





## PERCEPTION OF ETHNO-VETERINARY MEDICINE AMONG POULTRY FARMERS IN OYO STATE

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### ABSTRACT

#### Article History

Received: 8 May 2020

Revised: 18 June 2020

Accepted: 20 July 2020

Published: 7 August 2020

#### Keywords

Ethno-veterinary medicine

Poultry farmers

Perception

Poultry diseases.

Getting to source for credit to finance poultry production as well as high cost of conventional medicines have been a major constraint among poultry farmers in Oyo state, Nigeria. The relatively low cost of ethno-veterinary medicine comes with added advantage such that when used for the treatment of poultry diseases, farmers would have the opportunity to reduce cost and increase their scale of production. Therefore, the study assessed perception of ethno-veterinary medicine among poultry farmers in Oyo state. Primary data were collected from 119 randomly selected poultry farmers. Well-structured questionnaire along with interview schedule was used to elicit information from the poultry farmers. Respondents' mean age and years of experience were  $44.3 \pm 12.3$  and  $9.3 \pm 7.0$  years, respectively. Most of the respondents were male (90.8%), married (84%), sole proprietors (91.6%) with mean flock size of  $6,255.8 \pm 2,2462.5$  birds. Majority (84.0%) of the respondents had low level of awareness of ethno-veterinary medicine. Lack of standardisation ( $2.9 \pm 0.2$ ) ranked first among the constraint to the use of ethno-veterinary medicine. Most (65.5%) of the respondents had favourable disposition towards ethno-veterinary medicine. The study concludes that poultry farmers had favourable disposition towards ethno-veterinary medicine despite the constraints associated with its use and their low level of awareness. The study recommended the need for experimentation of medicinal plants with potentials to treat poultry diseases as well as increased sensitisation on the use of ethno-veterinary medicine to poultry farmers.

**Contribution/Originality:** The study is one of the very few studies which investigated poultry farmers' perception of ethnoveterinary medicine and provided relevant information and recommendations which when provided which when implemented would decrease the cost of poultry production by increasing the use of environmentally friendly ethnoveterinary medicine among poultry farmers.

### 1. INTRODUCTION

According to Osuji (2019), poultry are domestic fowls such as, turkeys, ducks, geese, guinea fowl raised for the purpose of producing meat or eggs for food. Eggs and meats are major source of animal proteins available for human consumption, hence poultry are important source of animal protein. Beyond the supply of proteins, poultry products supply basic minerals to the body which makes it of nutritional importance to humans. Describing the nutritional importance of poultry products, Ebukiba and Anthony (2019) stated that the poultry meat though a

good source of protein also provides important essential elements like phosphorus and contain little fat compared to other livestock. This contributes to its preference when planning diets by many households especially these days where foods with lower cholesterol are encouraged. Nigeria, poultry contributes about 15 percent of the total annual protein intake and approximately 1.3kg of poultry products is consumed per head per annum (Ologbon & Ambali, 2012). This makes it clear that poultry industry contributes in providing solution to the problem of malnutrition which is common in Nigeria since protein which is supplied in form of eggs and meats are key component in the nutrition requirement of the body. However, poultry production has not reached its full potential in the provision of protein and hence, persistent issue of malnutrition among the populace. This calls for concerned effort on the part of poultry farmers to increase their scale of production.

On the contrary, these poultry farmers are faced with a lot of constraints which have sabotaged their ability to increase their production. Tsado, Adeniji, and Kolo (2019) noted that inadequate credit facilities, high cost of feeds and high cost of medication were the major challenges to poultry production. From this list of constraints, it can be inferred that the major constraint to increased poultry production is finance. As inadequate credit is a major constraint to production, farmers need to minimize cost of production so as to maximize profit in order to have enough capital to reinvest into production. More so, for effective and increased poultry production, major constraints to production needs to be tackled. Performance of poultry birds in terms of body size and egg size depends largely on feeds given to the birds which makes cutting the cost on feeds a risky adventure. However, as poultry birds are prone to diseases as identified in the constraints, an effective way of reducing the cost of production is tackling the high cost of medication.

One area where poultry farmers can minimize cost is in veterinary management. Study on economic appraisal of poultry production revealed that the major determinant of revenue accruable to poultry farmers was veterinary drugs (Oladeebo & Ojo, 2012). This reflects that reducing the cost of veterinary drugs will invariably reduce the cost of production and consequently, increase the profit available for re-investment. Conventional veterinary drugs made up of synthetic chemicals are costly for poultry farmers especially small-scale farmers which makes up the majority of the population of poultry farmers. However, these conventional drugs can be replaced with ethno-veterinary drugs for cost reduction and environmental safety. Mesfin, Tekle, and Tesfaye (2013) cited in Tilahun, Etifu, and Shewage (2019) defined ethno-veterinary medicine as practices that involves solid amalgamation of herbal knowledge and ancestral experiences. Ethno-veterinary medicine relies more on the natural than the synthetic which characterise the conventional drugs. Ethno-veterinary medicine has advantages over conventional drugs and one of such is reduction in cost of medication. This is because ethno-veterinary drugs have been proven to be relatively cheaper than imported drugs (Sori, Bekana, Adugna, & Kelbessa, 2004). The cheapness of ethno-veterinary medicine is an advantage such that when used for the treatment of poultry diseases, farmers would have the opportunity to save and increase their scale of production.

However, perception of a product could affect consumer's behavior towards the product. Attributes that determine consumers' behaviour towards a product was highlighted by Ofir (2009) to be price, quality and service quality. In other words, poultry farmers may develop perception towards a product through past or previous experience. This implies that the quality of a product could affect farmers' perception of a product and hence, choice. Therefore, the effectiveness of a poultry drug would greatly affect farmer's disposition towards the drug since the quality of drugs could be determined by its potency in treating diseases. Poultry farmers can develop perception towards a product by what has happened to them in the past or by the information gotten on the product. Hence, a positive disposition towards the use of ethno-veterinary drugs could encourage its use among poultry farmers and consequently reduce the cost on drugs as well as achieving the use of environmentally safe drugs. It is against this backdrop that this study assessed the perception of poultry farmers towards the use of ethno-veterinary medicine for treatment of poultry diseases.

### 1.1. Objectives of the Study

1. To examine the level of awareness of ethno-veterinary medicine among poultry farmers.
2. To identify the factors militating against the use of ethno-veterinary medicine among poultry farmers.
3. To determine poultry farmers' perception of ethno-veterinary medicine.

## 2. METHODOLOGY

The study was carried out in Oyo state which has its capital in Ibadan and has a land area of 27,249km (Fajuyigbe, Balogun, & Obembe, 2007). It is bounded in the South by Ogun State, in the North by Kwara State and in the East by Osun State. The state lies between longitudes 7°20'E and 7°40'E and latitudes 3°55'N and 4°10'E, blessed with a tropical climate and rain forest vegetation which graduates slightly into the guinea savannah in the Northern part. Oyo State is divided into five geographical zones; Ibadan, Oke-Ogun, Ogbomoso, Oyo and Ibarapa. Each of the zone is divided into: 11, 10, 5, 4 and 3 Local Government Areas (LGAs) respectively, resulting into 33 LGAS in the state. Multistage sampling procedure was used to draw sample for this study. The first stage involved purposive sampling of 3 Local Government Areas with prominence in poultry industry in Oyo State. Cluster sampling was used to select two communities where poultry farmers are prevalent in each of the selected Local Government areas. From the list of registered poultry farmers, 15 percent of farmers in each cluster was selected to make the total sample size of 119 poultry farmers. The method that was used to elicit information from the poultry farmers was well structured questionnaire along with interview schedule. Data was analysed using descriptive (frequency, percentages and mean).

## 3. RESULTS AND DISCUSSION

### 3.1. Personal Characteristics of Respondents

Analysis of result obtained from the study as shown on Table 1 revealed that the mean age of respondents was  $44.3 \pm 12.3$  years which imply that majority of the respondents are economically active. This is in consonance with Raphael Olanrewaju, Adedayo Olufemi, and Funke Iyabo (2012) who reported mean age of farmers as 44.4 years' old among poultry farmers in Oyo state. Most (90.8%) of the respondents were male which could be as a result of the labour intensiveness of poultry production. This corroborates the result of Akintunde and Akintunde and Adeoti (2014) that majority of poultry farmers in Southwestern Nigeria were male. Table 1 also shows that majority (84.0%) of the respondents were married and this is in line with the findings of Akintunde and Adeoti (2014) that most poultry farmers are married. This could be attributed to the mean age group of respondents which is mostly dominated by adults. Most of the respondents were literate with mean years of formal education of  $14.9 \pm 3.7$  years. This agrees with Raphael Olanrewaju et al. (2012) that majority of poultry farmers in Oyo state have tertiary education. High literacy level among poultry farmers would improve farmers' knowledge of disease and influence poultry farmers' choice of poultry drugs. The mean household size was  $4.4 \pm 1.8$  person. This implies that poultry farmers had relatively small household size. Majority (84.9%) of the respondents had poultry production as their major occupation. This could be as a result of the risk and labour intensiveness of poultry production which makes it require much attention and devotion from the poultry farmers. This is in line with the findings of Oladeji (2011) that majority of farmers had poultry production as their primary source of income with the implication that poultry production can be relied upon as a major source of income for the family. Most (52.1%) of the respondents belong to a social group

**Table-1.** Distribution of respondents by socioeconomic characteristics.

Variable	Frequency	Percentage	Mean
Age			
Less than or equal 30	14	11.8	
31-40	35	29.4	
41-50	41	34.5	44.3 ± 12.3 years
51-60	20	16.8	
Above 60	9	7.6	
Sex			
Male	108	90.8	
Female	11	9.2	
Marital status			
Single	15	12.6	
Married	100	84	
Divorced	1	0.8	
Widowed	3	2.5	
Household size			
1-5	88	73.9	
6-10	30	25.2	
Above 10	1	0.8	4.4 ± 1.8 person
Years of schooling			
Less than 6	7	5.9	
6-11	3	2.5	
12 and above	107	91.6	14.9 ± 3.7 years

### 3.2. Enterprise Characteristics of Respondents

The result on [Table 2](#) depicts the responses of poultry farmers by their enterprise characteristics. Most of the respondents operate on a small-scale production or medium scale production with 87.4% of respondents having flock size that is less than 6000 which agrees with the reports of [Akinyele, Bello, Oyedepo, Oduguwa, and Fatima \(2013\)](#) that there is predominance of small scale production among poultry farmers in Oyo state. The mean years of experience was  $9.31 \pm 6.96$  years. This is almost in congruence with [Akintunde \(2015\)](#) who indicated an average age of  $10.0 \pm 5.05$  years among poultry farmers in South-west, Nigeria. Majority (91.6%) of the respondents were sole proprietors of their poultry business. This is in agreement with the findings of [Arowolo, Ounrombi, Apantaku, and Adeogun \(2017\)](#) which revealed dominance of sole proprietor among poultry farmers in Oyo and Osun. Most (80.7%) of the respondents use a battery cage to house birds.

The mean output of respondents involved in layer production was  $190.93 \pm 848.85$  crates/week, which suggests the need to scale up poultry production. The source of credit of farmers was mostly from personal savings and only few of the farmers could get credits from cooperative societies (26.9%), bank (13.4%), family (10.9%) and friends (10.1%). This is a factor that is limiting large scale production in Nigeria. Majority (84.9%) of the poultry farmers were into egg production. The mean monthly income of respondents was ₦119,596.13 ± 524673.48.

### 3.3. Level of Awareness of Ethno-Veterinary Medicine among Poultry Farmers

As shown on [Table 3](#), level of awareness on ethno-veterinary drugs was low as majority (84.0%) of the respondents falls within the low category. The low awareness of ethno-veterinary drugs could be because of the high literacy rate of commercial poultry farmers. Since the knowledge of medicinal plants for ethno-veterinary drugs are transferred from one generation to another, educated poultry farmers may have little knowledge of indigenous herbs since they are based in the city and may not have access to such information unlike local poultry farmers who are well acquainted with medicinal plants (ethno-veterinary drugs) and resides in rural areas where culture and tradition are held in high esteem making them have easy access to traditional means of knowledge transfer.

**Table-2.** Distribution of respondents by enterprise characteristics.

Variable	Frequency	Percentage	Mean
Type of poultry house			
Deep litter	37	31.1	
Battery cage	96	80.7	
Free range	3	97.5	
Source of credit			
Family	13	10.9	
Cooperative society	32	26.9	
Bank	16	13.4	
Self	119	100	
Friend	12	10.1	
Source of labour			
Self	119	100	
Family	26	21.8	
Hired	117	98.3	
Communal	0	0	
Type of poultry bird			
Broiler	20	16.8	
Layers	101	84.9	
Cockerel	10	8.4	
Breeder	3	2.5	
Monthly income			
< 100,000	53	44.5	
100,000-499,999	44	37.0	
500,000-899,999	6	5.0	
900,000 and above	16	13.4	₦119,596.1±524673.5

**Table-3.** Level of awareness of ethno-veterinary medicine among poultry farmers.

Drugs	Freq.	%	Mean
<b>Ethno-veterinary drugs</b>			
High	19	16.0	0.64±2.14
Low	100	84.0	

### 3.4. Factors Militating Against the Use of Ethno-Veterinary Medicine among Poultry Farmers

Table 4 reveals the factors militating against the use of ethno-veterinary drugs. Lack of standardization ( $\bar{X} = 2.9$ ) and lack of awareness ( $\bar{X} = 2.9$ ) ranked first, this is closely followed by lack of transferred knowledge ( $\bar{X} = 2.4$ ) which ranked third. However, labour involvement was the least constraint to the use of ethno-veterinary drugs. This implies that farmers are willing to go through the labour intensiveness associated with the use of ethno-veterinary drugs if the drugs are properly known to them and well standardised.

**Table-4.** Factors militating against the use of ethno veterinary drugs among poultry farmers.

Variable	Not a constraint		Not severe		Severe		Very severe		Mean	Rank
	Freq	%	Freq	%	Freq	%	Freq	%		
Ethnoveterinary										
Labour Involvement	31	26.1	21	17.6	43	36.1	24	20.2	1.5	6 <sup>th</sup>
Lack of Seasonal herbs	33	22.7	18	15.1	19	16.0	49	41.2	1.7	5 <sup>th</sup>
Lack of Documentation	8	6.7	10	8.4	41	34.5	60	50.4	2.3	4 <sup>th</sup>
Lack of Transfer Knowledge	11	9.2	8	6.2	26	21.8	74	62.2	2.4	3 <sup>rd</sup>
Lack of traditional remedies for emerging disease	52	43.7	31	26.1	9	7.6	27	22.7	1.1	7 <sup>th</sup>
Lack of Awareness	41	34.5	46	38.7	32	26.9	0	0	2.9	1 <sup>st</sup>
Lack of standardization	1	0.8	24	20.2	38	31.9	56	47.1	2.9	1 <sup>st</sup>

### 3.5. Poultry Farmers' Perception of Ethnoveterinary Medicine

The result presented on Table 5 reveals the poultry farmers' perception of ethnoveterinary medicine. Most of the respondents showed favourable perception to the statements; Ethno-veterinary drugs are cheaper than others ( $\bar{X} = 4.10$ ), Ethno-veterinary medicine offers the best alternative in the poultry industry ( $\bar{X} = 2.88$ ). This suggests that poultry farmers believe that ethno-veterinary could be an alternative drug considering its relative advantage in terms of cost over conventional drugs. This is an indication that ethno veterinary drugs if adopted by farmers can assist in reducing the cost of production incurred in poultry production. However, most of the respondents holds an unfavourable disposition towards the following statements; ethno-veterinary do not cure diseases completely (mean = 2.14), ethno-veterinary drugs are easy to prepare ( $\bar{X} = 2.40$ ), ethno-veterinary medicine are considered old fashioned drugs ( $\bar{X} = 1.75$ ), ethno-veterinary drugs are difficult to standardized ( $\bar{X} = 1.63$ ), ethno-veterinary medicine works faster than every other drug ( $\bar{X} = 1.74$ ), conventional drugs are superior to ethno-veterinary ( $\bar{X} = 1.54$ ). The perception that ethno veterinary drugs do not cure diseases completely could be due to the lack of standardization which ranked first among the constraint to the use of ethno veterinary medicines. Lack of standardization could deprive farmers of applying adequate dose that could completely cure diseases. Lack of standardization might also be attributed to farmers' unfavourable perception towards the statements that ethno-veterinary drugs are easy to prepare.

**Table-5. Poultry farmers' perception of ethno veterinary drugs.**

Variables	SA	A	U	D	SD	Mean
Conventional drugs are superior to ethno-veterinary	51.3	41.2	7.6	0	0	1.56
Ethno-veterinary medicine are considered old fashioned drugs	49.6	32.8	10.9	6.7	0	1.75
Ethno-veterinary drugs are difficult to standardized	47.1	44.5	6.7	1.7		1.63
Ethno-veterinary drugs are easy to prepare	6.7	25.2	5.9	26.1	36.1	2.40
Ethno-veterinary drugs are cheaper than others	34.5	49.6	8.4	6.7	0.8	4.10
Ethno-veterinary medicine offers the best alternative in the poultry industry	7.6	39.5	8.4	22.7	21.8	2.88
Ethno-veterinary medicine works faster than every other drug	0	3.4	19.3	25.2	52.1	1.74
Ethno-veterinary do not cure diseases completely	39.5	24.4	18.5	17.6	0	2.14
Ethno-veterinary drugs are toxic in nature	20.2	17.6	16	17.6	19.3	3.08

Note: Grand mean= 2.36.

Source: Field survey (2018).

#### 3.5.1. Level of Perception of Ethno Veterinary Medicine

Table 6 shows more than half (65.5%) of the respondents had favourable perception of ethnoveterinary drugs, while 34.5% showed an unfavourable perception. The favourable perception of ethno-veterinary drugs could be as a result of increasing awareness on zoonotic diseases in humans and also the health effect of antimicrobial residues in poultry products on humans when consumed. This could also be due to farmers' perception that ethno-veterinary medicine is cheap. This implies that ethno-veterinary drugs can be acceptable among poultry farmers if level of awareness is increased and the drugs are standardised.

**Table-6. Distribution of respondents based on categorisation of perception of ethnoveterinary drugs.**

Level of perception	Freq	%
Unfavourable	41	34.5
Favourable	78	65.5
Mean	24.4±2.5	

## 4. CONCLUSION AND RECOMMENDATIONS

The study concludes that poultry farmers had favourably disposition towards ethno-veterinary medicine despite the constraints associated with its use and low level of awareness which is an indication that increased

awareness and knowledge of ethno-veterinary medicine will encourage its use. Based on the above conclusions, the following recommendations were made.

1. As it is evident from the findings that awareness of ethno-veterinary drugs was low, there is need to organise trainings, seminars, workshops for extension workers on the use and importance of ethno-veterinary drugs for the treatment of selected poultry diseases. The trainings should expose extension agents to different herbal plants with phytochemicals that would be used in the treatment of poultry diseases. This will expose extension workers to knowledge of ethno-veterinary drugs which should then be disseminated to poultry farmers.

2. It was observed that lack of standardization was the major constraint to the use of ethno-veterinary drugs. This should be addressed by engaging researchers in the field of pharmacology so as to ensure proper standardization of ethno-veterinary drugs. Medicinal plants with potential to treat poultry diseases should be experimented to know what quantity is required for certain number of birds. Guidelines on its use as well as dosage should be made available to farmers. Pharmaceutical industry should also package ethno-veterinary drugs for poultry and make it attractive to use.

3. The findings of this study revealed that lack of seasonal herbs affects the use of ethno-veterinary medicine. To curb this, measures should be taken to protect biodiversity of medicinal plants. Proper policies that support afforestation and minimise or control deforestation should be put in place to ensure medicinal plants do not go into extinction. Farmers should also be educated on medicinal herbs used in the treatment of poultry diseases and encouraged to domesticate these plants within their surroundings.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Acknowledgement:** All authors contributed equally to the conception and design of the study.

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