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Utilization of indigenous practices among small ruminant farmers in controling ecto parasite in Ido local government area, Ibadan, Nigeria

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Abstract

High prevalence of ectoparasites in the tropics and lack of access to veterinary services necessitated the use of indigenous practices in controlling ectoparasites among small ruminant farmers. This study was carried out to assess the utilization of indigenous practices in controlling ectoparasites among small ruminant farmers in Ido Local Government Area, Ibadan, Oyo State. A multi stage sampling technique was used in selecting respondents for the study. One hundred and fifteen well-structured questionnaires were administered to the farmers and 112 were recovered from the field. Descriptive statistics such as percentage, frequency distribution and charts were used to analyse the socio-economic characteristics of the respondents. The results showed that the age 49-60 had the highest respondents (42.2%) followed by the age group of 36-48 years (28.4%). It also showed that majority of the respondents were female (66.7%). Some indigenous practices highly utilized in the study area included; the application of wild lettuce (ewe yanrin) on the affected parts of the animal (97%), Nuclea latifolin (ewe egbesi) 97% rubbing of liquid lime (osanwewe) on the affected part (93%). Chi Square was used to measure the relationship between respondents' selected socio-economic characteristics and their utilization. The Pearson product moment correlation (PPMC) was used to measure the relationship between respondents, constraints (r=0.194, p=0.050), benefit (r=0.201, p0.043). Some of the constraints identified in the study area included inadequate useful information from extension agents, extinction of materials used and non-documentation of the leaves used while some of the benefits of the leaves includes ease of administration of the leaves, low cost of the leave, and accessibility were some of the benefit derive.

Keywords: Indigenious practices, small ruminants, ecto-parasites, Ido local government.

Introduction

Indigenous small ruminants constitute greater percentage of ruminant population in Africa (Lebbie *et al.,* 2004). These flocks of animals are commonly found in the rural areas where they are owned and managed under extensive system (Otchere, 2006). Small ruminants play an important role in the lives of most people especially rural farmers whose livelihood entirely depends on them. They provide source of animal protein through their meat and milk (Fajemisin, 2001). Notwithstanding, they fetch a source of income when sold to meet some other family needs as well as play a vital social roles during ceremonies and festivals. Small ruminant management is seriously hindered by diseases in the tropics. Diseases are very important to farmers and affect the production of small ruminants in several ways. It increases cost of production, lowers production level, reduces the quality and quantity of animal products and generally causes great loss to

the farmer. Though, proven scientific methods of preventing and managing animal diseases in form of veterinary services abound, this may not always be readily available to rural farmers who are poor and less educated. However, the rural farmers have their own local methods of preventing and managing animal diseases. Such knowledge and practices are not well documented but are passed down orally from generation to generation. There are some common diseases that affect the health of goat which include; pneumonia, mastitis, diarrhoea and mange. Although limited scientific research has focused on the use of herbal remedies in animal health care in Nigeria, many of the plants used in human medication in Nigeria are also used in ethnoveterinary practices. A number of browse plants such as *Manniophyton fulvum*, *Microdesmis puberula*, *Spondiasm ombin* and *Aspilia africna* utilized in livestock feeding have been proven to be very useful in treatment of diarrhoea, cough, snake bite, e.t.c Fern, (2014).

Ectoparasites are organisms which inhabit the skin or outgrowths of the skin of another organism (the host) for various periods, and may be detrimental to the latter. Several ectoparasites currently associated with domestic animals have been acquired by the introduction of either host or parasite into new regions, as animals have become domesticated throughout the world. For example, cattle, goats and other important domestic livestock species have been introduced into much of Africa, where they may now fall victim to the ravages of native tsetse flies (*Glossina* spp.) and ticks, as well as pathogens transmitted by these parasites. Relatively rapid intercontinental transportation of these animals has compounded the problem. Due to availability of indigenous practices within respondent environment, this research investigated the utilization of indigenous practices in controlling ectoparasites among small ruminant farmers in Ido local Government area of Oyo State. In doing this, the socio economic characteristics of the rural farmers, identified diseases, flock size, types and frequency of disease occurrence and the indigenous methods of preventing and managing small ruminant diseases were assessed.

Methodology

Study area

The study was carried out in Ido Local Government Area (LGA) of Oyo state. According to 2006 National Population Census, the total population in the Local Government was 103,261 people (National Bureau of Statistics, 2009). The people are mainly small-scale farmers with secondary occupations like hunting, trading, artisan, civil service, among others. Farmers in the area grow mainly food crops such as maize, cassava, yam, vegetables. They also engage in the cultivation of some cash crops like cocoa, kola and oil palm etc.

Population of the study

The population of the study comprises of all small ruminant farmers in Ido local government area of Oyo state Ibadan.

Sampling procedure and sampling size

This study was carried out in Ido local government area of Oyo state. A multi-stage sampling technique was used to select the respondents for this study. Ido local government area of Oyo state was purposely selected for this study due to the availability of small ruminant farmers in the local government. The first stage involved selection of three farming communities which are; Ido, Omi Adio, Bakatari. The communities were purposively selected because they constitute the centres of intensive traditional agricultural activities and some of their agricultural practices. The next stage was random selection of one hundred and fifteen (115) farmers from the chosen communities. A Structured questionnaire was administered to the

respondents.

Data analysis

Descriptive statistic such as frequency and percentage were used to analyze the socio-economic characteristics and utilization of indigenous knowledge used by the respondents while Pearson product moment correlation (PPMC) was used to analyze the problems militating against the use of indigenous practices in controlling ectoparasites, respectively.

Results and discussion

Socio-economic characteristics of the respondents

The result of analysis in Table 1 shows that age groups of 49-60 years had the highest number of respondents (42.2%), followed by the age group of 36-48 years (28.4%). Implication of this is that majority of the respondents are in their active age which is in line with Madhur (2000) who says age squared proxy by life cycle represent experience i.e age widen experience in business. Result of Analysis also revealed that majority of the respondents (66.7%) were female while (33.3%) were male, which mean utilization of indigenous practices in controlling ecto-parasite not exemption of female even though they are more involved in harvesting of farming products in the study area. This is due to the fact that women were more involved in supplementing farm income in off season periods (Larinde and Kehinde, 2003). The table also revealed that the respondents' marital status were (74.5%) married, (15.7%) widow and (7.8%) single. The results also showed that 45.1%, 43.1% and 11.8% were Islam, Christianity and Traditional religion respectively. This implied that majority of those involved in utilization of indigenous practices in controlling ecto-parasite were Muslims and Christians. This observation is in line with Adekunle *et al.* (2011) that religion practices are common in Nigeria setting, especially the christian and islamic religions. Majority (33.3%) of the respondents had tertiary education, while 31.4% and 22.5% had no formal education and secondary education respectively. This shows that the level of education could influence their utilization of indigenous practices in controlling ecto-parasite. This also corresponds to findings of Swanson (2008) which argued that education enables farmers to make informed decision regarding adoption and managing their lives successfully to cope with everyday problem and to realize their opportunities. Result of analysis further revealed that majority of the respondents got their source of labour from family (61.8%). Furthermore, majority of the respondents had 82.4% belongs to one farmer organization or the other, this will also broading their knowlege and ehance their understanding of a particular innovations on some indigenous practices. The results also show that majority had above 10years experience. Majority of the respondents had < 30,001 – < 50,000 and < 20,001 – < 30,000 with 68.6%, and 13.7% respectively as their income generated in the study area.

Different herbs used by respondents and rate of their utilization

Results of analysis in Table 2 revealed that majority of the responsents in the study area (74%, 72%, 72% and 62%) utilized lime, hand picking, bitter gourd (*ejinri*) and palm kernel oil respectively to remove ticks and lice from the affected parts of the animals. While (5%, 21%, 23%, 23%) of them use locust beans, liquid from slim mixed with pawpaw leave liquid, vitellaria and potash and tobacco leaves extract respectively to treat ecto-parasites on their animals. Meanwhile, 28% of the respondents use Ficus leaves to control lice on the body of their animals.

Table 1: Socio-economic characteristics of respondents

Variables	Frequency	Percentage %
Age (years)		
25 – 35	23	22.5
36 – 48	29	28.4
49 – 60	43	42.2
Above 60	7	6.9
Sex		
Male	34	33.3
Female	68	66.7
Marital status		
Married	76	74.5
Single	8	7.8
Widow	16	15.7
Divorce	2	2.0
Religion		
Christianity	44	43.1
Islam	46	45.1
Traditional	12	11.8
Household size		
2 – 4	80	78.4
5 – 7	1	1.0
Above 7	21	20.6
Education attainment		
No formal education	32	31.4
Adult education	5	4.9
Primary education	8	7.8
Secondary education	23	22.5
Tertiary education	34	33.3
Source of labour		
Family	63	61.8
Hired	39	38.2
Membership of association		
None	10	9.8
Cooperative society	8	7.8
Farmer organization	84	82.4
Year of farming experience		
4 – 6	30	29.4
7 – 10	35	34.3
Above 10	37	36.3
Income (#)		
10,000 – 20,000	9	8.8
20,001 – 30,000	14	13.7
30,001 – 50,000	70	68.6
Above 50,000	9	8.8

Result of analysis in Table 4 shows constraints facing by respondents on utilization of indigenous practices in controlling ecto-parasite in the study area. Majority (83.3%) had high constraint on size of the farm, follow by (66.7%) had inadequate extension agent information (54.9%) had Most of those thing as go to extinction do to non-propagation, (51.0%) had Repeatability of it is not possible because of non-documentation while few majorities had low constraints to illiteracy (51.0%).

Table 2: Different herbs used by respondents and rate of their utilization

		Highly utilized	Low utilized	Not utilized
1.	Bitter gourd (ejinri) is use in washing the affected part of the animal.	72 (70.6)	16 (15.7)	14 (13.7)
2.	Squeezing tobacco leaves to extract liquid to rub on the body of the affected animal.	23 (22.5)	58 (56.9)	21 (20.6)
3.	Ficus leaves (ewe epin) is used in controlling lice by putting it in their house.	28 (27.5)	51 (50.0)	23 (22.5)
4.	Administration of the liquid from slim weed (ewe akintola) mixed with pawpaw leave (akoibepe) and applied to the affected part of the animal.	21 (20.6)	54 (52.9)	27 (26.5)
5.	Use of locust beans by rubbing it on the affected part of the animal.	5 (4.9)	17 (16.7)	80 (78.4)
6.	Manual removal of ectoparasite (use of hand)	72 (70.6)	21 (20.6)	9 (8.8)
7.	Palm kernel oil is rubbed on the affected part of the animal.	62 (60.8)	31 (30.4)	9 (8.8)
8.	Use of herbs vitellaria used for ticks and by rubbing potash on the affected part of the body of the animal.	23 (22.5)	61 (59.8)	18 (17.6
9.	Rubbing of liquid lime (osanwewe) and also the use of palm oil on the body of the animal.	74 (72.5)	19 (18.6)	9 (8.8)

Table 3: Categorization of respondents' utilization

	F	%	mean	SD	minimum	Maximum
High	63	61.8	15.33	5.03	0.00	24.00
Low	49	38.2				
Total	102	100				

Table 4: Constraints to indigenous practices

		High Constraint	Low Constraint	Not a Constraint
1.	inadequate extension agents information	68 (66.7)	31 (30.4)	3 (2.9)
2.	overdose of local herbs	49 (48.0)	50 (49.0)	3 (2.9)
3.	illiteracy	38 (37.3)	52 (51.0)	12 (11.8)
4.	Repeatability of it is not possible because of non-documentation	52 (51.0)	44 (43.1)	6 (5.9)
5.	Most of those thing as go to extinction do to non-propagation.	56 (54.9)	40 (39.2)	6 (5.9)
6.	Size of the farm	85 (83.3)	14 (13.7)	3 (2.0)

Table 5: Categorization of respondents' constraints

	F	%	Mean	SD	minimum	maximum
High	69	67.6	9.09	1.79	4.00	12.00
Low	33	32.4				
Total	102	100				

Result of analysis in Table 6 shows the benefits derived by respondents on utilization of indigenous practices in controlling ecto-parasite in the study area. Majority (70.6%) enjoys indigenous practices as a way of removing of chemical residue from the body of animal to a large extent while majority (48.0%, 47.1% and 46.1%) of the respondents see it as cheaper compared to veterinary drugs, easily accessible and affordable respectively on lesser extent in the study area.

Table 6: Benefits derived by respondents from the use of indigenous knowledge to control ectoparasites by ruminant farmers

	Large extent	Lesser extent	Rarely	Not extent
1. it helps to remove effect of chemical residue.	72 (70.6)	14 (13.7)	15 (14.7)	1 (1.0)
2. it is cheaper compared to veterinary drugs	36 (35.3)	49 (48.0)	16 (15.7)	1 (1.0)
3. very easy to administer	47 (46.1)	36 (33.3)	19 (18.6)	2 (2.0)
4. it is affordable	35 (34.3)	47 (46.1)	19 (18.6)	1 (1.0)
5. it is easily accessible	23 (22.5)	48 (47.1)	29 (28.4)	2 (2.0)
6. it is readily available	20 (19.6)	33 (32.4)	45 (44.1)	4 (3.9)

Table 7: Categorization of respondents' benefits derived by respondents from the use of indigenous knowledge to control ectoparasites by ruminant farmers

	F	%	mean	SD	minimum	maximum
High	70	68.6	12.67	3.19	0.00	18.00
Low	32	31.4				
Total	102	100				

Chi-square relationship between respondents selected socio-economic characteristics and their utilization

The result of analysis in Table 8, revealed that there was no significant relationship between respondents selected socio-economic characteristics and their utilization. This result implies that results of utilization of indigenous practices in the study area is not a function of sex, age, marital status, religion, household size, level of education, source of labour, membership of association, year of farming experience and income which connotes that all selected socio-economic characteristics are not determinants of utilization of indigenous practices among small ruminant farmers in controlling ectoparasite in the study area.

Table 8: Chi-square analysis

Variables	X^2-value	p-value	Decision
Age	15.150	0.233	NS
Sex	8.209	0.084	NS
Marital Status	9.515	0.658	NS
Religion	2.270	0.972	NS
Household size	10.335	0.242	NS
Level of Education	17.468	0.356	NS
Source of labour	5.327	0.255	NS
Membership of Association	15.184	0.056	NS
Year of farming experience	8.068	0.427	NS
Income	14.105	0.294	NS

Relationship between respondents' constraint, benefit and their utilization

Results of analysis in Table 9 revealed that constraint (r = 0.194, p = 0.050), benefit (r = 0.201, p = 0.043) of respondents has significant relationship with their utilization. This result implies that constraint and benefit are determinants of utilization of indigenous practices among small ruminant farmers in controlling ecto-parasite in the study area.

Table 9: PPMC analysis of relationship between respondents' constraint, benefits and their utilization

Variable	r-value	p-value	Decision
Constraint	0.194	0.050	S
Benefit	0.201	0.043	S

Conclusion

This study revealed that farmers in the study area were predominantly females and were muslims who are married and are in their youthful age. It can be deduced from the study that majority of the respondents have been using these indigenious practices in controling ecto-parasites in ruminant animals for over 10 years. Furthermore, it was revealed that majority of them use lime, bitter gourd (ejinrin), hand picking and palm kernel oil to remove ectoparasites from the body of their animals while a few of them use locust bean, liquid from slim weed mixed with pawpaw leaves extract, vitellaria and potash. However, some also uses Ficus leaves (ewe epin) to control lice. The facts that these resources are available within their reach at no cost and the farmers are awaere of their usefulness make their utilization easier for the farmers.

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