

A Ten-year Retrospective Study on The Prevalence of Ruminant Diseases Encountered at The Ministry of The Federal Capital Territory Veterinary Clinic Gwagwalada, Abuja, Nigeria

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ABSTRACT

This study was conducted at the Ministry of the Federal Capital Territory (MFCT) Veterinary clinic, Gwagwalada, Abuja to document the diseases of ruminants that prevailed between January, 1999 and December, 2008. A total of 703 cases were recorded for the various animals during this period. The specie of ruminants and their percentages presented at the clinic includes Cattle (17.5%), Sheep (35.6%) and Goats (46.9%). The diseases diagnosed were Peste des Petit Ruminants (PPR) which was 40.1%, Contagious Bovine Pleuro Pneumonia (CBPP) 1.4%, Dermatophilosis 2%, Foot and Mouth Disease (FMD) 0.6%, Helminthosis 20.2%, Brucellosis 3.3% and Trypanosomosis 5%. PPR was the most prevalent disease with an infection rate of 40.1% followed by helminthosis (20.2%); the least was FMD with a prevalent rate of 0.6%. It was recommended that livestock farmers in Gwagwalada should plan their disease control strategies by consulting the MFCT Veterinary clinic and the University of Abuja Veterinary Teaching Hospital, Gwagwalada for information on disease epidemiology to keep themselves abreast with management strategies of diseases in the locality.

Keywords: Retrospective, ruminants, diseases, veterinary clinic

INTRODUCTION

Diseases of ruminants (cattle, sheep and goats) are a constant and major constraint to livestock production globally. These diseases range from highly contagious acute forms with high mortality, to chronic disabling ones with an insidious effect on production. Considerable efforts are needed to control these diseases including rapid and accurate diagnosis, using both classical and emerging technologies (Tonukari, 2003). Ruminants form a large part of livestock population in developing Africa as it has been recognized that ruminant production supplies about 90% of meat consumed in this region including Nigeria, whose small ruminant population is put at about 22.1 million (FDLPCS, 1991, Luckings, 1992). There is also about 94% of the world's goat populations produced in developing countries yet there is still tremendous demand for small ruminants in Africa for meat, milk and ritual sacrifices (Holmes, 1991; Ogwu, 1992).

In Gwagwalada, most ruminant owners rear them on free range, with little or no supplementary feeding. A major constraint to ruminant production in this region as in other parts of sub-Saharan countries include diseases, poor nutrition, poor breeding policies, poor management (Akerejola *et al.*, 1979) and above all inadequate knowledge of prevailing and emerging diseases thus a poor disease reporting system. The scarcity of easily accessible literature on epidemiology of ruminant diseases particularly to field veterinarians and related scientists is the motive behind this study. The results of this study will provide first hand information on diseases in the locality especially in view of the fact that the University of Abuja, Veterinary Teaching Hospital has recently been established in Gwagwalada, Abuja, Nigeria.

MATERIALS AND METHODS

Study area

The study was conducted at the Ministry of the Federal Capital Territory Veterinary Clinic, Gwagwalada. The

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town is located between latitude 8° 56' 29" North and longitude 7° 5' 31" East within the guinea savanna zone. The area is about 6,350km² and is towards the southern part of the FCT and about 500m above sea level. The average annual rainfall is about 950mm and spreads from April to October. Mean ambient temperature range is about 30 to 37°C while relative humidity is 60 - 70%.

Analysis of data

The records of different clinical cases of ruminants from January 1999 to December 2008, a period of ten years were used and these were obtained from case book and files available. The white fulani cattle and yankasa sheep were the major breeds presented, while different breeds of goats were presented, including the red Sokoto and West Africa Dwarf goats. The data were compiled and analyzed using descriptive statistics such as percentages, mean, mode and odd ratios. The disease were measured based on the prevalence recorded for the various species.

RESULTS

A total of 703 ruminants comprising of 123 (17.5%) cattle, 250 (35.6%) sheep, and 330 (46.9%) goats were treated for various diseases at the Gwagwalada Veterinary Clinic between January 1999 and December 2008. The percentage prevalence of each disease condition is presented graphically in Fig. 1. PPR is the commonest condition occurring only in the small ruminants (40.1%). The next most common disease condition is helminthosis (20.2%) followed by foot rot (8.5%). Other common diseases of significance in these animals include mange (7.1%), trypanosomosis (5%), mastitis (3.4%), brucellosis (3.3%), dystocia (3.1%), bloat and dermatophilosis (2%) each, cowdriosis (1.8%), CBPP and tetanus (1.4%) each, and FMD (0.6%).

Table 1. Disease of ruminants at the Ministry of the Federal Capital Territory veterinary clinic Gwagwalada, Abuja (1999 - 2008)

Diseases	Number				Percentage		
	Cattle	Sheep	Goat	Total	Cattle	Sheep	Goat
PPR	0	114	168	282	0	40.4	59.6
Foot rot	0	42	18	60	0	70	30
Trypanosomosis	21	2	2	35	60	34.3	5.7
Mastitis	0	12	12	24	0	50	50
Brucellosis	3	10	10	23	13	43.5	43.5
Bloat	0	14	0	14	0	100	0
Dystocia	0	10	12	22	0	45.5	54.5
Tetanus	0	5	5	10	0	50	50
Mange	7	23	20	53	14	46	40
Cowdriosis	0	8	5	13	0	61.5	38.5
Helminthosis	66	0	76	142	46.5	0	53.5
Dermatophilosis	12	0	2	14	85.7	0	14.3
CBPP	10	0	0	10	100	0	0
FMD	4	0	0	4	100	0	0
Total	123	250	330	703	17.5	35.6	46.9

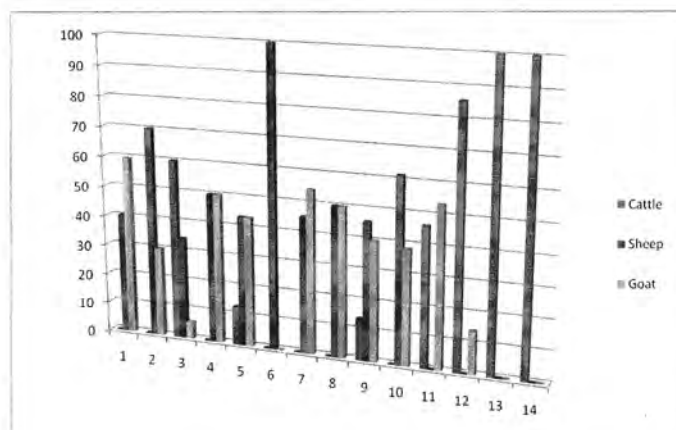
Diseases that were common to the three species of ruminants include trypanosomosis, brucellosis, and mange. Most other diseases were either found in two of the species or observed in only one species of ruminant. For example PPR, foot rot, mastitis, bloat, dystocia, tetanus, and cowdriosis were observed in only the small ruminants, while helminthosis and dermatophilosis were seen only in the cattle and goat. Bloat was seen only in sheep while, CBPP and FMD were observed only in cattle.

DISCUSSION

All the seven hundred and three (703) cases presented to the MFCT Veterinary Clinic, Gwagwalada during the period under study were due to one disease or another. It is likely that unlike pets, whose owners present them to the clinic for routine medical examination and complaints at intervals (Useh *et al.*, 2003); ruminants are mostly presented to the clinic only when they are sick or when diagnosis by quacks fails. Fewer cattle 123 (17.5%) were presented for treatment during this period. It is believed that increasing number of cattle owners conduct self-medication on their sick animals or invite veterinarians on ambulatory services to treat them.

PPR was the disease with the highest prevalence in this study and agrees with the findings of Akerejola *et al.*, (1979) in Zaria, northern Nigeria and Whitney *et al.*, (1967) in Ibadan, southern Nigeria who reported that PPR

were of significance in small ruminants. Helminthosis (20.2%) was second to PPR in prevalence. This may be due to the fact that goats under the native husbandry are reared on extensive system with little or no supplementary feeding and their owners do not practice routine deworming programs. This finding is consistent with observation of investigations by workers in North America and parts of Nigeria who observed a high incidence of gastrointestinal parasitism in ruminants presented for clinical examination (Akerejola *et al.*, 1979; Pugh and Navare, 2001).



1. PPR, 2. foot rot, 3. trypanosomiasis, 4. mastitis, 5. brucellosis, 6. bloat, 7. dystocia, 8. tetanus, 9. mange, 10. cowdriosis, 11. helminthosis, 12. dermatophilosis, 13. CBPP, 14. FMD

Fig. 1. Diseases of ruminants encountered at the Ministry of the Federal Capital Territory Veterinary Clinic, Gwagwalada, Abuja (1999 - 2008)

The prevalence of dermatophilosis was low in goats (14.3%). Dermatophilosis is primarily a disease of cattle and the disease is usually known to be of very low incidence in sheep and goats (Abdulkadir, 1987). In the case of CBPP, few cattle were presented even though the disease is host-specific to cattle. This may be attributed to successes recorded in vaccination programs embarked upon by government. FMD represent 0.6% of the total cases presented; it is possible that, cattle owners have native remedies to the disease or that the cattle owners attach less importance to the infection since it is not fatal and is self limiting.

Brucellosis occurred only in 3.3% of the cases presented. The disease is a highly contagious zoonosis, characterized by bouts of abortion in females, orchitis in males and infertility in a variety of animal species and undulant fever in man (Halle and Ajogi, 1997). It causes serious economic losses to the livestock industry and extensive morbidity in man, thereby constituting an important public health problem globally.

Only 10 (1.4%) small ruminants were presented for tetanus. The disease has long been recognized as a major zoonosis (Acha and Szfres, 1987). The extent to which humans acquire this disease in Gwagwalada is not known and was not investigated in this study. It is however, safe to assume that the human population in this area is at risk. There is therefore the need for veterinary and human health officials to educate the communities in Gwagwalada on the public health hazards of this disease. Other interesting disease findings in these small ruminants include foot rot, mange, cowdriosis and mastitis, which is a very common condition in the Red Sokoto breed of goat that requires serious investigation.

Dystocia is a major cause of mortality in ruminants and may be a cause of weak offspring because of fetal hypoxia or trauma associated with obstetric maneuvers. In sheep, the disorder is risky and could lead to hypothermia and reduced metabolic rate (Radostitis *et al.*, 2000). In the present study no cattle was presented for dystocia and small ruminants (3.1%) examined had dystocia. It is suspected that the incidence of this disorder in the present study is due to premature breeding.

The control, treatment and prevention of diseases of ruminants are well documented (Radostitis *et al.*, 2000, Abdulkadir, 1987). The present study has further confirmed that parasitic infestation, viral and bacterial infections are major problems of ruminant production in this part of the country. Alawa *et al.*, (2003) advocated the use of traditional remedies to treat parasitic diseases of livestock in Nigeria, which nomads in rural areas have shown preference for (Abdu *et al.*, 2000).

In conclusion, it is recommended that routine deworming regimen be practiced; routine vaccination should be employed for diseases with vaccines. Also veterinarians in Gwagwalada should intensify on enlightenment campaign on the importance of seeking advice of service of a veterinarian whenever the situation arises.

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