

Knowledge, Attitude and Perception of Fulani Pastoralists on Animal African Trypanosomiasis

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Abstract: A survey was carried out to study the current knowledge, attitude and perception of Fulani pastoralists on Animal African Trypanosomiasis in Giwa, Kubau and Kudan Local Government Areas of Kaduna State. 80% of pastoralists in Giwa and 60% in Kubau and Kudan had knowledge of animal trypanosomiasis. Also in Giwa 80% recognizes the animals that are likely to be affected by the disease, 60% in kudan and 40% in Kubau. In Kubau 60% uses traditional medicine for the treatment of the disease, 50% in Giwa and 30% in Kudan. 80% of the pastoralists in Kubau knew the mode of transmission of the disease then 60% in Giwa and 20% in Kudan.

Keywords: Animal Trypanosomiasis, Knowledge, Attitude, Perception, Pastoralist, Kaduna.

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I. Introduction

African Animal trypanosomiasis (AAT) also known as Nagana is caused by protozoa parasite of the *Glossina* species. It is of great economic importance in Africa as 5-10 million cattle's are at risk of infection and 30 million deaths annually (1). Livestock are the background of socioeconomic system of most of the rural communities in Africa. This can be noted more clearly with those who are adopting the pastoral and semi-pastoral ways of living (2).

The economical impact imposed by the disease directly affects the milk and meat productivity of animals reduces birth rate and increase abortion as well as mortality rate. All of these affect the herd size and herd composition (3). Fulani Pastoralists are particularly vulnerable to periods of low rainfall, whether unexpected drought or annual dry season (1). The number of pastoralists in sub-Saharan Africa has been estimated to be more than 50million (4).

The objectives of this study were to obtain data from pastoralists on their current knowledge, attitude, diagnosis and treatment of AAT, their perceptions in the acquaintance of the disease in Giwa, Kudan and Kubau local government areas of Kaduna State, Nigeria.

II. Materials And Methods

This survey was conducted in three local government areas (Giwa, Kubau and Kudan) using a standard questionnaire which was administered to adult pastoralists between the ages of 28 and 65.

Study Area: Description of vegetation pattern, rainfall distribution, and farming activities of the three locations are outlined below:

Giwa local government area is located in the North West guinea savannah which implies wood land vegetation characterized by the presence of *Isobertinia doka* with a well adopted grass layer of tufted *Andropogoneae* (5).

It has an area of about 3,350km² and lies between latitude 11°00'N -11°30'N and longitude 7°00'E-7°45'E. The average annual rainfall is 1100mm and this spreads from late April or early May to October (wet season). The mean maximum ambient temperature varies from 27-35°C, depending on the season. The average humidity during the wet season is between 21-72% (6).

Majority of the people are farmers and the crops grown in that area include Maize, Guinea corn, Soyabeans, Cowpea, Millet, Potatoes, Pepper, Cotton, Sugarcane, Carrots and Tomatoes. Livestock species are cattle, sheep, goat, and poultry, which also constitute source of income (7).

Kubau Local Government Area lies between latitude 10° 35'N– 11°13'N and longitude 8°02'E - 8°13'E. It has a total landmass of 2,505km² with a population of approximately 382,045 people. Vegetation of Kubau naturally extends from the Tropical grassland known as the Guinea savannah to Sudan savannah. The vegetation is thick with tall trees (Kristean, 2015). Climatic conditions of the area influence the activities of the people, who are predominantly occupied in Agriculture (9). The average annual temperature and rainfall are 25°C and 1118mm respectively (10). The driest month is January with 0mm of rain; April is the warmest month of the year with an average temperature of 28.8°C. In August the precipitation reaches its peak, with an average of 288mm (10). Kubau residents are predominantly farmers, they produce large quantity of cotton lint (11). Kubau area has dark grey clay soil (Vertisols). The area is used for economical value in gardening purpose and they plant tomatoes, chillies, sweet pepper, okra, Irish potato and sugarcane (12).

Kudan is a Local Government Area which has an area of 400 km² and naturally has humid climate (>0.66p/pet) most of the natural vegetation is still intact. The landscape is mostly covered with mosaic croplands (13). The climate is classified as a tropical savannah (Galatehra, 2004). About 1032mm of precipitation fall annually (9). The summer has good deal of rainfall, while the winter has a little. The driest month in Kudan is January with 0mm of rain. Most of the precipitation in Kudan falls in August, averagely 276mm (9). Kudan area is good for cultivation in dry and rainy seasons, producing a lot in agricultural products which include Carrot, Cabbage and Tomato (Lurther, 2005).

Method of data collection

30 Questionnaires were prepared for the survey, Ten [10] to each of the three local government areas which were administered randomly. The following information was collected for Yes or No questions.

- Do you know what trypanosomiasis (sammore) is?
- Do you know the animals affected by the disease?
- Are there traditional treatment options for the disease?
- Do you know how the disease is transmitted?
- Are there authorities you inform whenever you notice the sign of the disease or the vector?
- Have you heard of Nigerian Institute for Trypanosomiasis Research (NITR)?

Data analysis: Data collected for the above information was subjected to simple percentage analysis

III. Result

Procedure

1. Take the average of the answer given (Yes/No) on each question.
2. Take it in percentage
3. Tabulate

$$\text{Therefore} = \frac{\text{Value}}{\text{Total}} \times 100\%$$

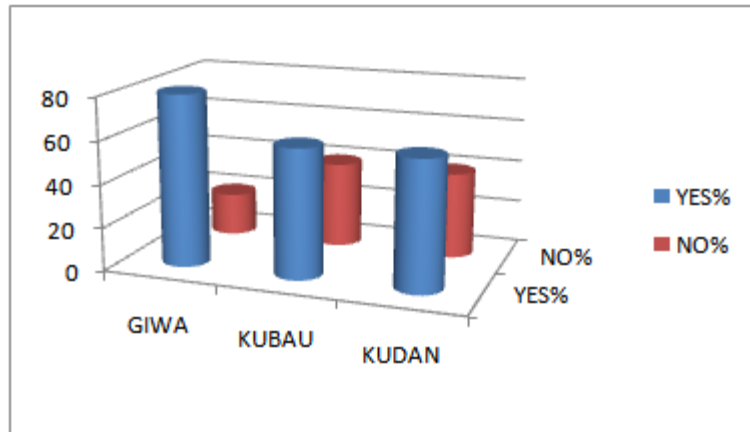
The tables and bar charts below shows the answers of each question answered in percentage.

1. Do you know what trypanosomiasis (sammore) is?

Based on the answers, numbers of responses showing all the three local government areas, people that are aware of trypanosomiasis are higher than the number of people that are not aware of it.

NAME OF LGA	YES%	NO%
GIWA	80	20
KUBAU	60	40
KUDAN	60	40

SOURCE: Field Survey 2016

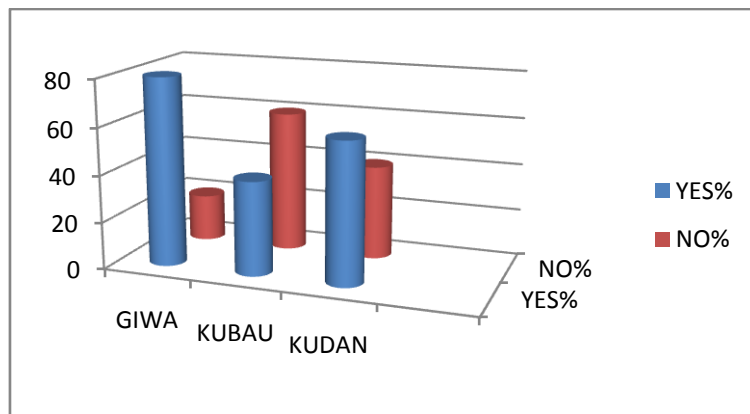


2. Do you know the animals affected by the disease?

Based on the answers, number of responses in all the three local government areas indicate people that know the animals affected by the disease is higher in Giwa and Kudan than in Kubau.

NAME OF LGA	YES%	NO%
GIWA	80	20
KUBAU	40	60
KUDAN	60	40

SOURCE: Field Survey 2016

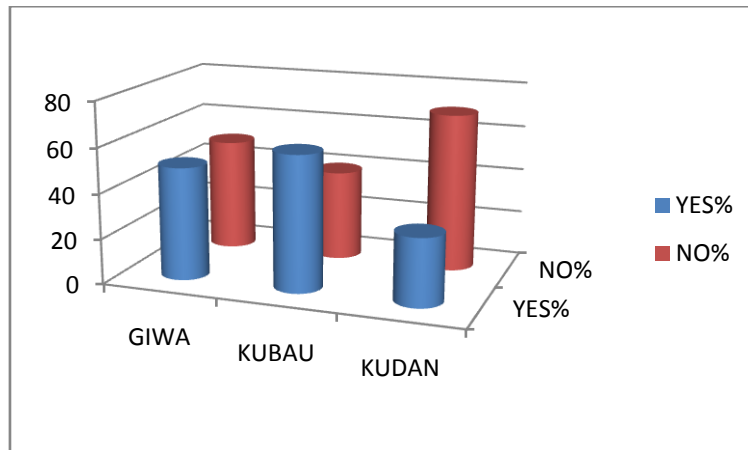


3. Are there traditional treatment options for the disease?

Based on the answers, number of responses in all the three local government areas indicates people that use traditional treatment for the disease in Giwa is 50%, Kubau 60% and Kudan 30%.

NAME OF LGA	YES%	NO%
GIWA	50	50
KUBAU	60	40
KUDAN	30	70

SOURCE: Field Survey 2016

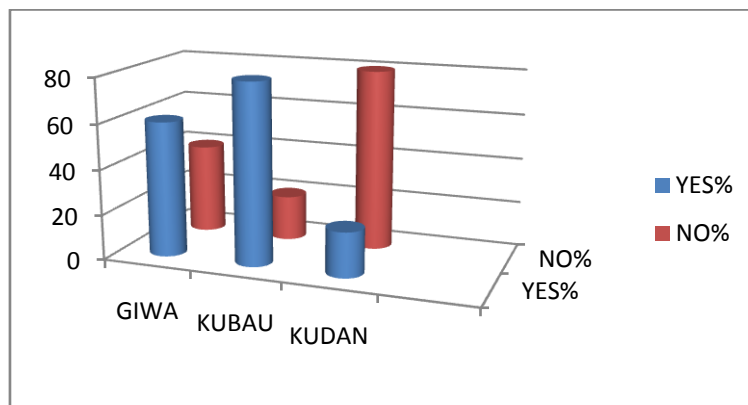


4. Do you know how the disease is transmitted?

Based on the answers, number of responses in all the three local government areas indicates people that knows how the disease is transmitted in Kubau is highest followed by Giwa and Kudan.

NAME OF LGA	YES%	NO%
GIWA	60	40
KUBAU	80	20
KUDAN	20	80

SOURCE: Field Survey 2016

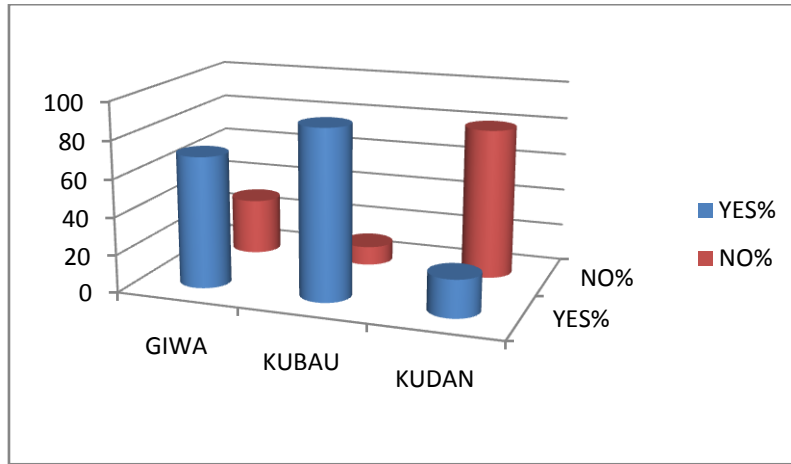


5. Are there authorities you inform whenever you notice the signs of the disease or the vector?

Based on the answers, number of responses in all the three local government areas indicates people that report cases when they notice the sign of the disease or its vector in Kubau is highest followed by Giwa and Kudan, which are very low.

NAME OF LGA	YES%	NO%
GIWA	70	30
KUBAU	90	10
KUDAN	20	80

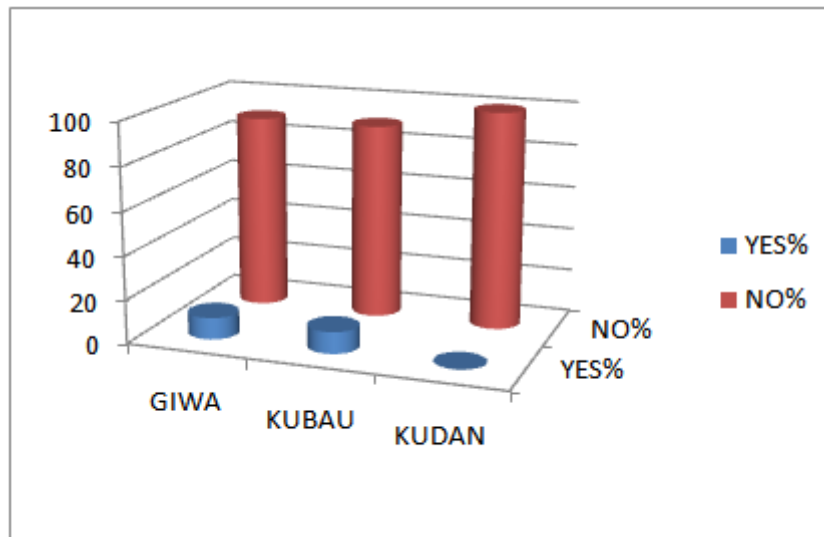
SOURCE: Field Survey 2016



6. Have you ever heard of Nigerian Institute for Trypanosomiasis Research (NITR)?
 The response here shows that majority of the people in all the three local government areas are not aware of the Institute.

NAME OF LGA	YES%	NO%
GIWA	10	90
KUBAU	10	90
KUDAN	0	100

SOURCE: Field Survey 2016



Method of diagnosing the disease

Majority of responses were by physical appearance, only few mentioned loss of hair and lack of appetite in the affected animals.

Signs and symptoms of the disease

The responses were weight loss, ocular discharge and loss of hair.

Treatment of the disease

Majority use veterinary drugs while few use herbal medicine.

Traditional treatment

The responses were the use of *Khaya senegalensis (madaci)* and *Solanum aethiopicum L. (gauta)*

Mode of transmission

The responses were by the bite of tsetse fly and by eating the dung of affected animals while grazing.

The vectors of the disease

Tsetse fly and tick were mentioned.

Habitat of the vectors

The responses were thick forest and grassland.

Method of tackling the vector

The respondents mentioned bush burning and using smoke to get rid of the flies.

When they notice the disease, who do they inform?

Majority consult veterinary drug vendors while few report to veterinary clinics.

IV. Discussion

Pastoralists have reasonable knowledge of AAT in all the three study areas. Also, present study shows that tsetse and trypanosomiasis are still of much concern and represent major obstacle to livestock production. A large proportion of pastoralists were found to treat their cattle, with ethno-medicine regardless of the condition.

However, pastoralists in Kubau district appeared more knowledgeable than those in Giwa and Kudan districts with regards to the treatment of the disease based on their responses. Focus group discussions revealed an emergent quality to pastoralists being able to diagnose trypanosomiasis correctly even with the signs they notice, though few were not specific. Majority of the pastoralists identify the disease by physical appearances which includes; loss of hair, lack of appetite, weight loss and ocular discharge in the animals.

The ethno-medicinal methods used by the Pastoralists in the treatment of the disease were the crushing of *Solanum aethiopicum* L (Gauta) and the use of fresh grinded leaf solution of *Khaya senegalensis* (Madaci) administered orally. Although, some of the pastoralists use veterinary drugs obtained from drug vendors without the prescription of professional personnel. However few consult veterinary clinics.

In conclusion, regarding this study, there should be more awareness campaign by the authorities concerned (NITR, Veterinary Council of Nigeria, e.t.c.) in view of the disease especially to the pastoralists of Kaduna State.

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