

Perception and Use of Ethnoveterinary Medicine among IDO Poultry Farmers in Ibadan of Oyo State Nigeria

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Abstract- There are many diseases that affect poultry production in Nigeria and treatment of these diseases are too cost to buy because most of these drugs and vaccines are imported to Nigeria, hence, ethnoveterinary medicine is considered as alternative. The study therefore examines the perception and use of ethnoveterinary medicine among poultry farmers in Ido local government area of Oyo State. Purposive sampling and simple random sampling were used to select 113 respondents in the study area. Data was obtained using well structured questionnaire and were analyzed using descriptive statistics such as frequency distribution and percentage while the inferential statistical such as Chi-square and Pearsons Product of Moment of Correlation (PPMC) were used to analysed the hypotheses.

From the study, it was revealed that majority (70.9%) of the respondents were male while 29.1% were female, and 38.2% of the respondents were within the age bracket of 35 and 45 years and 27.3% were within the age range of 46 to 56 years. The results of the study also shows that 6.4% of the respondents had adult education, while 8.2% had no formal education, 7.3% had primary education, 30.9% had secondary education and 47.3% had tertiary education which means that most of the respondents can read and write and they had better knowledge of the questionnaire given to them and all ethnoveterinary practices available in their areas.

Also from the study most of the respondents 55.5% perceived that ethnoveterinary practices is being influenced by tradition and 34.5% of the respondents agreed that ethnoveterinary medicine promotes cultural heritage and 42.7% of them believed that ethnoveterinary medicine helps in controlling diseases and 44.5% of the respondents established the fact that usage of ethnoveterinary medicine required little or no training and 53.6% of the respondents believed that knowledge of ethno veterinary medicine can be easily transferred from one generation to another. Most (59.1%) of the respondents had favourable perception towards the use of ethnoveterinary medicine.

From the study it was revealed that there are some plants that are considered less important to human are sometimes very useful to poultry birds and example of such plants includes uses of *carica papaya* to increase feed intake in poultry (39.1%), uses of *Moringa Oleifera* to resist high temperature in poultry (60.9%), uses of *Citrus Aurantifolia* fruit to resist high temperature in birds (32.7%), uses of oil to treat fowl pox (55.5%) and uses of bitter leaf to treat chronic respiratory diseases (64.5%) in poultry. Most (63.6%) of the respondents had low level of use of

ethnoveterinary medicine. Lack of adequate information (77.3%), unfavorable Government policies (53.6%) and poor research funding (64.5%) were identified as major constraints to use of ethnoveterinary medicine. It is therefore recommended that stakeholders should make information on ethnoveterinary medicine available to poultry farmers.

Index Terms- Perception, Ethnoveterinary Medicine and Poultry Farmers

I. INTRODUCTION

Poultry generally involves raising of domesticated birds, ducks, turkey and guinea fowl. The products that can be derived from poultry are meats, eggs, feather, manure and all of them play a vital role in one way or the other in natural economy. This proves that the main objective of poultry industry is to make profit and that is determined by the ability of birds to convert feed into animal products. Therefore, the risk of poultry product clearly shows that poultry keeping as a business could be profitable if properly managed (Bello, 2007). Poultry products are essentially source of protein, vitamins and minerals to man and source of income to producer and marketers. The increasing demand for animal proteins has arises greater interest in the production of fast growing animals with short generation intervals (Obinne and Okorie, 2008). Apantaku *et al.*, 1998 reported that expansion of poultry industry in Nigeria holds the greatest promise of bridging the animal protein gap prevailing in the country within the shortest possible time.

The protein from poultry meat and egg according to Attah,(2004) is to such quality that is used as the standard against which other proteins are compared. The main problems of poultry production are disease. There are many diseases that affect poultry production in Nigeria and these diseases includes, chronic respiratory disease, infections bronchitis, coccidiosis, etc. the drugs and vaccines which can be used to treat the poultry disease are too cost to buy because most of these drugs and vaccines are imported to Nigeria.

Ethnoveterinary medicine (EVM) is a scientific term for traditional animal health care that encompasses the knowledge, skills, methods, practices and beliefs about animal health care found among the community members. Matekaire and Bwakura, (2004) in Zimbabwe reported that the ethno-veterinary knowledge

(EVK) base differs from regions and also among and within communities based on local or indigenous knowledge and methods of caring for health and managing livestock. EVM knowledge has been developed through trial and error and deliberately experimentation.

Gueye, (1999) argues that EVM is the only option for most of the village poultry farmers in Africa, because there are almost no veterinarians in Africa rural areas. In a recent study in Nigeria by Chan *et al.*, (2009) reported that farmers used traditional remedies because they are readily available and at little cost or no cost at all. Many indigenous veterinary beliefs and practices persist in a wide range of livestock raisers. Ninety percent (90%) of poultry rears said that they never received training in poultry management and indicating that extension services support was inadequate. These results demonstrate that EVM still has a role to play in health management given the lack of cold chain, high price and lack of knowledge of the use of veterinary medicine.

Ethno-veterinary medicine (EVM) benefit is important in treatment and control of diseases and parasites. The plant part used include leaves and roots or both. The remedies were administered before the disease occurred or during disease outbreak. For example, when birds looked unhealthy, went off feed or blood was seen in their droppings, the leaves were crushed before they were mixed with drinking water for the chicken. The medicated water was offered to all birds until they showed sign of good health.

The application of ethno-veterinary in poultry is that the leaves, stems or roots of the plant were used by cutting it, washing and soaked it with water for some days or crushed it together. Most of the poultry farmers in rural area prepare their own knowledge of using local drugs because veterinary services are inadequate and there is no training on how to use the modern drugs with proper management for their birds.

The high cost of these drugs is that most of the drugs used in poultry production are more expensive is that, ninety percent (90%) of these drugs are imported from another country. The chemical residue health remains or acts as a contaminant after a given class of event. Most of these chemicals are also potentially toxic to humans. They may induce adverse health effects including cancer etc.

It has been noticed that diseases is the most common problem of poultry farmers in Ido Local Government Area in Oyo State are facing. Diseases like Chronic Respiratory Diseases (CRD), coccidiosis, fowl pox etc. have killed most of the poultry business in the study area.

Most of the poultry farmers in this study area depend on veterinary drugs to treat the bird than using ethnoveterinary medicine which is readily available. Most often, veterinary drugs are considered to be inaccessible or difficult to purchase due to high cost and importation of some drugs. The poultry industry is more devastated by viral infections such as Newcastle disease and infections bursal disease (Gomboro) in spite of several attempts at vaccinations. Some of the reasons for these may be vaccine failure and the involvement of quacks in fighting these endemic animal diseases in the country (Babalobi 2005, Olugasa *et al.*, 2013).

Sampling procedure and sample size

Purposive sampling was used to select three villages based on the fact that poultry farming activities are predominant in those areas. Thereafter, simple random sampling was used to select fifty percent of the poultry farmers in the selected villages. These include: Akufo 90, Odebode 70, Alakoo 65. The numbers of farmers obtainable were; Akufo farm settlement 45, Odebode 35, and Alako 33 to give a total number of 113 respondents in the study area. Out of 113 questionnaires administered, 110 were retrieved for the analysis of result.

Data Collection

Data was collected with the use of primary source of data collection from the respondents and as well as structured questionnaire

Method of Data Analysis

Data were analyzed using descriptive statistics such as frequency distribution and percentage while the inferential statistical such as chi-square and Pearsons product of moment of correlation (PPMC) were used to analyzed the hypotheses.

II. RESULT AND DISCUSSION

Table 1: Socio-Economic Characteristics of the Respondents
n = 110

Variables	Frequency	Percentage	Mean
Sex			
Male	78	70.9	
Female	32	29.1	
Age			
24-34years	31	28.2	
35-45years	2	38.2	
46-56years	30	27.3	
Above 56 years	7	6.3	
Marital status:			
Single	22	20.0	
Married	87	79.1	
Divorce	1	0.9	
Religion:			

Christianity	71		64.5
Islam	35		31.8
Traditional		4	3.6
Education:			
Adult education		7	6.4
No formal education		9	8.2
Primary education		8	7.3
Secondary education		34	30.9
Tertiary education		52	47.3
Family size:			
1-4	35		31.8
5-8	39		35.5
9& above	36		32.7
Source of labour:			
Family	72		65.5
Hired	38		34.5
Farmer Association:			
Yes	72		38.2
No	38		61.8
Secondary occupation:			
Trading	66		60
Artisan	11		10
Security	8		7.3
Crop farming	17		15.5
Driving	1		0.9
Civil servant	7		6.4

Source: Field Survey 2017.

Table 1 above shows that majority (70.9%) of the respondents were male and 29.1% were female. This might be linked to the fact that men are predominantly engaged in farming, both crop and animal production. Also the age range of the respondents was between 24years and 56years of age with mean age at 35years to 45 years. About 38.2% of the respondents were within the age bracket of 35 and 45 years, 27.3% was within the age range from 46 to 56 years while few (6.3%) were above 56 years. The result also revealed that majority (66.5%) of the respondents were Christian, while (31.8%) were muslim and only 0.9% practiced traditional religion. In addition, the results also shows that 6.4% of the respondents had adult education, 8.2% had no formal education, 7.3% had primary education, 30.9% had secondary education while almost half 47.3% had tertiary education.

Table 2: Perception of Poultry Farmers on the Use of Ethno-Veterinary Medicine

STATEMENTS	SA	A	U	D	SD
Use of ethno-veterinary medicine is influenced by my tradition.	21(19.1)	61(55.5)	19(17.3)	6(5.5)	3(2.7)
Ethno-veterinary medicine provides our cultural heritage.	6(5.5)	38(34.5)	59(53.6)	5(4.5)	2(1.8)
Use of ethno-veterinary helps to control disease on our poultry farm.	12(10.9)	47(42.7)	28(25.5)	6(5.5)	17(15.5)
Use of ethno-veterinary is very simple to use for poultry birds	15(13.6)	34(30.9)	26(23.6)	14(12.7)	21(19.1)
Ethno-veterinary is readily available	17(15.5)	15(13.6)	37(33.6)	21(19.1)	20(18.2)
Ethno-veterinary is environmental friendly.	16(14.5)	67(60.9)	20(18.2)	5(4.5)	2(1.8)
Ethno-veterinary is still has a role to play in health management of poultry.	12(10.9)	51(46.4)	32(29.1)	13(11.8)	2(1.8)
Use of ethno-veterinary is important in treatment and control of some diseases in poultry.	18(16.4)	45(40.9)	26(23.6)	14(12.7)	7(6.4)
Ethno-veterinary is indigenous method of treating poultry birds	45(40.9)	38(34.5)	13(11.8)	11(10.0)	3(2.7)
Ethno-veterinary can be use by mixing with water for the birds	34(30.9)	55(50.0)	11(10.0)	6(5.5)	4(3.6)

The part of ethno-veterinary that can be use are root and leaves	24(21.8)	68(61.8)	9(8.2)	9(8.2)	0(0.0)
Ethno-veterinary medicine does not contain chemical which can be danger to human health	71(64.5)	20(18.2)	13(11.8)	2(1.8)	4(3.6)
Ethno-veterinary medicine is used by both educated the non-educated farmers.	58(52.7)	21(19.1)	15(13.6)	8(7.3)	8(7.3)
It has no harmful effect on the poultry.	19(17.3)	48(43.6)	22(20.0)	14(12.7)	7(6.4)
Mode of application of ethnoveterinary is user friendly	6(5.5)	55(50.0)	28(25.5)	10(9.1)	11(10.0)
Usage of ethnoveterinary require little or no special training.	17(15.5)	49(44.5)	12(10.9)	16(14.5)	16(14.5)
Knowledge of ethnoveterinary medicine can be easily transfer from one to another.	59(53.6)	21(19.1)	5(4.5)	7(6.4)	18(16.4)

Source: Field Survey 2017.

Table 2 above shows that 55.5% of the respondents agreed that use of ethnoveterinary medicine is influenced by their tradition, while 34.5% of the respondents agree that ethnoveterinary medicine promotes their cultural heritage. This might be linked to the fact that civilization and most farmers these days are using modern technique with the work of science and technology. About 42.7% of the respondents in the study area agreed that the use of ethnoveterinary medicine helps to control disease in poultry, while 30.9% agreed that use of ethnoveterinary medicine is very simple to use for poultry birds. Furthermore, 33.6% were undecided against ethnoveterinary medicine usage due to its unavailability when needed, unlike other drugs. Majority, (60.9%) of the respondents agreed that, ethnoveterinary medicine is environmentally friendly, 46.4% agreed that ethnoveterinary medicine still has a vital role to play in health management of poultry. In addition, 40.9% agreed that, the use of ethnoveterinary medicine is important in treatment and control of some disease in poultry, 40.9% also strongly agreed that, ethnoveterinary medicine is an indigenous method of treating poultry birds. It was the introduction of science and technology that makes farmers to abandon it and shift to vaccination and medications. Half (50.0%) of the respondents in the study area,

agreed that ethnoveterinary medicine can be used by mixing with water for birds, and 61.8% also agreed that, the part of ethnoveterinary medicine that can be used are the roots and the leaves. Most of the respondents (64.5%) strongly agreed that, ethnoveterinary medicine does not contain chemicals which its residual effects can be dangerous to human health. Furthermore, 43.6% agreed that, there is no harmful effect of ethno-veterinary medicine on the poultry, 50.0% agreed that, the mode of application of ethnoveterinary medicine is user friendly. Finally, 44.5% agreed that, the usage of ethnoveterinary medicine requires little or no special training, while 53.6% strongly agreed that, the knowledge of ethno-veterinary medicine can be easily transfer from one person to another.

In summary, the Table 2 shows that most (59.1%) of the respondents in the study area had favourable perception towards the use of ethno-veterinary medicine while 40.9% had unfavourable perception. This implies that perceptual usage of ethno-veterinary medicine is good perception and this will encourage the farmers to continue using the practice and also promote the widespread of the usage to others who have not been using it.

Table 3: Constraints to the Use of Ethnoveterinary Medicine

Constraints	Major Constraint	Minor Constraints	Not a Constraints
Lack of adequate information on use of ethnoveterinary.	85(77.3)	24(21.8)	1(0.9)
Unfavourable government policies.	59(53.6)	15(13.6)	36(32.7)
Competing needs for material used.	9(8.2)	28(25.5)	73(66.4)
Ineffectiveness of some practices.	52(47.3)	56(50.9)	2(1.8)
Poor research on ethnoveterinary.	71(64.5)	29(26.4)	10(9.1)
Lack of training on how to use ethnoveterinary medicine.	83(75.5)	14(12.7)	13(11.8)

The above table shows that most (77.3%) of the respondent in the study area identified lack of information as one of the major constraints, 53.6% said that unfavorable government policies is the major constraint. Also 50.9% of the respondents identified ineffective of some practices one of the major constraints. Majority of the respondents said lack of training on how to use

ethnoveterinary medicine is the major challenges while poor research on ethnoveterinary potency (64.5%) was considering as a major constrain. On the other hand, majority (66.4%) of the respondents said that competing needs for material used in ethnoveterinary medicine was not a constraints.

Table 4: Benefits Derivable from Ethnoveterinary Medicine

S/N	BENEFITS	HIGH	MODERATE	LOW	NO
1.	Reduced cost of drugs	85(77.3)	21(19.1)	4(3.6)	0(0.0)
2.	Easily accessible	18(16.4)	63(57.3)	17(15.5)	12(10.9)
3.	Very easy to administered	12(10.9)	49(44.5)	28(25.5)	21(19.1)
4.	Can be used at any time.	25(22.7)	53(48.2)	30(27.3)	2(1.8)
5.	It is affordable	55(50.0)	45(40.9)	10(9.1)	0(0.0)
6.	It is cheaper compared to veterinary drugs.	76(69.1)	27(24.5)	7(6.4)	0(0.0)
7.	It helps to remove effect of chemical residue.	66(60.0)	27(24.5)	17(15.5)	0(6.0)

Source: Field Survey 2017

The result on table 4 shows that most (77.3%) of the respondents identified usage of ethnoveterinary medicine to reduced cost of drugs and 57.3% considered easy accessibility to mutual usage of ethnoveterinary medicine as one of the benefit derived while majority 69.1% of the respondents said that ethnoveterinary medicine is cheaper compared to veterinary

drugs available in the market and 60.0% said it helps to remove effect of chemical residue from the meat gotten from poultry. In addition, 44.5% of the respondents considered ethnoveterinary medicine to be very easy to administer and 48.2% of the respondents said it can be use at any time.

Table 5: Uses of Ethnoveterinary Medicine

S/N	Uses of ethnoveterinary medicine	Very frequently	Frequently	Sometimes	Not used
1.	Use of Banana(<i>musa sapiartum</i>) to treat excretory disorders.	5(4.5)	14(12.7)	18(16.4)	73(66.4)
2.	Use of <i>Carica papaya</i> to increase feeding for getting maximum weight.	10(9.1)	9(8.2)	43(39.1)	48(43.6)
3.	<i>Zingiber officinale</i> (Ginger) to treat chronic respiratory disease.	3(2.7)	19(17.3)	23(20.9)	65(59.1)
4.	Use of Garlic (<i>Allium satirum</i>) to treat chronic respiratory disease.	1(0.9)	23(20.9)	23(20.9)	63(57.3)
5.	<i>Moringa oleifera</i> leaf is use to resist high temperature.	9(8.2)	11(10.0)	67(60.9)	23(20.9)
6.	<i>Glycine max</i> seed (soybean) is used to increase energy and weight.	28(25.5)	57(51.8)	15(13.6)	10(9.1)
7.	Use of <i>Citrus aurantifolia</i> fruit (Limes) to resist high temperature.	19(8.2)	11(10.0)	36(32.7)	54(49.1)
8.	Use of bitter leaf (<i>Vernonia amygdalina</i>) to treat Newcastle disease.	4(3.6)	25(22.7)	20(18.2)	61(55.5)
9.	Use of <i>Khaya senegalenses</i> (Dryzone Mahogamy) to treat Newcastle diseases.	0(0.0)	17(55.5)	36(32.7)	57(51.8)
10.	Use of palm oil to treat fowl pox.	9(8.2)	17(55.5)	61(55.5)	23(20.9)
11.	Use of bitter leaf to treat chronic respiratory diseases.	5(4.5)	20(18.2)	71(64.5)	14(12.7)

The result in the above in Table 5 shows that 66.4% of the respondents did not use Banana leaf (*Musa sapentium*) to treat excretory disorders. Also 39.1% of the respondents sometimes use *Carica papaya* to increase feeding to get maximum weight. In addition, 59.1% of the respondents did not use Ginger (*Zingiber officinale*) to treat chronic respiratory disease and 10.9% sometimes use *Moringa oleifera* leaf to resist high temperature on the other hand, majority 51.8% of the respondents frequently use *Glycine max* seed to increase energy and weight, while 32.7%.

Sometimes use lime (*Aurantifolail* fruit) to resist high temperature.

Furthermore, 55.5% did not use bitter leaf (*Vernonia amygdalina*) to treat Newcastle disease and also 51.8% did not use dryzone mahogamy (*Khaya senegalese*) to treat Newcastle diseases. In the study area, 55.5% of the respondents use palm oil to treat fowl pox and also majorities (64.51) sometimes use bitter leaf to treat respiratory diseases.

Table 6: Sources of Information on Ethno-Veterinary Medicine

S/N		VERY FREQUENTLY	FREQUENTLY	NOT FREQUENTLY	NOT AT ALL
1.	Radio	9(8.2)	2(1.8)	28(25.5)	71(64.5)
2.	Friends	17(15.5)	31(28.2)	56(50.9)	6(5.5)
3.	Posters	0(0.0)	10(9.1)	73(66.4)	27(24.5)
4.	Television	2(1.8)	19(17.3)	40(36.4)	49(44.5)
5.	Newspaper	2(1.8)	20(18.2)	62(56.4)	26(23.6)
6.	Meeting	21(19.1)	18(16.4)	59(53.6)	12(10.9)
7.	Extension agent	20(18.2)	12(10.9)	43(39.1)	35(31.8)
8.	Research institutes	20(18.2)	13(11.8)	39(35.5)	38(34.5)
9.	Veterinary doctor	0(0.0)	11(10.0)	38(34.5)	61(55.5)
10.	Pharmacy	1(0.9)	6(5.5)	26(23.6)	77(70.0)
11.	Market vet	2(1.8)	3(2.7)	14(12.7)	91(82.7)

From table 6 above, majority of the respondents 64.5% did not get their information from radio which means they got their information from other sources, while only small percentage got their information from friends (28.2%), Television (17.3%), Newspaper (18.2%), Meeting (16.4%), research institutes (11.8%) and veterinary doctor (10%) which is an indication that information about ethnoveterinary medicine is not well known about some poultry farmers sampled.

III. CONCLUSION

The respondents' perception on ethnoveterinary medicine showed that most of the respondents had favourable perception towards the use of ethnoveterinary medicine and majority of the respondents identified that constraints facing the respondents ranges from lack of information, unfavorable government policies, poor research on ethnoveterinary medicine and lack of training on how to use ethnoveterinary medicine. Finally, the contribution of ethoveterinary medicine can not be over emphasis and these includes reduction in the cost of purchase of modern medicine , easily accessible, easy to administer, it promotes organic farming and it has no residual effect on the meat.

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