 3.2%, 16.1%, 29%, 6.5%, 19.4%, 12.9% had between 600 to 1000, 1001-2000, 2001 to 3000, 3001 to 4000, and 4001 to 5000 and 8000 and above birds, respectively as their birds size. Based on the findings of the study, the majority of the respondents (29%) had farm sizes ranging from 2001 to 3000, The least common farm size involved having between (3.2%) had farm size ranging from 600 to 1000. These results are consistent with a study by Singh *et al.* (2017), which also found a similar distribution of farm sizes among poultry farmers.

The results in Table 1 showed that the significant proportion of the respondents (38.7%) had farming experience ranging from 11 to 20 years. This indicates a considerable level of expertise and knowledge among the poultry farmers. Additionally, 22.6% of the respondents had experience between 1 and 10 years, while 22.6% had experience between 21 and 30 years. It is worth noting that 12.9% had farming experience ranging from 31 to 40 years, and a smaller percentage (3.2%) had 41 years of experience and above. These findings highlight the varied levels of experience within the poultry farming community, contributing to the overall knowledge and skill base of the industry. These findings corroborate with those of a study by Gupta and Kumar (2018), which also found a diverse range of farming experience among poultry farmers.



**Table 1:** Socio-economic Characteristics of the Respondents

Variable	Frequency	Percentage %	Mean±SD
<b>Gender</b>			
Male	75	80.6	
Female	18	19.4	
Total	93	100	
<b>Age</b>			
21-30	6	6.4	
31-40	6	6.4	
41-50	18	19.4	
51-60	33	35.5	
61-70	24	25.80	
71 above	6	6.4	
Total	93	100	54.64±12.40
<b>Marital status</b>			
Married	84	90.3	
Single	6	6.5	
Widow	3	3.2	
Divorced	0	0	
Total	93	100	
<b>Education</b>			
No formal	0	0	
Primary	3	3.2	
Secondary	18	19.4	
Tertiary	72	77.4	
Total	93	100	
<b>Years of formal Schooling</b>			
2-5	9	9.7	
6-10	9	9.5	
11 Above	75	80.6	
Total	93	100	13.23±3.48
<b>Family size</b>			
2-5	33	35.4	
6-10	60	64.7	
Total	93	100	6.3±2.03
<b>Farm size</b>			
200-500	6	6.4	
600-1000	3	3.2	
1001-2000	15	16.1	
2001-3000	27	29	
3001-4000	6	6.5	
4001-5000	24	19.4	
5001-6000	0	0	
6001-7000	0	0	
7001-8000	6	6.4	
8001 Above	12	12.9	
Total	93	100	4559.51±422.1
<b>Farming exp</b>			
1-10	21	22.6	
11-20	36	38.7	
21-30	21	22.6	
31-40	12	12.9	
41 Above	3	3.2	
Total	93	100	20.52±11.61





### Level of Access to Health Education

Results in Table 2 show the respondents' level of access to health education regarding family planning, which seems to be predominantly poor, with 75.3% falling into this category. This finding is consistent with previous research by *Kassim et al.* (2022), who also found that access to family planning education among agricultural communities was generally low, indicating a need for improvement and awareness in providing better education in extension services.

The results in Table 2 also indicated that the respondents' level of access to health education in extension service regarding food hygiene protocol varies. Where a lesser percentage, 3.2%, report very high access, an apparently large proportion (59.1%) fell into the poor access category. This finding is consistent with studies by *Muttiah et al.* (2025) and *Nabi et al.* (2025) which emphasized the importance of enhancing efforts to disseminate hygiene education, especially among those with limited access, to promote better health outcomes and prevent the spread of diseases. However, these previous studies did not investigate access to information relating to diet and nutrition.

In addition the results in Table 2 displays the respondent level of access to health education addressing pathogenic/cardiovascular diseases. 3.2% of the respondent had very high access while 32.3% and 5.4% had high access and average access to health education. The results also showed that majority (59.1%) had poor access. This finding is consistent with research conducted by *Brown and Green* (2020), who also identified a need for enhanced efforts to improve access to health education in this area.

Table 2 showed the respondent level of access to health education in terms of animal health. 9.7% showed very high access while 55.9%, 29.0% and 5.4% had high access, average access, and poor access, respectively. This finding shows low access to animal health education and is in line with a study by *Pradère* (2014), which highlighted the importance of specific efforts to enhance health education, particularly concerning animal health, to improve overall farm productivity and animal welfare.

**Table 2:** Rating the Level of Access to Health Education in Extension Service

variable	Very high		High		Average		Poor		Total	Percentage%
	F	%	F	%	F	%	F	%		
FP	3	3.2	0	0.0	20	21.5	70	75.3	93	100
HP	3	3.2	27	29.0	8	8.6	55	59.1	93	100
Z/P	3	3.2	30	32.3	5	5.4	55	59.1	93	100
AH	9	9.7	27	29.0	5	5.4	52	55.9	93	100

Where FP-planning, FHP-Food hygiene protocol, P/C- pathogenic /cardiovascular disease, AH- animal health

### Level of Nutrition Transition among Poultry Farmers

Results in Table 3 shows that among poultry farmers, staple food consumption is quite prevalent, with 87.9% indicating they consume it very often, while only 3.2% consume it rarely. This indicates a high reliance on staple foods among the poultry farmers, which can provide insights into their dietary habits and nutritional status. These findings are consistent with a study by *Akosikumah et al.* (2025) and *Hazell* (2020), which found that staple foods constitute a significant portion of the diets of smallholder farmers in similar agricultural settings, highlighting the importance of staple foods in ensuring food security and meeting energy needs among farming communities.



The results in Table 3 also indicated that fruits and vegetables were not frequently consumed among majority (77.4%) of the poultry farmers. This indicates a relatively low level of intake of fruits and vegetables among the respondents. The cost of fresh fruits and vegetables in the urban area in Nigeria is relatively high and this may partly be responsible for this result. Also their low access to nutrition related education can be suspected to have aided to low consumption.

The results further indicated that consumption of bottled/canned beverages or soft drinks among poultry farmers is relatively low. Majority (80.6%) reported not often consuming beverages while 19.4% rarely consume them. This indicates that poultry farmers tend to avoid or limit their intake of bottled or canned beverages and soft drinks, which can be beneficial for their health given the potential negative impact of excessive consumption of sugary beverages on health outcomes such as obesity and diabetes. These findings are consistent with those of a study by Carrillo-Alvarez *et al.* (2025), which found low consumption of sugary beverages among rural farming communities, indicating awareness of the health risks associated with such beverages.

**Table 3:** Level of Farmer's Consumption of the Selected Diets in a Week.

Statement	Very often		Often		Not often		Rarely		Total	Percentage %
	F	%	F	%	F	%	F	%		
Staple food e.g rice, beans, millet, e.t.c	81	87.1	9	9.7	-	-	3	3.2	93	100
Semi processed e.g oat, Noodles, e.t.c			69	74.2	6	6.5	18	19.4	93	100
Processed food e.g bread, biscuits, pastries.			66	71.0	24	25.8	3	3.2	93	100
Fruits & vegetable e.g orange, carrot, banana, mushroom, onions.			21	22.6	72	77.4			93	100
Bottles/canned beverages/soft drink.					75	80.6	18	19.4	93	100

The results for the regression output for factors influencing access to health education in extension are presented in Table 4. The Nagelkerke  $R^2$  is 0.674 for the model which implies that 67% of variation in the effects of access to health education in extension service is explained by the specified explanatory variable in the model. The F- ratio for the enterprise is significant 1% which implies that the data is at least to the overall significant of the regression equation.

The variables that had significant co-efficient were age, household size and farm size. It should be noted that positive value tends to increase the likelihood of access to health education in extension service, while negative value of the variables would reduce the probability of access to health education in extension service. Table 4 shows that the age of



the respondent was found to be significant with a negative co-efficient this implies that as the farmers grow older there is the probability of them having less access to extension service. The household size of the respondent was found to be significant at 1% probability level with a positive co-efficient. This implies that as the household size increase there is high chance of the farmer to access health education in extension service. The farm size of the respondent was found to be significant at 1% probability level with a positive co-efficient. This implies that as the fa farm size increases there is a high chance of farmers having access to health education in extension service.

**Table 4:** Determinants of Health Education among Poultry Farmers

Variables	B	S. E	Exp(B)
AGE	-.098**	.047	.906
YRS OF FORMAL SCH.	-.047	.093	.954
HOUSEHOLD SIZE	.858***	.222	2.358
FARMING EXP	.017	.043	1.017
FARM SIZE	.000***	.000	1.000
GENDER	-.049	.693	.952
MARITAL STATUS	-.827	1.141	.433

**Table 5:** Nutrition Transition Levels for Farmers Who Had Access to Health Education and those Who Did Not

	Freq	Mean	S. D	t-value	Sig(2-tailed)
Those who do not have access to health education in extension	57	18.0556	.95452	14.637	.000
Those who had access to health education in extension	38	14.2807	1.53244		
All respondent	93	15.7419	2.27894		

Table 5 shows that individuals who lacked access to health education in extension demonstrate a significantly higher nutrition transition compared to those who had access. This suggests a clear correlation between the availability of health education resources and the adoption of healthier nutritional practices.

## CONCLUSION AND RECOMMENDATION

The study concluded that age, household size and farm size were the factors that determines access to health education in extension services among poultry farmers in the study area. The findings underscore the need for targeted interventions to improve health education accessibility among poultry farmers, with potential implications for nutrition transition and overall health outcomes. By addressing factors such as age, household size, and farm size, policymakers and stakeholders can develop more effective strategies to promote





sustainable agricultural practices and improve the health and well-being of poultry farmers in Lagos State.

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