



Ethno-Veterinary Medicine Perspectives of Common Diseases and Health Problems of Livestock kept by Rural Women in South-West Nigeria: A Case Study

OGUNWALE IBIRONKE¹ and *BABALABI OLUTAYO²

¹National Veterinary Research Institute Vom, Plateau State, Nigeria ²Department of Veterinary Public Health and Preventive Medicine, University of Ibadan, Ibadan, Nigeria. *Corresponding author: oo.babalabi@mail.ui.edu.ng; layobabalabi@yahoo.com.

SUMMARY

Ethnoveterinary medicine is the scientific term for traditional animal health care, and provides low-cost alternatives to use of modern veterinary services and drugs. Research into ethnoveterinary medicine is often undertaken as part of a community-based approach that serves to improve animal health and provide basic veterinary services in rural areas. The study applied some participatory rural appraisal tools to identify common diseases and health problems among livestock kept by women farmers in a case study rural setting in Southwest Nigeria, as well as their ethnoveterinary practices and perception. Common livestock diseases and health problems were ranked by respondents as Diarrhoea (26%), Newcastle Disease (22.7%), Mange (18%), Fowl pox (8.4%), Peste des petite ruminants (7.8%), Lice infestation (5.8%), Foot and nose bots (5.2%), Tick infestation (3.9%) and Contagious Caprine Pleuro-pneumonia (1.95%). The farmers regard traditional intervention on the diseases of their animals as very effective as palliative treatment, and modern veterinary services as curative but less accessible and very expensive. Veterinary staff associated with the community complained about non conducive working environment and lack of mobility/ambulatory vehicle, problems of quacks that have motorcycles and go around disguising as Veterinary doctors. Recommendations are made for the training of some educated community members as community animal health workers, the control of quackery in rural areas, the provision of adequate mobility and conducive working environment for Veterinary staff as well as provision of veterinary services to farmers at affordable prices.

KEY WORDS: Ethnoveterinary medicine, Animal diseases and Health problems, Livestock, Rural women, Southwest Nigeria.

INTRODUCTION

Ethnoveterinary medicine covers people's knowledge, skills, methods, practices and beliefs about the care of their animals (McCorkle, 1986). It involves more than just using medicinal herbs. It also involves; Information: Stock raisers commonly know when their animals are sick. They can describe the disease signs, which season the disease commonly strikes, and what types of animals are affected. They also know where to find the best pasture, how to avoid tsetse-infested areas, where to find salt-licks, and many other things.

Practices: This is much wider than just the use of herbal medicines. It also covers bone-setting, vaccination against pox and other infectious diseases, branding, and careful management practices.

Tools and technologies: These range from simple tools such as thorns to vaccinate animals, to complex animal housing adapted to local conditions. Farmers are familiar with the various materials available in their environment, and skilfully take advantage of their various qualities.

Beliefs: Beliefs are commonly thought of as superstitious; something negative that has to be suppressed. Still, some beliefs can be very useful because they improve the animals' condition or prevent them from getting sick. Examples are the feeding of salt that has been blessed, protecting animals against evil winds, and not letting animals on pastures where other animals have died from diseases such as anthrax. So, it is advisable to have a close look at beliefs and encourage these if they promote animal health.

Breeds: Local breeds, such as dairy buffaloes, are

the outcome of centuries of selection. At first sight, they may produce less than introduced breeds, but they may not score as poorly if both input costs and outputs are considered, instead of only the outputs. Local breeds are presently receiving increased attention in connection with attempts to conserve their dwindling genetic resources.

Human resources: Knowledgeable farmers, herders and local healers are treasurers of knowledge and can be valuable partners in development projects.

The era of treating ethno-veterinary medicine as any other ethno knowledge systems with suspicion and labelling it as myth, superstition and witchcraft is long gone. The role of ethno-veterinary medicine in livestock development is beyond dispute (Martin *et al.*, 2001). Existing literature reveals that the traditional knowledge embodied in ethno-medicine, constitute yet an untapped resource of potentially useful information for possible deployment in sustainable animal health management system in rural and peri-urban communities all over the world (Morgan, 1981; Bolling, 1982; Abu-Rabia, 1983; Anjaria, 1986; Mc Corckle, 1986; Mc Corckle, 1989a and b; Mathias-Mundy and Mc Corckle, 1989; Mathias, 2000; Patricia, 2001; Mathias, 2004).

The study applied some participatory rural appraisal tools to study the livestock diseases and health problems of livestock kept under traditional system of management in a typical rural area in Southwest Nigeria, where a veterinary satellite clinic of the Veterinary Teaching Hospital, Faculty of Veterinary Medicine, University of Ibadan, Nigeria is located. Study objectives were to identify the major animal diseases and health problems of epizootiological importance in the study area and rank these diseases based on the livestock-keepers' perspective, determine the effectiveness of Veterinary services available in the study area, as well as their ethnoveterinary practises and perception and make pertinent recommendations.

MATERIALS AND METHOD

Study location

The location of a satellite clinic of the University

of Ibadan Teaching Hospital at Awotan, Ido Local Government Area (LGA), Oyo State, South-West Nigeria, influenced the choice of the study area. The LGA shares boundaries with Iseyin and Afijio Local Government Area to the North, Akinyele Local Government Area to the East, Ibarapa East Local Government Area to the West. It also shares boundaries with Ogun State to the south (<http://oyostate.gov.ng/ido/ido-local-government>). It has about 237 settlements; out of which about 70% are rural.

A team of 4 members was then constituted to carry out the appraisal process. The team was multidisciplinary and comprised of 2 Veterinarians, 1 Epidemiologist and 1 Sociologist; all members of the team have some training in participatory research.

Preparation

Prior to the appraisal process, the team made several visits to the community to identify key informants. The key informants were used to identify entry points as well as important clusters of livestock owners which were livestock keeping women of the community. There was no need for an interpreter as the appraisal team understood the dialect of the community. An appropriate checklist was developed.

Data collection.

i. Group and individual interview:

These were held with livestock keeping women in Awotan. A total of 6 individual and 1 group interviews were held. Fifteen women participated in the interview. Open ended questions were asked about livestock species kept together with associated diseases and other health problems as well as disease management.

ii. Ranking and scoring

These tools are used to assign values to different alternatives in order of preference. These tools allow different criteria of the different alternatives to be considered. The respondents were first asked to list the various species of livestock kept in the community after which they allotted scores to each species of animal mentioned in order of importance to them and then ranked the animals based on their importance. Also farmers were asked to list the diseases and health problems associated with these

animals and then ranked them in order of incidence and severity. The ranking exercise required informants to place items in order of importance, but the scoring tool involved the use of counters (bean seed) to attribute a specific score to each item.

iii. *Seasonal calendar*

Seasonal calendars are diagrams which illustrate seasonal variations of events under investigation. Since many animal health problems and issues are seasonal, they can be analyzed through the use of calendars.

Seasonal variations and trends in disease incidence, relative rainfall during different months, income from livestock sales, pilfering activities, livestock mortality, vector population, availability of feed and water were determined during the interviews.

A horizontal line was drawn on a board to represent 1 year. The line was then divided into 12 months, after which the respondents were asked to illustrate on the diagram the occurrence of the different events under investigation. Seasonal calendars drawn by the local people are very useful means of generating information about seasonal trends within the community and identifying periods of particular stress and vulnerability.

RESULTS

Common Livestock diseases and health problems in Awotan

The following diseases and health problems in the various animal species (sheep, goats, chicken, ducks and dogs) kept by Awotan women livestock keepers were identified as constraints to animal health and production in their village by their local Yoruba names (English equivalents in bracket) Table I.

After listing these health problems the farmers were then asked to rank the diseases in order of incidence and severity (Table II).

Seasonal pattern of identified diseases and production problems

Having identified the health problems in the community the farmers then proceeded to analyze the disease condition through the use of seasonal calendar. Other activities associated with livestock production were also considered (Table III).

Comparison of traditional and modern Veterinary services

The Awotan women livestock keepers were asked to make a comparative evaluation of available traditional and modern veterinary services they patronize. The result is reflected in Table IV.

TABLE I: Major livestock diseases/ health problems identified by livestock keeping women in Awotan

Sheep and Goat	Ayokele or yole yole (PPR)	Igbegburu (diarrhoea)	Ekuku (mange)	Kokoro (nose and foot bots)
Chicken	Lukuluku or yirunyirun (Newcastle Disease)	Ogodo adiyé (Fowl pox)	Yoro (lice infestation)	Soso (infertility in local chicken)
Dog	Ekuku (mange)	Eegbon (tick infestation)		
Duck	iku ojiji (sudden death)			

TABLE II: Ranking of livestock diseases and health problems

Health problems	Diarrhoea	New castle	Mange in sheep, goat and dog	Fowl pox	PPR in sheep and goats	Lice infestation	Foot and nose bots	Tick infestation	CCPP in goats
Scores	40	35	28	13	12	9	8	6	3
Rank	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

TABLE III: Seasonal calendar of disease incidence, income, mortality etc

Items Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Disease												
Income from livestock												
Pilfering												
Live*stock mortality												
Vector population												
Water/feed availability												

TABLE IV: Comparison of sources of animal health and disease control intervention

Criteria	Modern Veterinary intervention	Ethno-Veterinary intervention
Readiness	Curative	Palliative
Accessibility	Less accessible	More accessible
Preference	Most preferable or satisfactory	More satisfactory
Cost	More expensive	Less expensive
Efficacy	Most efficacious	Less efficacious

DISCUSSION

The prevalent disease condition in the community according to the livestock keeping woman farmers in Awotan were diarrhoea, foot and nose bots and CCPP (in wet season), although the appraisal team only observed lameness in a flock of sheep resulting from foot bots throughout the appraisal process. Pilfering of animals is one serious vice in Awotan. This is usually due to the system of management. Feed and water is available throughout the year although animal feed more on cassava peelings during the dry season rather than leaves.

The most severe health problem identified by the women is diarrhoea, especially in sheep and goats. Farmers attributed this problem to the consumption of wet grass that has been infested by *elete* (a small insect). Following the consumption of such grasses, animals bleat and foam in the mouth, they also run diarrhoea. The traditional cure for this condition according to the respondents is the administration of palm oil or *omidun* (liquid extracts from locally processed maize grain). These are sometimes combined with Flagyl[®] (Metronidazole) which is highly effective. Application of *taba* is more effective.

Nose and foot bot is a condition that causes lameness in sheep and goats and makes the animals rub their nose on the wall. The problem

is curtailed by the application of *taba* (tobacco snuff) or sometimes *Izal[®]* a commercial disinfectant.

PPR is one disease problem that has no traditional cure, although farmers usually give a combination of tetracycline and Paracetamol[®] in an outbreak but prognosis is 50:50, farmers therefore ensure that they get their animals vaccinated against the disease.

Another problem which farmers identified but do not have any diagnosis for is Contagious Caprine Pleuropneumonia (CCPP). This they described as muco-purulent discharge from the nose due to cold, but the occurrence is not common in dry season.

Mange is one health problem that affects sheep, goats and dogs. This condition makes the animals unthrifty. A mixture of *osan wewe* (lime juice) and palm oil applied on the animal is usually the solution.

Newcastle Disease is another disease condition that has no traditional cure, as it make birds to dry up and die. Other health problems in birds include fowl pox, and lice infestation. Spread of lice from one animal to another or human is usually controlled by spraying *osan wewe* (lime juice) around the birds; the aroma from the juice

usually does the magic. Also *ewe epin* can be spread around the birds as it traps the lice and prevents their spread.

Tick infestation is not a serious threat in the community as only few members of the community keep dogs.

Sudden death of sheep and goats following the consumption of polythene, or cassava peelings that have not been processed with salt which results in excessive deposition of fat in the animal is also a regular occurrence in the area (Personal Communication).

From the semi-structured interview and calendar analysis, it was gathered that disease problems occur all year round but more severe during the wet season as depicted in table III (deeper shading). The diseases most commonly seen in wet season according to the farmers include diarrhoea, PPR, New Castle, CCPV. Others such as mange, foot and nose bots, lice and tick infestation and fowl pox occur all year round. Also livestock mortality is highest during raining season when vector population is also highest.

The farmers regard traditional intervention on the diseases of their animals as very effective although not in all cases as some measures serve as palliative treatment to help alleviate pains in the animals. They agreed that modern Veterinary treatment of their animals is curative. However, Veterinary services are less accessible and very expensive. They also complained that the Veterinary satellite clinic in the area is non functional as it is always under lock and key. The appraisal team had also noticed this. The women stated that certain individuals come around regularly to treat their animals and Veterinary services in the area concentrate more on sheep and goats, followed by chicken and then dogs.

As stated earlier, ethno-knowledge focusing on ethno veterinary animal health care has existed alongside human evolutionary history, taking many different forms. It is comprised of all ethno practice approaches and traditional knowledge applied by humans with a view to alleviating health constraints afflicting their livestock and hence improves their products and performance. As wide spread as it is, the practice of ethno

veterinary medicine has lagged behind that of its counterpart (modern veterinary medicine) many times, partly because the practice was secretly done and its information hidden in the grey literature (Mathias, 2001; Mathias, 2004).

Today, pastoralists are very good in diagnosing livestock disease entities in their traditional way. The Turkana for instance identify what they believe are defining symptoms and name diseases accordingly (Ohta, 1984). It is after diagnosing that they indicate traditional remedies for disease entities. All pastoral groups in sub-Saharan Africa express this ability with pride. This is similar to what obtains with the livestock keeping women of Awotan.

In both East and West Africa, traditional medications are well known and discussed freely. For instance the Fulani known as WodaBee in Niger and the Taureg in Niger are skilled in vaccinating their cattle against Contagious Bovine Pleuropneumonia (CBPP) by placing a piece of infected lung from a cow that had died of CBPP into a fold of slit skin on the side of the nose of cattle to be vaccinated (Stem, 1996). This practise is said to have stopped.

1. Constraints to animal health in Awotan as perceived by local Veterinarians in the area

Interviews with the Veterinary staff associated with the community indicated non compliance of the community members in payment for services. They also complained about non conducive working environment as the clinic is improvised with a container that absorbs heat and thus makes it difficult for anyone to remain inside for long. The Veterinary staff also complained of lack of mobility as Awotan is a very big town adjoining with Apete. In fact one of the staff cited an example in which a farmer came to the clinic wanting the Veterinarian to accompany him to his farm to see his sick animals. The Veterinarian could not because of the long distance and lack of ambulatory vehicle. Farmers do not have vehicles to bring their animals to the clinic and also are not willing to use other means of transportation.

Another complaint of the Veterinary staff is

the bad roads especially in the interior of the community where many of the animals are located. Alongside these are the problems of having to contend with quacks that go around disguising as Veterinary doctors to mess up the profession as they do not give lasting solution to the disease problems. These quacks were said to have motor cycles with which they move around even into the interior of the community.

ii. **Constraints to animal health in Awotan as perceived by farmers**

Farmers themselves are aware that the greatest constraint to the health of their animals is their system of management, in which, there is no adequate control over the animals. As a result of this many animals die from consumption of toxic plants and substances, inadequate housing which exposes the animals to cold and other health problems, inability of farmers to access veterinary services due to financial constraints and bad roads.

Common livestock diseases and health problems in Awotan

Female livestock owners in Awotan identified PPR, Diarrhoea, Mange and nose bots as common livestock diseases of goats and sheep and Newcastle disease as the major diseases of poultry. PPR is an acute disease, affecting goats more than sheep, affecting all ages with higher and faster mortality rates among younger stock and those in confinement, are almost the same as stated by a similar work (Adeschinwa *et al.*, 2004). Although the findings are unique, it can be said that they are not a complete departure from what others have found from similar work on livestock health and production development in Southwest Nigeria, even when they often use more conventional veterinary research methods (Ademosun, 2004, Adeschinwa *et al.*, 2004, Oladele-Bukola, 2004). The main animal species kept, the species used or not used for food (pig and dog) and other findings are reflections of cultural values and traditional farming systems in the predominantly Yoruba Southwest Nigeria and is similar to what has been reported in a similar Southwest Nigerian village (Adeschinwa *et al.*, 2004). The problem of PPR and Mange is typical of reports in other communities where goats constitute a good majority of animals kept

(Idowu, 2005).

Evaluation of Veterinary services / Inadequacy of modern Veterinary science

Women in general have more in-depth knowledge of traditional medicine and pharmaceutical practices than do men (Hoskins, 1981), and carefully tend sick animals (Henderson, 1980). This may be linked to their image as the nurturers and healers of society. In Peru, ethnoveterinary concepts and practices, many of which have real therapeutic and prophylactic values, are used extensively by women. For example, a large number of remedies are effective in assuaging diarrhoea or in preventing parasitic infections (McCorckle *et al.*, 1987). Another study found that the traditional concepts of animal disease and treatment among the Fulani of Nigeria were "often startlingly close to the orthodox". In general, Fulani herdsmen know more about cattle and small ruminant diseases, while women have a greater understanding of poultry diseases.

Women in most societies are responsible for the reproduction, daily care and doctoring of animals, an example being the Rufa-al-hoi of the Sudan (Ahmed, 1976). Although less visible, these tasks are just as important as transhumance and herding, but they are labour intensive and require an individualized approach to the animals. Women's intimate knowledge of gynaecology, birth, human nutrition, etc., in most societies also implies a detailed knowledge of animal anatomy, biology and nutrition. In fact, in many societies, women are expected to know more about these things than are men. A study in Punjab, Pakistan reports that women who manage the village animals are much more knowledgeable about animal health and fertility than are men (Preuss, 1989). In Botswana, husbands frequently turned to their wives in trying to remember when the last vaccinations or dips had taken place, or how many calves had been born or died (Peters, 1986).

Frequently women are more comfortable with traditional veterinary care than with modern techniques and medicines. This may be partly a result of the fact that in almost all countries, veterinary agents are men, who rarely approach

women, but also because men take over when there are any external contacts to be made (http://www.ifad.org/gender/thematic/livestock/live_3.htm).

Seasonal pattern of identified diseases and production problems

During an investigation into a chronic wasting disease in southern Sudanese cattle, a participatory appraisal method called a 'seasonal calendar' was used to understand local perceptions of seasonal variations in cattle diseases, disease vectors, intermediate hosts and rainfall. Subjective assessment of seasonal calendar scoring patterns by veterinarians indicated that herders' perceptions of seasonal populations of biting flies, ticks and snails were similar to modern veterinary knowledge (Catley *et al.*, 2002).

As could be seen from Table III, the seasonal calendar shows an increase in disease incidence, vector population, and livestock mortality during the peak rainy season months of June to October, which is in consonance with modern knowledge

CONCLUSION AND RECOMMENDATIONS

There should be training of community members of both genders as Community Animal Health Workers (CAHW) in Awotan study area. Such trainees should have some level of education at least primary school certificate and should be nominated by the community itself. This will significantly control quackery in the Awotan study area.

Awareness campaign/Extension Education concerning national issues in the control of the major livestock diseases should be regularly done for rural livestock owners of both genders to keep them up-to-date.

Adequate mobility and conducive working environment should be provided for Veterinary staff at the satellite clinic in the study area. Also veterinary services should be provided to the rural livestock to farmers at affordable prices to them.

More PRA should focus on understanding the indigenous ethno-veterinary of rural livestock owners and preference for traditional animal

health interventions as a basis for participatory design of appropriate community based animal health scheme for them

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