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A QUESTIONNAIRE SURVEY OF REPORTS OF LIVESTOCK DISEASE OUTBREAKS IN ENUGU NORTH, SOUTH EAST NIGERIA

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SUMMARY

A survey of some infectious diseases of livestock was carried out in four out of six Local Government Areas (L.G.A) of Enugu North, South East Nigeria. The local government areas were: Nsukka, Igboeze North, Uzo-uwani, and Udenu. The questionnaire-based survey also included oral interviews and repeated personal visits. The study was carried out over a period of one year from September, 2002 to August, 2003. Following a pre-survey census of one hundred and thirty two (132) practicing veterinarians and animal health superintendents in the study area, one hundred and twenty (120) in the area were interviewed. A total number of forty-four (44) outbreaks of different diseases were reported in the study area for the period under study. Peste des Petits Ruminants (PPR) recorded the highest number of reports (19.33%) followed by Trypanosomosis (17.10%) and Newcastle Disease (ND) (13.01%). The highest number of outbreaks was observed within the second and third quarters of year (rainy season) and the locations where they were mostly reported were from Udenu L.G.A. (34.1%) and Nsukka L.G.A. (31.8%). The result of this epidemiological study showed that the diseases investigated were not significantly endemic, ($p>0.05$) however, based on the frequency of reports, it was evident that PPR, Trypanosomosis, ND, Infectious Bursal Disease (IBD), African Swine Fever (ASF) and Rabies were endemic in the study area. The result of this study provides background information on the diseases that limit livestock production in Enugu North Zone of Southeast Nigeria. Therefore, efforts towards curbing of livestock diseases in the study area should be targeted on PPR, Trypanosomosis, ND, IBD, ASF and Rabies.

KEY WORDS: Questionnaires, Diseases, Livestock, Epidemiology, Enugu North

INTRODUCTION

Enugu North comprises of six Local Government Areas (L.G.A) namely; Nsukka, Udenu, Igboeze North, Igboeze South, Igboetiti and Uzo Uwani. It lies between latitude 36^0 and longitude 24^0 of the Northern Hemisphere. The social, religious and economic status of the people within the area support and encourage small scale livestock production which provides ready cash to the people. Various species of livestock are found in Enugu State, most of which are reared within the state while some are transported into the state from various parts of Nigeria. Just as in most parts of Africa, diseases constitute the greatest constraint to survival of these animals (Ademosun, 1994).

Infectious and non-infectious diseases of different animal species have been reported in South East Nigeria (Oboegbulem and Chah, 1997). In addition, seasonal variation in incidences of diseases of livestock has been shown to exist in South East Nigeria (Onyekwodiri and Shoyinka, 1984).

Livestock are predisposed differently to different zoonotic diseases within a given area (World Health Organization, WHO 2002). In South East Nigeria, Peste des Petits Ruminants (PPR) has been identified to be of high prevalence in goats (Onyekwodiri and Shoyinka, 1984). Trypanosomosis and New Castle Disease have also been reported to be of high prevalence in small ruminants and poultry respectively (Kramer, 1966).

The importance of epidemiological information on prevalent diseases in a given locality cannot be over looked in control programmes. Again, uncontrolled and illegal movements of live animals and their products have continued to result in emergence and outbreaks of infectious diseases in spite of the roles of the veterinarians, governments and other organizations. This has been attested to also to the poor efficiency and high porosity of the country's borders, which is typical of many countries of Africa and Middle East (Ogundipe, 2002). Despite this, many diseases are often neglected in Africa in general and Nigeria in particular, even though animal and human health is closely linked and humans often live together with animals in very poor environmental conditions]

Information on outbreaks of infectious diseases and cases are scanty in Nigeria in general and in Enugu North in particular there is absolute lack of information. This study seeks to reveal the status of the diseases in the study area, the relationship between outbreaks seasonal distribution patterns and geographical location.

MATERIALS AND METHODS

The study area was Enugu North of Enugu State, South East Nigeria comprising of six Local Government Areas (L.G.A). Four L.G.A were randomly selected using simple random selection without replacement. Respondents were required to supply information on disease outbreaks based on four quarters of the year; where January to March and October to December represented dry seasons while April to June and July to September represented rainy seasons. Following a pre-survey census of one hundred and thirty two (132) practicing Veterinarians and Animal Health Superintendents in the study area, one hundred and twenty (120) of these two groups(state and private) comprising sixty two (62) veterinarians and fifty eight (58) animal health superintendents were interviewed. The selected four Local Government Areas were designated as follows:

a. Nsukka Local Government Area (L.G.A) Location 1 (L_1)
b. Udenu L.G.A. Location 2 (L_2)
c. Igboeze North L.G.A - Location 3 (L_3)
d. Uzo-Uwani L.G.A. Location 4 (L_4)

The area is of the derived savannah vegetation type. Prior to the survey, a census of practicing veterinarians and animal health superintendents (state and private) was carried out in each of the selected L.G.A.

Design and data collection

Data collection was carried out through distribution of structured questionnaire

administered to each of the respondents. Repeated scheduled visits and personal interviews were also made. The questionnaire sought to obtain information on the diseases observed in their locality, the number of cases and outbreaks of each disease observed within the study period, methods of diagnoses (clinical signs, case history and laboratory examination). The data were analyzed for the significance of the difference in the prevalence of the diseases using an analysis of variance, ANOVA (Steel and Torrier, 1980).

RESULTS

Forty-four (44) outbreaks of different diseases were reported by the respondents within the study period. Out of this, 15(34.1%) of the outbreaks were reported in L_2 (Udenu, L.G.A.) which was the highest number of outbreaks reported (Table 1). Table 1 also shows that L_1, L_3 and L_4 recorded the following outbreaks 14 (31.8%), 10(22.7%) and 5(11.4%) respectively. The second quarter of the year (April June) recorded the highest number of reports of outbreaks followed by the third quarter (July Sept) (Table 1). The frequency distribution of the number of cases of the diseases reported within the study period shows that PPR ranked highest (19.33%) followed by Trypanosomosis (17.10%) and Newcastle Disease

TABLE 1: Periods of Outbreaks of Infectious Diseases in Enugu North (2002-2003)

Location	Period of Outbreaks and Number Reported				Total	%
	Jan-March (Dry Season)	April-June (Rainy Season)	July-Sept (Rainy Season)	Oct-Dec. (Dry Season)		
L_1	1	5	3	5	14	31.8
L_2	3	5	4	3	15	34.1
L_3	4	2	3	1	10	22.7
L_4	0	2	3	0	5	11.4
Total	8	14	13	9	44	100

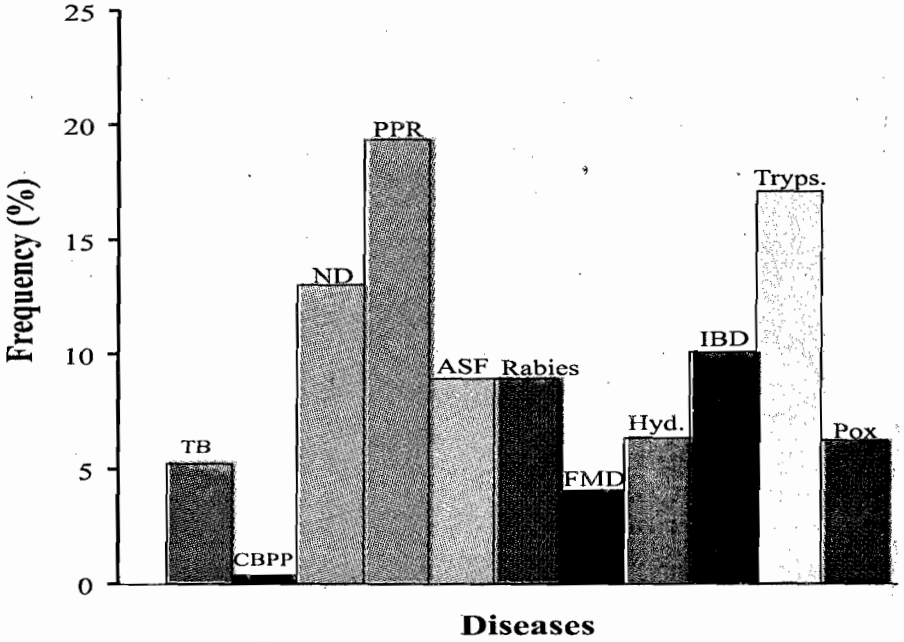

Fig 1: Frequency Distribution of Infectious Diseases in Enugu North, 2002-2003.

(13.1%) (Fig. 1). Other diseases recorded and their frequencies were IBD (10.04%), ASF (8.92%), and Rabies (8.92%) among others as shown in (Fig. 1). Table II shows responses across the study area.

TABLE II: Reports of Infectious Diseases in Enugu North

Disease	No of Reports at Specified Locations				Total Number of Reports
	L_1	L_2	L_3	L_4	
TB	8	2	0	4	14
CBPP	1	0	0	0	1
ND	24	8	2	1	35
PPR	32	8	5	7	52
ASF	13	4	5	2	24
Rabies	15	5	3	1	24
FMD	8	1	0	2	11
Hydatid Disease	9	2	0	6	17
IBD	17	8	2	0	27
Tryps	32	8	4	2	46
F. Pox	6	5	4	3	18
Total	**145**	**51**	**25**	**28**	**269**

DISCUSSION

Of the forty four (44) outbreaks reported by the respondents in the study area 78.6%, 46.7%, 40% and 20% were confirmed in L1, L2, L3 and L4 respectively following laboratory diagnosis at the University of Nigeria Teaching Hospital (UNVTH) Nsukka. The percentage of the disease reports in various locations that were confirmed using laboratory diagnosis are as follows: L1, 57.2% (83); L2, 43.1% (22), L3, 36% (9) and L4, 39.3% (11). The rest per location were tentatively diagnosed using clinical signs and case history. Summary of responses showed that the animals in the study area were not regularly vaccinated against these endemic diseases. Again, animal population, species and breed were not classically specified for response in the questionnaire.

The results of the analysis of data in this study shows that PPR, Trypanosomosis and New Castle Disease are the major diseases of livestock in the study area and may be responsible for the serious losses in livestock and thus greatly limit livestock production in the area. The occurrence of PPR in relation to other diseases investigated agrees with the results of Nduaku and Ihemelandu (1973). PPR is recognized as number one killer of small ruminants in the region (Nduaka and Ihemelandu, 1973). The contributory factor to this could be the system of small ruminant production in the area where the semi-intensive system is practiced usually in poor hygienic conditions with little or no vaccination programmes. Housing together of small ruminants has been identified as a primary factor that poses much difficulty in the control of PPR (Molokwu, 1982). It seems therefore, that the disease is endemic in the study area. It is suggested that strong emphasis be laid on vaccination of small ruminants against PPR in the area in order to reduce the incidence of the disease.

The high reports of outbreaks observed during the 2nd and 3rd quarters [rainy season] of the year (Table 1) may suggest that season may be playing an important role in the incidences of these diseases.

Trypanosomosis which ranked second (17.10%) (Fig 1) in reports from the study area has also been shown to be prevalent in Southeast Nigeria (Onyekwodiri and Shoyinka, 1984, Kramer, 1966). This may be due to the loss of the trypanotolerant nature of the indigenous breed of goats; also the rain forest nature of the study area may be an ecological factor supporting the prevalence of trypanosomosis in the area. The resistance that has been developed by the trypanosome parasites to the commonly used trypanocides is also a factor that enhances the endemicity of the disease.

From the results of this study, it is evident that PPR, Trypanosomosis, Newcastle Disease, Infectious Bursal Disease[IBD], African Swine Fever and Rabies are endemic in the study area (Table II) as they have always been reported by several authors (Oboegbulem and Chah, 1997; Nduaka and Ihemelandu, 1973). As observed in this study, African Swine Fever seems to be one of those infectious diseases that are endemic in the study area. This agrees with the report of Wilkinson, (1984), and Rossita (1988), who identified African Swine Fever as a major limiting factor to pig production in Africa.

Udenu L.G.A. (L_2) which, ranked first in outbreak reports, is the major route of importation of animals into Southeast Nigeria from the North, as it has a major Veterinary control post. The frequent influx of livestock through this location might have contributed to the findings observed.

In spite of the fact that the frequency of reports of the disease investigated were not significant ($P>0.05$), it is suggested that good seasonal monitoring and surveillance programmes be initiated to prevent any impending outbreak which may result in public health hazard. Feeding standards of livestock in the area should be improved and established before confinement. This is important for adequate animal production in the study area.

Further investigations are to be carried out on the possible remote causes that may be playing important roles in the incidences of the diseases observed in the study area.

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