



## Ethnoveterinary practices among sheep rearers in Ona-Ara Local Government of Oyo state, Nigeria

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### Abstract

A questionnaire-based survey was conducted to generate data on ethnoveterinary practices used for maintaining the health and curing diseases of sheep in Ona - Ara Local Government, Oyo State, Nigeria. Information was collected from fifty two indigenous sheep rearers using direct observation of household and interview with key informants with the aid of questionnaires. The data were analysed using simple descriptive statistics to generate frequencies and percentages. Demographic characteristics of the respondents show that 57.7% were males while 42.30% were females, 57.69% household sheep owners used extensive system of management while the rest used semi-intensive system. Major causes of losses were diseases and predation. About 7.69% used purely local concoction in solving the problem of ectoparasites and diseases and those who used local remedies claimed to have gained the knowledge through friends, family, radio, books, extension service and others. Data collected revealed that there is low documentation of ethnoveterinary knowledge among sheep owners in Ona-Ara Local Government and this has been responsible for the low patronage of this useful aspect of veterinary services in addressing challenges and complexities of health problems of the modern period.

**Keywords:** Ethnoveterinary medicine, Ethnoveterinary knowledge, Nigeria, Oyo State, Sheep.

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### Introduction

Nigeria is yet to benefit from the global \$100 billion medicinal plants funds, while other countries like India and China are already benefiting from the funds (Soji-Eze, 2012). According to Brouwer *et al.*, (2005) approximately 25% of all pharmaceutical products worldwide originated from traditional medicinal knowledge and there is widespread interest in developing new types of medicinal agents with greater potency and reduced side effects. Ethnoveterinary medicine (EVM) is a system that is based on people's beliefs, indigenous knowledge, skills, methods and practices used for curing diseases and maintaining health of animals (Mathias-Mundy & McCorkle, 1989; Tabuti *et al.*, 2003). According to Misra and Kumar (2004), EVM is the community-based local or indigenous knowledge and methods of caring for, healing and managing livestock. Gueye (1999) argues that EVM is the only option for most

of village poultry farmers in Africa, because there are hardly enough veterinarians in African rural areas. The use of EVM is sustainable and ecologically sound, as plant products with recognized medicinal properties are far more accessible to the villagers than western medicine (Gueye, 1999). This implies that EVM is more widely used in the developing world than in developed countries. Traditional veterinary medicine knowledge like all other traditional knowledge system is handed down orally from generation to generation and it may disappear because of rapid socioeconomic, environmental, technological changes which have eroded cultural heritage under the disguise of civilization (Mathias-Mundy & McCorkle, 1989; Nfi *et al.*, 2001). Most of the developing countries including Nigeria rely wholly or partly on traditional herbal medicine for treatment and control of animal and human

diseases (Sofowora, 1993). Kudi and Myint, (1999) concluded that in Nigeria, traditional veterinary practices play important roles in many areas. Moreover, questionable quality of allopathic drugs, development of chemo-resistance in livestock and companion animals due to indiscriminate use of antihelmintics and antibiotics e.g ampicillin and tetracycline and their user-unfriendly effects such, as antibiotic residues in the milk and other animal products are sufficient drawbacks to divert the attention from modern veterinary medicine to ethnoveterinary medicine (Akhtar, 1988; Akhtar & Ahmad, 1992).

Traditional practices still form the building blocks on which the foundations of development lie. Unless they are understood in their entirety, sustainable development becomes difficult. Traditional practices can be used to provide economical solutions to improve productivity of animals and reduction in poverty of the poor farmers (Iqbal *et al.*, 2005; Soji-Eze, 2012). The use of medicinal plants is an option for livestock farmers who are not allowed to use allopathic drugs under certified organic programs or cannot afford to use allopathic drugs for minor health problems of livestock (Cheryl *et al.*, 2007). Hence, this study was designed to generate information on ethnoveterinary medicine and its application in sheep management in Ona-Ara Local Government, Oyo state, Nigeria.

## Materials and methods

### *Study area*

The study area covered Ona-Ara local government area (LGA) of Oyo State with its headquarter in Akanran. The LGA has eleven districts (wards). Agriculture is the mainstay of the inhabitants, although few engaged in non-agricultural activities and their major language is Yoruba. It has an area of 290km<sup>2</sup> and a population of 265,059 as at 2006 National Population.

### *Survey protocol and information gathering*

Fifty-two (52) respondents were randomly selected from the study area. All respondents were farmers or traders who are engaged in economic activities around sheep rearing. The instruments for information collection were structured questionnaires, direct observation of household sheep rearers and interviews. These were administered to the selected village sheep owners and sheep traders. information provided by the respondents were organized under the following sub-headings: socioeconomic background, sheep

management practices, major causes of sheep losses, health management practices, local methods for treating sheep diseases and extension services that the respondents enjoyed.

### *Data analysis*

Data obtained are presented tables. They were analyzed using simple descriptive statistics to generate frequencies and percentages with the aid of SPSS (2007).

## Results

Table 1 shows demographic characteristics of the respondents. Out of the 52 respondents interviewed 57.69% were males while 42.31% were females. Twenty-five percent had primary education, 55.77% had secondary education while 5.77% attended tertiary education and 13.46% never attended any school. According to occupation 9.62% were artisans, 42.32% were farmers (combined rearing of sheep with planting of crops) while 32.69% and 15.38% were traders and other occupations respectively. It was also observed that 55.77%, 34.62% and 9.62% reported that they have been rearing sheep on subsistence level for 4-15 years, 16-27 years and 28-40 years respectively. The report also showed that 96.15% of the farmers depend on their personal savings as source of capital while only 3.85% relied on bank for loan.

The management practices employed by the respondents were as described in Figure 1. Fifty-seven point sixty-nine percent 57.69% household sheep owners used extensive system of management while the rest used semi-intensive system. 63.46% of the owners fed their animals with kitchen waste and forage, 30.77% fed with forage and concentrate while 1.92% fed them with forage only as shown in Figure 2. The results also indicated that animals were fed at variable number of times in a day with the highest number of respondents (82.69%) feeding their animals twice per day.

Figure 3 shows the major causes of losses which include diseases, predation and parasites, and a combination of these as claimed by the respondents. Other factors included road traffic accidents, theft and unhygienic conditions. A greater proportion of the losses (38.46%) occurred at the adult stage (figure 4), higher than in lamb (28.85%) while it was (26.92%) in yearling stage. As shown in Figure 5 only 42.31% of the rearers vaccinated their sheep against common diseases, 7.69% used purely local concoction and 44.23% combined the use of vaccines and local remedies to vaccinate and treat their animals against

**Table 1:** Demographic characteristics of respondents of sheep owners in Ona-Ara local government of Oyo State

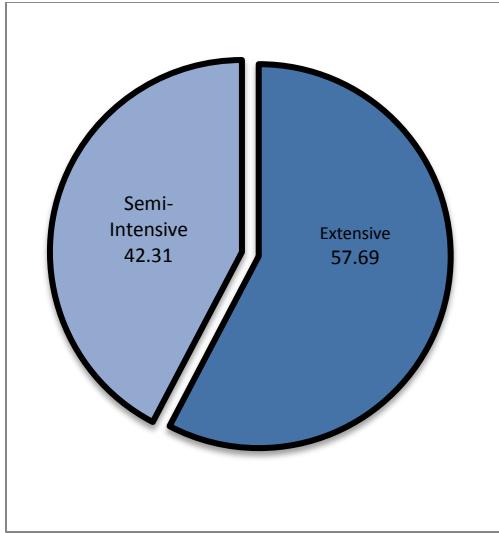
Variables		Frequency	Percentage (%)
Sex	Male	30	57.69
	Female	22	42.31
	Total	52	100.00
Education	Primary	13	25.00
	Secondary	29	55.77
	Tertiary	3	5.77
	None	7	13.47
	Total	52	100.00
Occupation	Artisan	5	9.62
	*Farming	22	42.32
	Trading	17	32.69
	Others	8	15.38
	Total	52	100.00
Period of rearing (yrs)	4-15	29	55.77
	16-27	18	34.61
	28-40	5	9.62
	Total	52	100.00
Scope of rearing	Subsistence	52	100.00
	Commercial	-	-
	Total	52	100.00
Capital source	Personal saving	50	96.15
	Bank	2	3.85
	Friends and relatives	-	-
	Cooperatives	-	-
	Others	-	-
	Total	52	100.00
Age (yrs)	24-34	04	7.69
	35-45	06	11.54
	46-56	08	15.39
	57-67	17	32.69
	>68	17	3.00
	Total	52	100.00

- Combined rearing of sheep with planting crops

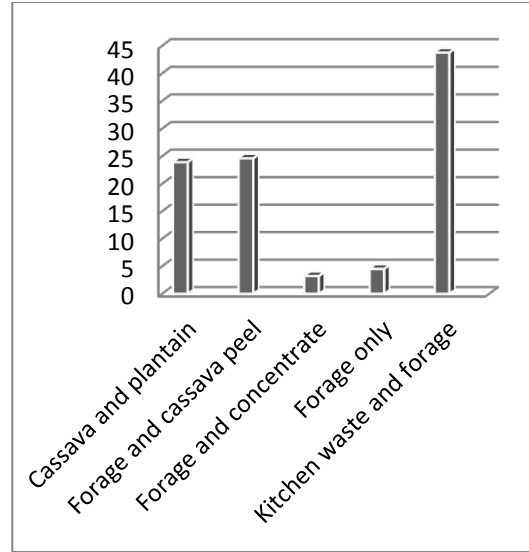
treatment despite their awareness of various disease outbreaks (Figure 5).

As revealed in Figure 6, sheep owners who use local

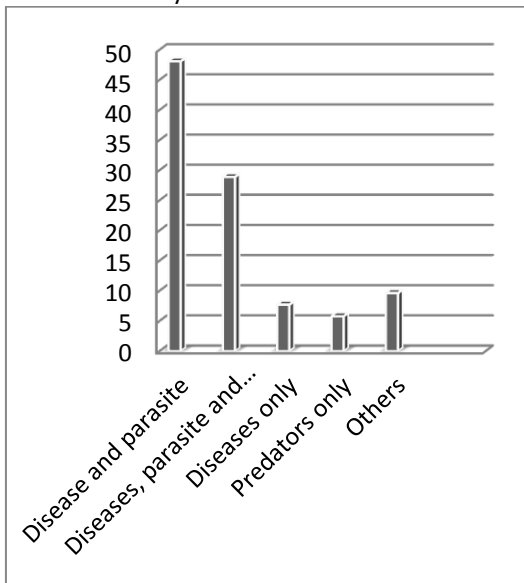
remedies claimed to have gained the knowledge through friends, family, radio, books, extension service and others.



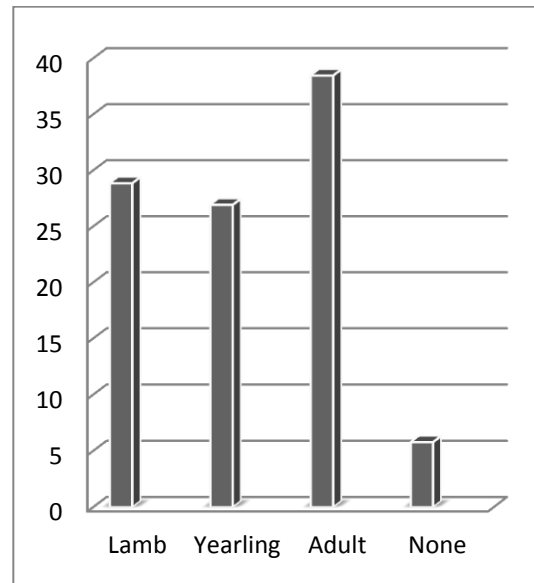
**Figure 1.** Management practices adopted by the respondents of sheep owners in Ona-Ara local government of Oyo State



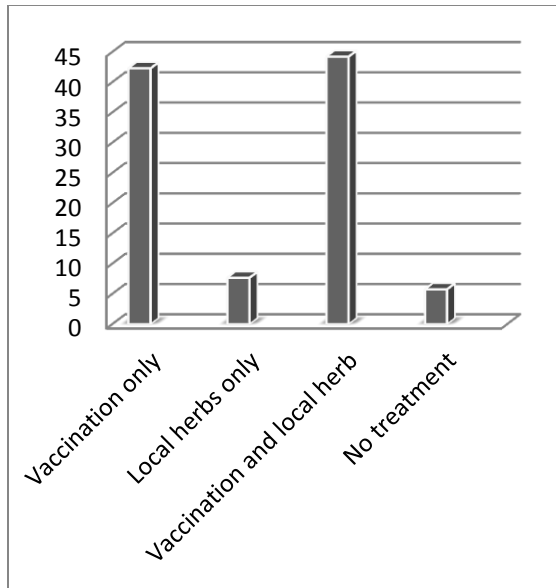
**Figure 2:** Feed types fed to the animal at Ona-Ara local government of Oyo State



**Figure 3:** Causes of sheep loss according to of sheep owners in Ona-Ara Local Government of Oyo State



**Figure 4:** Stages of sheep loss according to respondents of sheep owners in Ona-Ara Local Government of Oyo State.

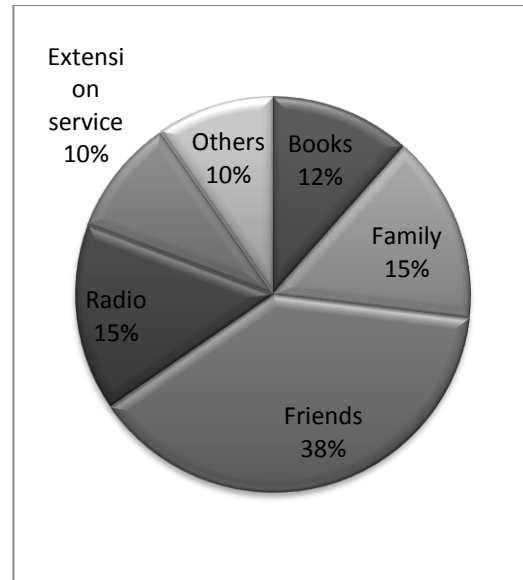


**Figure 5:** Treatment adopted by the respondents against diseases in Ona-Ara Local Government of Oyo State

### Discussion

Higher number of males with dominance of secondary school educational level in the demographic characteristics supports the observation of Chimonyo *et al.*, (1999) that in most African societies, males are the heads of the households. High level of educational awareness suggests that animal health management can be improved among the sheep owners. Management practices adopted by the respondents were characterized by low input and this supports the claims by Safilios, (1983) and Molokwu, (1982) who associated low input with extensive system of management and semi-intensive system. The dominance of extensive system of management in the study area agrees with findings of Safilios, (1983) that the most common system throughout the developing countries involves the extensive system with large herds or the intensive system with smaller herds.

The major causes of losses in sheep reported by Moreki *et al.*, (2010) in order of importance are diseases, predation and a combination of diseases, parasites and predation. This was in agreement with this study. Sheep rearers in Ona Ara Local government of Oyo state embraced the use of both the conventional and the non conventional approaches in addressing diseases and parasite challenges while a few individuals completely ignore it despite their awareness.



**Figure 6:** Sources of information at Ona-Ara Local Government of Oyo State

The common plants frequently used to treat sheep ailments in the study area includes *Allium sativum* against helminthiasis which has been reported by Uncini *et al.*, (2001). The use of *Cassia occidentalis* against retention of fetal membranes also reported by Lans and Brown (1998) and the same plant has been shown to have high anthelmintic efficacy in rats (Ibrahim *et al.*, 1984). The anthelmintic efficacy of *Vernonia amygdalina*, as obtained in the study is in line with the works of Nfi *et al.*, 2001. The use of *Aloe spp* and *Nicotiana tabacum* leaves against diseases and parasites aligns with the reports of Moreki *et al.*, 2010. Others include *Citrus medica* (helminthiasis and diarrhea), *Telfaria occidentalis* (helminthiasis), *Musa sapientum* (mastitis), *Mangifera indica* (Foot and Mouth), and *Oryza sativa* (retention of fetal membranes). Some of the plants mentioned in this study contain chemicals that may explain their ethnoveterinary use. For instance, some of the plants influence the immune system or are effective against internal and external parasites (Abdu & Faya, 2000). Plant parts used for drug preparation include barks, leaves, stems, juices, flowers, bulbs and seeds. This was also reported by Viegi *et al.* (2003), Jabber *et al.*, (2006) and Dilshad *et al.* (2008). There was a wide variation in doses and preparation of remedies from the same plant. This was in agreement with McCorkle and Mathias-Mundy, (1992) who reported that mode of preparation varies according to the active ingredient to be extracted and the route of administration.

Materials than plants used alone or in combination with other plants are common salt, potash alum, Shea butter, engine oil, palm oil. Frequently used parts of the plants were leaves, bark, fruits, and flowers. Remedies were processed by pulverization, extracted as decoctions and administered orally or topically as the case may require.

Due to poor documentation of knowledge of ethnoveterinary medicine, only few people recommended the use of local remedies while others did not give their full support because of inadequate knowledge of it. Approximately 25% of all pharmaceutical products worldwide originated from traditional medicinal knowledge and there is widespread interest in developing new types of medicinal agents with greater potency and reduced side effects.

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