Journal of Capital Development in Behavioural Sciences Vol. 10 Issue 2 (September, 2022)
Faculty of Arts & Education, Lead City University, Ibadan, Nigeria
***ISSN Online:** 2449-0679 **ISSN Print:** 2354-3981*

Ethno veterinary Practices in the Management of Goats among Farmers in Edu Local Government Area of Kwara State, Nigeria

[1]Olatunde, O. A., [3]Adebayo, S. A., [3]Omokanye, M.A., [2]Ameen, S. A. and [3]Malomo, J. O.
[1]Department of Theriogenology and Production,
University of Ilorin, Ilorin, Nigeria
[2]Department of Veterinary Medicine,
University of Ilorin, Ilorin, Nigeria
[3]Department of Agricultural Extension and Rural Development
University of Ilorin- Ilorin, Nigeria
Corresponding Author: Olatunde, O. A.
email; tundeola@unilorin.edu.ng

Abstract
This study focused on assessing the ethno-veterinary practices in management of goats among farmers in Edu Local Government Area of Kwara State, Nigeria. Data for the study were obtained with the aid of questionnaire administered to goat farmers. A two-stage sampling technique was used to select 100 respondents for this study. The data was analysed using descriptive and inferential statistics. Majority of the respondents were male (90%), and married, while (85%) were between (41 – 50) years and have a low level of education (50%.). About 42% kept their goats on extensive system with flock size of 11-20 goats per farmer. Majority of the respondents agree that tick infection is the commonest disease prevalent in the study area. Majority of respondents use cassia (Senna italic) (75%), citrus lime (citrus aurentifolia) (75%), aloe vera (aloe spp (70%) scent leaf (Occmum grattisium) (72%) and bitter leaf (Vernonia amygdalina) (66%) to treat goat diseases. Most of the respondents found this local medication accessible, easy, simple, cheap and affordable. Based on the findings, ethno – veterinary practice can enhance good health and productivity of small ruminants, goat in particular. Therefore, it is recommended that policy makers should

formulate policies that would enhance the integration of conventional animal treatment with indigenous (ethno – veterinary) treatment of domestic animals such as goats.

Keywords: Ethno-Veterinary, Practice, Farmers, Goat Treatment

Word Counts: 213

Introduction

Traditional veterinary practices play important role in livestock production in Nigeria (Kudi and Myint, 1999). In the rural communities, several factors make the farmers rely on traditional veterinary services which include absence of adequate conventional animal health care systems, (Alawa, Jokthan and Akut, 2002), unavailable effective therapy (Kolawole, 2001) among others. Moreover, traditional veterinary practices is easily accessible compared to conventional drugs, easy to prepare and administer, cost very little or nothing at all, it is part of our culture and environmental friendly (Adedapo, Dina, Saba and Oladipo, 2000; Ngeh, Wanyama, Nuwanyakpa, Django, 2001 and Olatunde *et al*., 2019). Poor health in animal herd is an obstacle to animal production and development especially in rural and peri-urban communities. Small ruminant diseases (goat) not only causes direct economic loss to the farmer through animal mortality and poor growth and reproduction, the skin of mange-infested animals often must be downgraded or rejected at the tannery (Olatunde *et al*., 2022). This leads to economic losses to the tannery industry and ultimately the country through reduced foreign earnings**.** Some plants utilize in ruminant feeding are also used to treat various illnesses of animals for example *Aspilia Africana* among others have been positively identified to have prophylactic properties (Chah, Igbokwe and Chan, 2009). In another study, Olatunde *et al*. (2021), investigated the haematologica and histopathological effects of selected herbs and their combinations on *Typanasoma brucei* infected west African dwarf sheep with significant findings. This study therefore focuses on the ethno-veterinary practices in the management of goat among farmers in Edu local government area of Kwara, Nigeria. The specific objectives are to:

i. Describe the socio-economic status of the respondents.
ii. Assess the level of awareness of goat owners about goat diseases and their controls.
iii. Determine the common goat diseases prevalent.
iv. Identify the ethno-veterinary medicine used in the treatment of goat diseases.
v. Investigate the goat owner's sources of information on animal care service.
vi. Identify the constraints to animal care services in the study area.

Research Questions

i. What are the common goat diseases you are familiar with?
ii. Do you have proper veterinary care within the area?
iii. Which trado-medical care do you engage in the area?
iv. What are the systems of rearing goats in the area?

Methodology

The study was carried out in Edu local government area of Kwara state, Nigeria. Edu local government has an area of 2,542km^2 and a population of 201,496 as at 2006 census. It was founded in 1810 by Mallam Maliki and his brother Manzuma, two Fulani leaders from Gwandu 250 miles (400km) north-northwest, as a fortified town in Nupe territory. Other popular towns in Edu local government are Tsaraji, Shonga, Gbugbu, Sabagiyan, Shangbufu. Most of the traditional emirate's inhabitants are muslim and Nupe people.

The population for the study include farmers that are rearing ruminant animals particularly goat in the study area. Two-stage sampling technique was used for the study. At first, five villages were purposely selected in the study area. The villages were selected based on their performance on goats rearing. The five (5) villages used for the study are Lafiagi, Tsaragi, Patigi, Gbugbu and Shangbufu. The second stage was selection of twenty (20) respondents (goat farmers) from each selected villages to give a sample size of 100 respondents.

The data for this study was collected using the interview schedule as the main sources of data collection, while secondary data was collected from the Faculty of Veterinary Medicine, University of Ilorin, and Kwara State Ministry of Agriculture. Descriptive statistics

such as frequency and percentages were used to analyse the data while chi – square was used to test the hypothesis for the study.

Result and Discussion

Socio-economic characteristics of the respondents

Table 1 shows the socio-economic characteristics of the respondents. Majority of the respondents were male (90%) and married (85%). This implies that men were more involved in goat rearing in the study area. The table revealed that 47% of the respondent had primary education and half of the respondents (50%) were rearing goat as their major occupation. This implies that large percentage of the respondents had low level of education and as a result, they may not have access to modern sources of information on animal care services. The result further shows that many of the respondents were between age 41-50 years (42%) and had flock size of 11-20 goats (36%). Furthermore, it was also observed that 41% of the respondents had been rearing goat for about 10 years.

Table1: Distribution of the respondents by socio - economic characteristics (n=100).

Socio-economic characteristics		Frequency	Percent	Mean
Gender:	Male	90	90.0	
	Female	10	10.0	
Age in years:	≤ 30	2	2.0	
	31 – 40	25	25.0	46.56
	41 – 50	42	42.0	
	51 – 60	26	26.0	
	61 and above	5	5.0	
Marital status:	Single	7	7.0	
	Married	85	85.0	
	Divorce	2	2.0	
	Widowed	6	6.0	
Level of education:	No formal education	17	17.0	
	Primary education	50	50.0	
	Secondary education	17	17.0	
	Tertiary education	16	16.0	
Main occupation:	Crop farming	—	—	
	Rearing of goat	47	47.0	
	Both	53	53.0	
Rearing experience (years):				
	≤ 10	41	41.0	
	11 – 15	24	24.0	13.72
	16 – 20	22	22.0	
	21 – 25	8	8.0	
	26 and above	5	5.0	
System of rearing:	Intensive	18	18.0	
	Semi-intensive	40	40.0	
	Extensive	42	42.0	
Flock size (in number):	≤ 10	12	12.0	
	11 – 20	36	36.0	26.71
	21 – 30	20	20.0	
	31 – 40	14	14.0	
	41 – 50	11	11.0	
	51 – 60	4	4.0	
	61 – 70	1	1.0	
	71 – 80	1	1.0	
	81 and above	1	1.0	

Source: ***field survey, 2016.***

Common Goat Disease Prevalent

Table 2 showed some diseases that are prevalent in the study area. It was observed that almost all of the diseases identified were prevalent in the study area with tick infection, having the highest percentage of 97% and babesiosis of 95% prevalent.

Table 2: Distribution of the respondents by common goat diseases prevalent

Common names	Local names	Common goat diseases		Frequency	
Tick fever,redwater fever, acute respiratory diseases	Iba Eegbon Imisoke sile tikojageere	**Babesiosis** Yes No		9 5 5	(95%) (5%)
Bang's disease, Malta fever, gastric remittent	Ibationjeifuninueran	**Brucellosis**	Yes No	7 8 2 2	(78%) (22%)
Hard tick, goat tick	Kaska Eegbon	**Tick infection** Yes No		9 7 3	(97%) (3%)
Worm infection, tapeworm infection, liver fluke	Aisanaran (Sousa) Aran jedojedo Aran pelebe	**Helminthiasis** Yes No		8 0 2 0	80%) (20%)
Lockjaw *Clostridium tetani*	Aisanwiwoenupolatiarakok orotiakoninuyepe	**Tetanus**	Yes No	8 0 2 0	(80%) (20%)
Itch mite, scab mite, mite infection	Koko inationfaarayiyun	**Mange**	Yes No	8 0 2 0	(80%) (20%)
Lung worm in goat	Aran onaofuneran	**Pneumonia**	Yes No	7 4 2 6	(74%) (26%)
Mucus-based diarrhea	Igbeyiyagburuti o mu ikunlonso	**Coccidiosis** Yes No		8 7 1 3	(87%) (13%)
Black disease		**Goat pox**	Yes No	6 1 3 9	(61%) (39%)
Sleeping sickness, Nagana	Aisanmaasunmaasun (Samore)	**Trypanosomiasis** Yes No		7 8 2 2	(78%) (22%)

Source: ***field survey, 2016*** Percentages are in parenthesis

Animal Care Service Used by the Respondents

Table 4 showed the practice used in treating the various goat disease. It was observed that 46% of the respondents use ethno – veterinary, 33% uses both the ethno-veterinary and the orthodox (chemotherapy) while only 21% of the farmers uses orthodox (chemotherapy) alone, meaning that a high percentage of the respondents in the study area uses ethno-veterinary medicine in the treatment of goat diseases. This result is in line with the argument of Guéye (1999) that EVM is the only option for most of village farmers in Africa because there are almost no veterinarians in African rural areas.

Table 4: Distribution of Animal Care Service used by the Respondents

Practice used in treating the diseases	Frequency	Percent (%)
Orthodox (chemotherapy)	21	21.0
Ethno – veterinary	46	46.0
Both	33	33.0

Source: *field survey, 2016*

Plant Species used in Treating Goat Diseases

Table 5 revealed that 75% of the goat farmers claimed they use cassia *(Senna italica)* and lime (*Citrus aurentifolia)*, 72% claimed to be using effinrin *(Occimum grattisium)* 70% of the goat farmers claimed to be using aloe vera (*aloe Spp)*. Only 21% of the goat farmers claimed to be using wild syringe *(Burkea africana)*, Mpulu in Nupe. Also, it could be observed that just 25% of the goat farmers uses coffee tree in treating goat diseases and 27% uses African mahogany *(Khaya sengalensis)*. According to Mwale *et al*. (2006), *Aloe vera* leaf and juice may be used internally or externally in animals.

Table 5: Distribution of Plant Species used in Treating Goat Diseases by Respondents.

Plant species used	Common name	Yes	(%)	No	(%)	Mean	Rank
Senna italica	Cassia	75	(75%)	25	(25%)	0.75	1st
Nicotiana tabacum	Tobacco	47	(47%)	53	(53%)	0.45	9th
Khaya sengalensis	African mahogany	27	27%)	73	(73%)	0.27	13th
Ocimum grattisimum	Effinrin	72	72%)	28	(28%)	0.72	3nd
Vernonia amygdalina	Ewuro	66	(66%)	34	(34%)	0.66	5th
Burkea africana	Mpulu, wild Syringe	21	(21%)	79	(79%)	0.21	12th
Boscia Albitrunca	Coffee tree, shepherd's tree	25	(25%)	75	(75%)	0.25	11th
Citrus aurentifolia	Lime	75	(75%)	25	(25%)	0.75	1st
Grewia Flavescens	Sandpaper raising donkey berry	42	(42%)	58	(58%)	0.42	10th
Aloe Spp	Aloe vera	70	(70%)	30	(30%)	0.7	4th
Zingiber officinale	Ginger	64	(64%)	36	(36%)	0.64	6th
Moringa olifera	Moringa	62	(62%)	38	(38%)	0.62	7th
Allium sativa	Garlic	52	(52%)	48	(48%)	0.52	8th

Source: ***field survey, 2016***. Percentages are in parenthesis

Part of Plant used in Treating the Diseases

Table 6 shows the part of plant used in treating various goat diseases in the study area. 71% claimed to be using the leaves, of cassia *(senna italica)*, 44% claimed to be using the leaves of tobacco *(Nicotiana tabacum)*, 67% of the farmers said the leaves of Effinrin (*Ocimum grattisimum)* is being used in treating goat disease while 62% of farmers claimed to be using the leaves of bitter leaf (*Vernonia amygdalina)*. It was observed that 59% of the respondents used the whole plant of lime in treating disease infected goats, 50% uses the whole plant of aloe vera, 43% uses ginger's root and 50% uses moringa leaves while a very low percentage of the respondents uses garlic.The use of parts of plants in EVM in the present study is in accordance with the study by Finch *et al*. (2003), where livestock owners used roots (59%), leaves (26%) and whole plant (13%) for medicinal purposes.

Table 6: Distribution of Part of Plant used in Treating Goat Diseases by the Respondents.

Plant Used	Part of Plant Used									
	W	%	R	%	L	%	B	%	MEAN	RANK
Cassia	1	(1%)	3	(3%)	71	(71%)	-	-	2.2	**1st**
Tobacco	-	-	3	(3%)	44	(44%)	-	-	1.38	**5th**
African Mahogamy	5	(5%)	1	(1%)	18	(18%)	3	(3%)	0.73	**10th**
Effinrin	2	(2%)	3	(3%)	67	(67%)	-	-	2.07	**2nd**
Ewuro	3	(3%)	3	(3%)	62	(62%)	-	-	1.95	**3rd**
Mpulu, Wild Syringe	1	(1%)	3	(3%)	14	(14%)	-	-	0.65	**13th**
Coffee Tree, Shephard's Tree	3	(3%)	1	(1%)	18	(18%)	3	(3%)	0.71	**11th**
Citrus lime	59	(59%)	8	(8%)	7	(7%)	1	(1%)	1.0	**12th**
Sandpaper raising donkey berry	4	(4%)	1	(1%)	24	(24%)	14	(14%)	1.34	**6th**
Aloe vera	50	(50%)	5	(5%)	9	(9%)	-	-	0.87	**9th**
Ginger	12	(12%)	43	(43%)	8	(8%)	1	(1%)	1.26	**7th**
Moringa	7	(7%)	3	(3%)	50	(50%)	2	(2%)	1.71	**4th**
Garlic	23	(23%)	22	(22%)	7	(7%)	-	-	0.88	**8th**

Source: ***field survey, 2016***. Percentages are in parenthesis

Note: W - Whole plant. R - Root of the plant. L - Leaf of the plant. B - Bark of the plant.

Goat Farmers Sources of Information on Animal Care

Table 7 shows goat farmers sources of information on animal care service. It was observed that 97% of the respondents got the information on animal care service through their fellow farmers, 87% of the respondents claimed they got information from local leader, 81% of the farmers said they got information on animal care service from neighbors and friends, 80% and 66% of the farmers claimed that extension agents veterinary service are their source of information on animal health care service respectively. Also, table revealed that 40% and 27% of the farmers obtained information from the radio and newspapers respectively.

Table 7: Distribution of Goat Farmers by Sources of Information on Animal Care

Sources of Information	Yes	(%)	No	(%)	Mean	Rank
Veterinary	66	(66%)	34	(34%)	0.66	6th
service	80	(80%)	20	(20%)	0.8	5th
Extension agents	87	(87%)	13	(13%)	0.89	2nd
Local leader	97	(97%)	3	(3%)	0.97	1st
Fellow farmers	40	(40%)	60	(60%)	0.4	7th
Radio	27	(27%)	73	(73%)	0.27	8th
Newspapers	81	(81%)	19	(19%)	0.81	3rd
Neighbor	81	(81%)	19	(19%)	0.81	3rd
Friends						

Source: field survey, 2016. Percentages are in parenthesis

Constraints to Animal Health Care Services

Table 8 shows the constraints being faced by goat farmers in animal health care services, from the table, it could be observed that 85% of the goat farmers had a constraint of road network, 83% of the farmers are facing body resistance to drugs, 78% of the farmers are facing difficulties in administering drugs/vaccines, 75% of them cannot afford the conventional drugs/vaccines, 73% of the farmers are faced with the problem of unavailability of drugs/vaccines, 66% of the farmers are facing the constraint of insufficient skilled personnel to treat their goats. It could also be observed that 64% claimed to be facing the constraint of lack of proper awareness on animal health care services, and 60% of the farmers are facing the problem of lack of working equipment.

Table 9: Distribution of constraints to animal health care services by the respondents.

Constraints	Yes	(%)	No	(%)	Mean	Rank
Affordability	75	(75%)	25	(25%)	0.75	4th
Difficulty in administering	78	(78%)	22	(22%)	0.8	3rd
Unavailability	73	(73%)	27	(27%)	0.73	5th
Lack of working equipment	60	(60%)	40	(40%)	0.6	9th
Insufficient skilled personnel	66	(66%)	34	(34%)	0.66	7th
Lack of proper awareness	64	(64%)	36	(36%)	0.64	8th
Body resistance	83	(83%)	17	(17%)	0.83	2nd
Road network	85	(85%)	15	(15%)	0.85	1st
Drug toxicity	71	(71%)	29	(29%)	0.71	6th

Source: *field survey 2016*. Percentages are in parenthesis

Hypothesis Testing

Chi-square analysis testing of relationship between socio-economic characteristics of the goat farmers and the level of use of the ethno-veterinary medicine in goat.

The result of the hypothesis shows that out of all the selected socio-economic variables used in this study, age (X^2=146.048, P-value=0.000), marital status (X^2=19.357, P-value=0.022), level of education (X^2=54.151, P-value=0.000), system of rearing (X^2=42.409, P-value=0.00) and flock size (X^2=182.188, P-value =0.003) had significant relationship with the level of use of the ethno-veterinary medicine in goat treatment. This implies that the age, marital status, level of education, system of rearing and flock size affect the use of ethno-veterinary medicine in goat treatment in the study area.

Socio-Economic Characteristics	Chi-Square	Sig. (P-Value)	Remark
Gender	0.682	0.877	Not significant
Age	146.048	0.00	Significant
Marital status	19.357	0.022	Significant
Level of education	54.151	0.000	Significant
Main occupation	1.465	0.690	Not significant
Rearing experience	45.748	0.933	Not significant
System of rearing	42.409	0.00	Significant
Flock size	182.188	0.003	Significant

Level of significance ≥ 0.05 **Source:** *field survey 2016*.

Conclusion

The study revealed that the major ethno – veterinary medicine used by the respondents in the study area are from plant species. This study therefore, concludes that ethno – veterinary practices is cheap and affordable for rural farmers and can enhanced good health and productivity of small ruminants especially where access to conventional veterinary medicine is limited.

Recommendations

Therefore, the study recommends that ethno – veterinary practices should be standardized so that it can be integrated into conventional animal treatment. There should be more investigation on disease prevalence in other surrounding communities. There should also be more adequate conventional animal health care delivery to the community.

References

Adedapo A. A., Dina O. A., Saba A. B. and Oladipo O. D. (2000). Evaluation of Telfariaoccidentalis and Sorghum bicolor extracts as potent Haematinics in Domestic rabbits. *Nigerian Journal of Animal Production*, 29 (1), 88-93.

Alawa J. P., Jokthan G. E. and Akut K. (2002). Ethno - veterinary medicine in Nigeria. *Preventive Veterinary Medicine*, 54 (1) 79-90.

Chah J. M., Igbokwe E. M. and Chan K. F. (2009). Ethno - veterinary Medicine used in small ruminant health in the Eastern Guinea Savanna of Nigeria. Livestock Research for Rural Development, 21 (12) 79-85

Finch N, Froeschel K, Vecht KA. (2003). Medicinal plants in Makomereng, Pepela and Mabua – local use, knowledge and perceptions on sustainability. Retrieved 25 April 2012,http://www.sluse.dk/Courses/ILUNRM/~/media/AGRECO/SLUSE/ILUNRM/reports/FINAL%20REPORT%20ON%20MEDICINAL%20PLANTS.ashx

Guéye E. F. (1999). Ethnoveterinary medicine against diseases in African villages. World's Poultry Scie. J. 35: 187-198.

Kolawole O. D. (2001). Local knowledge utilization and sustainable rural development in the 21st century. Indigenous Knowledge Development Monitor, 19 (3), 13-23

Kudi A. C. and Myint, S. H. (1999). Antiviral activity of some Nigerian medicinal plants extracts. *Journal of Ethno - pharmacology*, 68 289-294

Mwale M, Bhebhe E, Chimonyo M, Halimani TE (2006). The in vitro studies on the effect of Aloe vera ((L) Webb. and Berth.) and Aloe spicata (L.F.) on the control of coccidiosis in chickens. *International Journal of Applied Research in Veterinary Medicine* 4(2): 128-133.

Ngeh J. T., Wanyama J., Nuwanyakpa M. and Django S. (2001). Ethno - veterinary Medicine, apractical approach to the treatment of cattle disease in Sub-Sahara Africa. Proceedings of a Conference held on 7-9th July, 2001 at ILCA, Addis Ababa, Ethiopia.

Olatunde, O. A., Jegede, H. O., Ameen, S. A., Belewu, M. A. (2019). Assessment of Effect of some selected Herbs and combination on Trypanosoma brucei infected Albino Rats. *International Journal of Phytofuels and Sciences*. (https://www.phytofuelsciences.com) (ISSN 2354-1784).

Olatunde, O. A., Jegede, H. O., Ameen, S. A. (2021). Hematological and serum biochemical and histopathological effects of some selected Herbs and combinations on Trypanosoma brucei infected West African Dwarf Sheep. *Asian. J Nat Prod Biochem* Vol. 19 No 1. E-ISSN:2580-2550.

Olatunde, O. A., Jegede, H. O., Ameen, S. A., Belewu, T. A., Adah, A. S., and Adah, A. D. (2022). Effects of Selected Herbal Diets on Performance of Trypanosome challenged West African Dwarf Sheep. *Journal of Sustainable Veterinary & Allied Sciences*. 2(1): 41-45.