

Treatment Seeking Behaviour of Fulani Pastoralists to Animal African Trypanosomiasis in Selected Communities of Kaduna Metropolis.

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Abstract: A survey was carried out to study the treatment seeking behaviour of Fulani pastoralists in Rigasa, Doka mai Jama'a, Karuga, Jakaranda, Tudun Wadan Rido, and Babban Saura. 75 questionnaires were prepared and distributed to pastoralists and all of them were subsequently filled and returned. 90.7% of respondents treat their livestock without consulting a veterinary Doctor, they believe that the explanation they gave drug vendors sometimes back and the treatment they gave can be repeated without consulting any professional. Only 4% contact veterinary doctors and the herd of these few that consult veterinary doctors appear healthier. However, a third group of respondents (5.3%) consult veterinary drug vendors, this group consist mainly of people who think veterinary drug vendors are veterinary doctors and as such they believe they are getting the right treatment.

Keywords: Animal Trypanosomiasis, treatment, veterinary, livestock, Pastoralist, vendors.

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I. Introduction

Trypanosomes are unicellular protozoan that cause Human and animal African trypanosomiasis (Hargrove et al., 2012) in Africa and South America (Kneeland et al; WHO, 2013). The Trypanosoma genus comprises of various species of significant medical and veterinary importance (Grebaut et al., 2009). *Trypanosoma brucei gambiense* and *Trypanosoma brucei rhodesiense* infect human, causing Human African Trypanosomiasis (HAT) in Africa (WHO, 2013), while *Trypanosoma Cruzi*; another form of human Trypanosomiasis called chagas disease occur in Latin America (Maya et al., 2007). In animals, *Trypanosoma brucei brucei*, *Trypanosoma congolense*, *Trypanosoma vivax*, *Trypanosoma evansi* and *Trypanosoma simiae* cause Animal African Trypanosomiasis (AAT) in domestic and wild animals (Fajinmi et al., 2006).

Infection by one or more of these trypanosome species results in acute or chronic disease which is characterised by intermittent fever, emaciation, anaemia, loss of appetite, weakness, corneal opacity, occasional diarrhoea, parasitaemia, coma and death if not treated (Chaudhary and Iqbal, 2000). This disease usually leads to reduced reproduction and quality, low feed conversion ratio and possible death of animals, hence, affecting the farmer's overall profit (Fasanmi et al., 2014).

Trypanosomiasis is transmitted via bites by different species of Glossina and mechanically, by biting flies (Oluwafemi et al., 2007). Transmission takes place mostly in rural areas where agricultural activities expose people to the bite of Tsetse fly (Muturi et al., 2011; Okoh et al., 2012). The tsetse fly-transmitted trypanosomes; *Trypanosoma brucei*, *T. congolense* and *T. vivax* are limited to Africa where they have been responsible for the barring of livestock from large areas of land which are possibly capable of supporting cattle and other ruminants (Alfredo, 2004; Jay, 2008). Livestock productivity in sub Saharan Africa suffers from high prevalence of Trypanosomiasis with projected annual losses due to the direct and indirect consequences of the disease running into billions of dollars with disproportionate adverse effect in rural areas (Fajinmi et al., 2006). It creates the utmost constraint to livestock and crop production thus directly influencing hunger, poverty, protein malnutrition and suffering to entire communities in Africa (PATTEC 2002). Animal Trypanosomiasis

therefore, is an important livestock disease in Africa which is considered as a threat to the on-going effort on poverty alleviation in the continent (Wint et al., 2010). Studies on Trypanosome infection rate and its impact on livestock production have revealed that they vary with sex, age, species of Trypanosomes and the tsetse fly, locality, season and also depend largely on the level of interaction between tsetse flies, domestic and game animals (Ahmed, 2007; P. Van de Bossche and R. de Dekens, 2002 Mohammed-Ahmed, 1993). 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 (El-Mentanawey *et al.* 2009).

The economical impact imposed by the disease directly affects the milk and meat productivity of animals reduced birth rate and increased abortion as well as mortality rate. All of these affect the herd size and herd composition (Basaznew, et. al 2012). Fulani Pastoralists are particularly vulnerable to periods of low rainfall, whether unexpected drought or annual dry season (Majekodunmi, 2012). The number of pastoralists in sub-Saharan Africa has been estimated to be more than 50 million (Baver, *et al.* 2001). 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 selected communities of Kaduna State, Nigeria.

II. Materials And Methods

2.1 Material and Methods:

2.2 Study Areas:

This study was conducted within selected communities in the outside skirt settlements of Kaduna Metropolis, using standard questionnaire which was administered to 75 Pastoralist.

The study covered Eight (8) settlements namely: Rigasa, Doka mai Jama'a, Karuga, Jakaranda, Tudun Wadan Rido, Kadage, Kyauta and Babban Saura. These eight (8) settlements are located in Kaduna North, Kaduna South and Chikun local government Areas of Kaduna State which makes up the metropolis.

Kaduna North is a local government area with an annual temperature of 25.2°C and about 1211mm in precipitation fall of annually and also occupying an area of 72 km² (https://en.m.wikipedia.org/...../kaduna_north)

Kaduna South; Like Kaduna North, it has the same temperature and covers 59 km² area (https://en.m.wikipedia.org/...../kaduna_south)

Chukun local government area covers an area of 4,645 km² with the same temperature as with the other local government areas which makes up the metropolis. (<https://en.m.wikipedia.org/chikun/>)

III. Method Of Data Collection

75 questionnaires was prepared and distributed to pastoralists and all of them were subsequently filled and returned.

IV. Data Analysis

Data collected for the study was subjected to simple percentage analysis.

V. Results And Discussion

Total numbers of 75 questions were administered (all male respondents). This shows that herding is chiefly/mainly a male dominated act. The reason for this may not be unconnected to the hazard associated with cattle rearing.

VI. Level Of Education

Table 1

	Level of Education	No. of Respondents	Percentage
A	No formal Education	48	64%
B	Primary	17	22.7%
C	Lower secondary	5	6.7%
D	Higher Secondary	3	4%
E	Post Secondary	2	2.6%
	Total	75	100%

Table 1, Shows that 64% of the 75 respondents have no formal education and 2.6% with post secondary school education which is a reflection of the educational status of most rural dwellers. The level of formal education of most of the respondents will definitely affect their preferences in terms of treatments for their sick livestock and depth of their knowledge of Animal, African trypanosomiasis.

VII. Occupation

Table 2

	Occupation	No. of Respondents	Percentage
A	Farming	72	96%
B	Trading	1	1.3%
C	Artisan	0	0%
D	Civil servant	1	1.3%
E	Unemployment	1	1.3%

The main occupational engagement of the respondents from the result on table 2 shows that 96% of the respondents are farmers while, Civil servants, traders and unemployed have 1.3% respectively, which shows that the larger percentages of the respondents are farmers.

VIII. Number Of Years In Animals Rearing

Table 3

	Age Range	No. of Respondents	Percentage
A	0 - 10 years	7	9.3%
B	11 – 20 years	24	32%
C	21 – 30 years	28	37.3%
D	31 - 40 years	10	13.3%
E	41 – above	6	8%

The table above shows range of years of experience in cattle rearing as 11 – 20 years and 21 – 30 years with a percentage of 32% and 37.3% respectively. This shows that the larger percentage and number of respondents engage in cattle rearing during the youthful years due to the rigor and nomadic lifestyle the Fulani adopt to cater for their livestock. 0 to 7 years and 41 – above which has the lowest percentage 9.3% and 8% respectively, which actually proves that young and middle age men are more active in the rearing process.

IX. Type Of Management Practices

Table 4

	Management Practice	No. of Respondents	Percentage
A	Extensive	70	93%
B	Intensive	1	1.3%
C	Semi-extensive	4	5.3%

From table (4) it's evident that most of the Fulani pastoralist, manage their livestock extensively. It is an age long tradition of the Fulani's which describes their nomadic lifestyle. Most of the pastoralists do not confine their livestock as it is evident on the table with 93% which is 70 out the 75 respondents. This is one of reasons, animal African trypanosomiasis is difficult to curb because livestock are being moved from safe places to tsetse and other vectors infested areas. Only 1.3% practice intensive management and 5.3% semi – extensive. This is evident that intensive management of livestock among the Fulani pastoralist is not a popular practice, because of the need to continuously spend money to procure the animal feeds.

X. Knowledge Of Aat (Samore)

Table 5

	Knowledge of AAT	No. of Respondents	Percentage
A	Yes	63	84%
B	No	12	16%

From table, it shows that a good percentage have a knowledge of AAT at 84% of the respondents. This is quite impressive in spite of their low level of formal education they seem to be adequately informed about the disease that affects their livestock the most.

XI. Symptoms Of Aat

Table 6

	Knowledge of symptoms	No. of Respondents	Percentage
A	Yes	62	82.7%
B	No idea	13	17.3%

The result as reflected on table 6, shows that a large percentage of the respondent (82.7%) are familiar with the symptoms of the AAT, while a few others mix up the symptoms of AAT and foot and Mouth disease.

XII. Mode Of Transmission

Table 7

	Mode of transmission	No. of Respondents	Percentage
A	Yes	32	42.7%
B	No	43	57.3%

The result from table 7 shows a marginal difference between pastoralists who know and do not know the mode of transmission, which could be as result of inadequate formal education on vectors.

XIII. Treatment Seeking Behaviour

Table 8

	Treatment seeking Behaviour	No. of Respondents	Percentage
A	Contact Vet. Doctor	3	4%
B	Contact Drug Vendors	4	5.3%
C	Self Treatment	68	90.7%

Result on table 8, shows that 90.7% of respondents treat their livestock without consulting a veterinary Doctor, they believe that the explanation they gave drug vendors sometimes back and the treatment they gave can be repeated without consulting any professional. Only 4% contact veterinary doctors and the herd of these few that consult veterinary doctors appear healthier. However, a third group of respondents (5.3%) consult veterinary drug vendors, this group consist mainly of people who think veterinary drug vendors are veterinary doctors and as such they believe they are getting the right treatment.

XIV. Self Treatment (Drug Use).

Table 9

	Drug use(Self Treatment)	No. of Respondents	Percentage
A	Long Acting anti-biotic	42	56%
B	Samorine	18	24%
C	Diminazine	11	14.7%
D	Procaine	4	5.3%

The knowledge of the pastoralists as to choice of drug for treatment of AAT appears to be minimal because most of them despite knowing the disease and been able to diagnose it could not say the right drug to use. 56% of the respondents mentioned L.A (which is

Long acting oxytetracycline), this is actually an oil-based antibiotic that can work for other ailments but does not act on trypanosome parasites. 24% of the respondents mentioned Samorine® as their drug of choice when they suspect trypanosomiasis in their herd, these set of respondents appear to be very knowledgeable about the disease and treatment because Samorine® is a prophylactic drug against trypanosomiasis. The next set of respondents (14.7%) mentioned Diminazine Aceturate as their drug of choice however most of them could not mention the exact drug name but they ended up describing the packaging and to some extent the spellings on the drug pack. The compound Diminazine has over the years been very effective in the treatment of animal trypanosomiasis globally (Peregrine and Mamman, 1993), therefore this set of respondents have also made a good choice of drug. The last group of respondents chose a drug (Procaine) that is not in anyway related to trypanosomiasis; coincidentally they are very few (5.33%) of them with such ideology.

XV. Conclusion

The study shows that among the sampled individuals, despite their knowledge in terms of formal education and animal trypanosomiasis, only 38.7% (39) of the respondents knew the right drug for treatment of Animal trypanosomiasis. Most of the respondents do not contact the right professionals to treat their animals. They instead engage the services of quack doctors or just the unlicensed drug vendors.

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