

The Use of Ethnoveterinary Practices in the Treatment of Skin Diseases in Small Ruminants in Iwo Agricultural Zone of Osun State, Nigeria

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ABSTRACT

This study assesses the use of ethnoveterinary practices (EVPS) in the treatment of skin diseases in small ruminants in Iwo Agricultural Zone of Osun State. Multi-stage sampling was used to select fifty one respondents for this study. The data were collected with using a well structured questionnaire. Data collected were analysed using frequency distribution, means and standard deviation as descriptive tools while Chi-square was used to test the relationship between the use of ethnoveterinary practices and effectiveness of ethnoveterinary practices in the study area. Semi-intensive system of rearing system is the most common rearing methods in the study area. Skin mange is the most common ruminant diseases in the area and was found to be common during the raining season. Mode of transmission of the skin diseases is physical contact and the signs of the diseases include irritation/rubbing of body against the wall, ruffled flur and falling of hair, white scaly skin, formation of scab and alopecia. Ethnoveterinary practices (EPVs) is the most common health management practices in the study area. The most widely utilized ethnoveterinary materials in the study area include the use engine oil, sulphur, kerosene, and battery carbon. Almost all the respondents claim that they have adequate access to local materials and the cost of treatment using the local materials is affordable. The result of Chi-square analysis indicates a significant relationship between the determinants of the use of ethnoveterinary practices and effectiveness of ethnoveterinary practices in the study area. The study therefore concludes that ethnoveterinary practices offered the most cheaper and affordable means to provide a good and efficient medical care to small ruminants.

Keywords: Ethnoveterinary practices, Treatment, Skin Diseases, Small Ruminants

INTRODUCTION

Small ruminants are a source of food and financial security for the rural poor. According to FAO (1991), more than 50% of milk produced for human consumption are from sheep and goats in Niger and Somalia. Thirty five per cent of the total Nigerian meat supply are thought to come from small ruminants (Bayer, 1982) and almost 30% of the total meat consumed in the semi-arid zone are from small ruminants (FAO, 2001). The importance of small ruminants for meat and milk production in the tropics is well established (Gatenby, 1986; Haas and Horst, 1979; Matthewman, 1977). Little (1982) finds that in pastoral production systems in Kenya, goats are usually the only source of milk available for households in the dry season when both sheep and cattle have migrated. Because of their small size, sheep and goats provide more convenient sources of meat than cattle. Bayer

(1982) reveals that small ruminant meat contributes three times more than beef to the total meat consumed in rural areas of Northern Nigeria. Sustainable livestock production of any nation is partly dependent on her effective management of the available stock of animals. Most of the livestock in Nigeria are infected with varieties of diseases ranging from skin diseases to others related to gastro intestinal tracts (GITs). Scabies, mange, scab and itch are all terms referring to mite infections that cause inflammation and irritation of the skin and itching. These diseases cause significant losses and waste to the sheep and goat in meat and milk production. Economic losses result from a reduction in the amount of meat and quality of wool/fiber produced. Control and prevention programmes are a significant cost to the producer. On a large scale, mite infections impact the local and international trade of animals. The economic importance of common scabies exceeds any other type and possibly all other types combined. Psoriatic scabies is prevalent in the most temperate climatic zones of the world, including Iceland, Europe, Africa, Middle East, Balkans, Pakistan, India, and South and Central America, Australia, New Zealand, Canada, and the United States have eradicated the disease (IIRR, 1994).

Most of the developing countries including Nigeria rely wholly or partly on traditional herbal medicine for the treatment and control of animal and human diseases (Devendra and Burns, 1970). The absence of adequate conventional animal health care systems in the rural communities makes them to rely on traditional medicine for their primary health care (Schillhorn van veen, 1997). The rural settings also depend on traditional or indigenous knowledge mainly because ethnoveterinary knowledge is handed down orally from generation to generation and from region to region so also among and within communities. It has been developed through trial and error and deliberate experimentation. Therefore, it is less systematic, less formalized, and not universally recognized as a valid method of disease control in animals.

Ethnoveterinary medicine is easily accessible compare to conventional drugs, easy to prepare and administer, cost very little or nothing at all, it is part of one's own culture and It is environmental friendly (Ngeh, Wanyama, Nuwanyakpa and Django, 2001). The practice enhances livestock production for improved human nutrition and income generation. It was discovered that the practice builds on indigenous knowledge and practices, therefore enjoys a high rate of acceptance. Indigenous knowledge to some extent is being preserved in a continuing way. Farmers are empowered and encouraged to participate in development as there is increased awareness of the importance of environmental conservation. Moreover, when orthodox veterinary medicine was introduced, many orthodox veterinarians did not promote indigenous practices in any ways because they did not understand it and therefore, they did not appreciate the role, which ethnoveterinary medicine played in the life history of mankind (Toyang, Nuwanyakpa, Ndi, Django and Kinyuy, 1995). In most countries all over the world, the state law are enacted to govern, advocate and promote the utilization of the traditional knowledge in either independent, alongside the modern ones or in complementary with the orthodox medicine (Toyang, Nuwanyakpa, Ndi, Django and Kinyuy, 1995). Orthodox veterinary medicine was also thought to be very primitive and witchery while modern drugs were to be more professional because they were easier to

use and apply (Fielding, 1997). Some people even believed that ethnoveterinary medicine never used to cure diseases completely (The ANTHARA Team, 1997). According to Fielding (1997), there was little research done to support the argument for the practice of ethno veterinary medicine and therefore, there being no enough scientific evidence. There was increased lack of confidence in the effectiveness of ethnoveterinary medicine (Fielding, 1997). Specifically, the objectives of this study are:

- (i) To examine socio-economic characteristics of the small ruminants' farmers in the study area.
- (ii) To investigate common small ruminants diseases with their corresponding indigenous cures in the study area.
- (iii) To investigate the existing ethnoveterinary practices in the study area.
- (iv) To determine the level of effectiveness of the ethnoveterinary practices among the ruminants' farmers in the area, and
- (v) To identify the reasons for using ethnoveterinary practices.

MATERIALS AND METHOD

The study was carried out in four towns namely Iwo, Papa, Bodeosi and Fagbaibi, all in Iwo Agricultural Zone of Osun State. Iwo is an ancient city in Osun State of Nigeria. The population of the study is all the ruminants' farmers in the study area. An initial survey was carried out to identify farmers in each towns having small ruminant animals (sheep and goat), and based on the results, four (4) towns were systematically selected at different distances. The purpose was to achieve maximum sample variation in the use of ethnoveterinary practices in treatment of skin disease (mange) in the study area. Multi-stage sampling was used to select fifty one respondents for this study. The data for this study were collected with well structured questionnaire. Data collected were analysed using frequency distribution, means and standard deviation as descriptive tools while Chi-square statistic was used to test the relationship between the variables of the study.

RESULTS AND DISCUSSION

Table 1 shows the distribution of respondents by socio-economic characteristics. The mean age of the respondents was 41.4. This indicates that most of the respondents were still active and this could assist in practice of ethnoveterinary medicine. 64.7% of the respondents were males, which was an outcome of the sampling procedure which shows that male respondents used ethnoveterinary practices as major means of treating skin diseases in the small ruminants. It was also revealed that 74.5% of the respondents are married, while others are either single, widow or widower. Also only 39.2% of the respondents interviewed engage in farming as their primary occupation while 56.8% employ farming as secondary occupation. Table 1 also indicates that majority of the respondents have primary school education followed by those who acquire post primary and tertiary education. 54.9% of the respondents were into subsistence small ruminants rearing which indicates that most of them rear these animals for their immediate family animal protein need. About 29.5% of the respondents had spent more than ten years in small ruminants'

production. 80.4% got their capital for small ruminants' enterprise from personal savings. 64.7% were satisfied in the practice of small ruminants' enterprise. Table 2 shows that 80.4% of the farmers claimed that skin mange is the common ruminants' disease, while 37.3 % of the respondents claimed it was peste des petits ruminants (PPR) and 23.5% said it was foot rot. It was also revealed that 76.5% of the respondents agree that some of the signs and symptoms of the skin mange is irritation, rubbing of the body against the wall, 70.6% say ruffled fur and falling of hair, 68.6% subscribe to white scaly skin, 35.3% said formation of scab, 17.6% said alopecia. 98.2% of the respondents say that the mode of transmission of the disease is physical contact.

It was observed that about 60.8% of the respondents used both conventional and traditional methods of treatment in their health management practices. 78.4% of the respondents use ethnoveterinary practices to treat skin mange while 21.6% used this method to treat other diseases. All of the respondents claim that they have adequate access to local materials for the preparation of the local drugs. It implies that these local materials can be found in their environment. This is also in agreement with Ngeh, Wanyama, Nuwanyakpa and Django (2001) who observe that ethnoveterinary medicine materials are readily available in our locality. The respondents use engine oil, sulphur, kerosene and battery carbon for the control and treatment of the disease (table 3). Many researchers and practitioners in the field of veterinary medicine and animal health had established that conventional method is the most effective method for treating most of the diseases in both large and small livestock (Bayer, 1982; Fielding, 1997; IIRR, 1994; Toyang, Nuwanyakpa, Ndi, Django and Kinyuy, 1995). This finding supports that of The Anthara Team (1997) which reports that ethnoveterinary is not effective to cure all the diseases. However, it is highly effective in the treatment of skin diseases in small ruminants (table 4).

Table 5 indicates why respondents adopted ethnoveterinary practices in the treating of their livestock. All the respondents claim that materials for the preparation of local medicine are highly accessible. Moreover, they claim that the cost of the treatment is cheaper and affordable. While 94.1% are of the opinion that the treatment with ethnoveterinary preparation has no side effects, 78.4% are of the view that ethnoveterinary practices build on indigenous knowledge. The result of Chi- square analysis indicates a significant relationship between the determinants of use of ethnoveterinary practices and effectiveness of ethnoveterinary practices in the study area. This is shown in the order of length of time before recovery, mode of administration, accessibility to local materials, preparation of local materials, number of survived animals, sources of the local materials, cost of treatment, and effectiveness of the method while time of administration of the local preparation has nothing to do with the effectiveness of the method.

Table 1: Frequency distribution of the respondents according to their socio- economic characteristics

Socio-economic characteristics	Frequency	Percentage
Age		
30-35	13	25.4
36-40	13	25.4
41-45	11	21.6
46-50	04	7.8
>50	10	19.6

Sex		
Male	31	60.8
Female	20	39.2
Marital status		
Single	10	19.6
Married	38	74.5
Widow	03	5.9
Widower	01	1.9
Main occupation		
Farming	20	39.2
Civil service	19	37.3
Trading	07	13.7
Artisan	02	3.9
Others	01	1.9
Educational background		
Primary school certificate	17	33.3
Modern school certificate	04	7.8
Secondary school certificate	08	15.7
National certificate of education	08	15.7
Higher national diploma (HND)	04	7.8
Bachelor of Science (B.SC or B.TECH)	05	9.8
Others	01	1.9
Years spent in small ruminant production		
1-5	14	27.5
6-10	12	23.5
10years and above	25	49.0
Sources of capital		
Bank loan	02	3.9
Personal savings	41	80.4
Donation from friends and relatives	03	5.88
Cooperative societies	04	7.8
Others	01	1.9

Source: Field survey, 2012

Table 2: Frequency distribution of respondents by the common diseases in the study area

Diseases in the locality	Frequency	Percentage
Skin mange	41	80.4
Peste pes ruminants	19	37.3
Foot rot	12	23.5

Source: Field Survey, 2012

Table 3: Frequency distribution of respondents by materials being used in treatment of skin mange

Materials used	Frequency	Percentage
Used engine oil	28*	54.9
Sulphur	28*	54.9
Kerosene	25*	49.0
Battery carbon	22*	43.1

* **Multiple responses** **Source:** Field survey, 2012

Table 4: Frequency distribution of the respondents by effectiveness of EPVs in the treatment of skin diseases

Effectiveness of EPVs	Effective	Not effective
Number of animals survived from the treatment	40 (78.4%)	11(21.6%)
Mean of recovery period	43 (85.5%)	8 (14.5%)
Access to materials for preparation	51 (100.0%)	0(0.0%)

Source: Field survey, 2012

Table 5: Frequency distribution of respondents by reasons for using EPVCs in the treatment of skin diseases

Reasons for using EPVs	Frequency	Percentage (%)
Highly accessible	51*	100.0
Cheaper	50*	98.2
No side effects	48*	94.1
Builds on indigenous knowledge	40*	78.4

* **Multiple responses**

Source: Field survey, 2012

Table 6: Analysis of the relationship between the determinants of ethnoveterinary practices and the effectiveness of the practices using Chi-square model

Determinants of use of EPVCs	Chi-square value	Df	p-value	Remarks
Time of administration	0.961	1	0.327	NS
Length of time before recovery	41.765	18	0.001	S
Mode of administration	21.353	1	0.000	S
Access to materials	44.608c	3	0.000	S
Method of preparation of local materials	69.640c	2	0.000	S
Number of animals that survived	51.157c	9	0.000	S
Sources of the local materials	1.162	5	0.000	S
Cost of treatment	43.314	1	0.000	S
Effectiveness of the method	68.137c	3	0.000	S

C= Means on the same row with different superscripts are statistically significant (p<0.05)

Source: Field survey, 2012

CONCLUSION AND RECOMMENDATIONS

Sustainable livestock production of any nation is partly dependent on her effective management of the available stock of animals. Most of the livestock in Nigeria are infected with varieties of diseases ranging from skin diseases to others; related to gastro intestinal tract (GIT). This development had in recent past resulted into lost of most livestock and Nigeria has lost most of her productive stocks because the rural dwellers could not afford conventional methods of treatments. This study assesses the use of ethnoveterinary practices (EVPS) in the treatment of skin diseases in small ruminants in rural communities of Osun State. Based on the findings, this study concludes that ethnoveterinary practices is cheap and affordable for rural farmers and can enhance good health and productivity of small ruminants. Where there is no access to conventional medicine, ethnoveterinary medicine can be used to cure some certain diseases. Therefore there is need for more research into other diseases of small ruminants that are treated by ethnoveterinary practices (EVPs) among the rural livestock owners. Researchers should investigate into value addition of local medicine, how it can be packaged in an attractive packs and containers. There is

need to research into more indigenous knowledge used by the farmers to solve the health problems affecting their animals. There should be actual measurement to calculate the dosage required to cure a disease, therefore more researches should be conducted to know the chemical and medicinal properties of some plants and other materials that can be useful for treatment.

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