

Short Communication

SOME REPRODUCTIVE DISORDERS OF THE INDIGENOUS SHEEP AND GOATS IN ZARIA, NORTHERN NIGERIA

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INTRODUCTION

The short supply of animal protein has become a matter of concern in Nigeria because of the teeming human population with an estimated annual growth rate of 2.9% for tropical Africa (Jahnke, 1982; Wilson, 1991). The small ruminant population of Nigeria stands at 22.1 million sheep (Afolayan *et al.*, 2001) and 35 million goats (Awemu *et al.*, 2001). Despite the large number of small ruminants, FAO recommended protein intake of 35 gm/head/day is yet to be achieved in the sub-Saharan Africa (Akusu and Ajala, 2000). The problems of small ruminant production in sub-Saharan Africa include malnutrition, lack of good management, reproductive disorders and diseases, and harsh climatic conditions (Fakae *et al.*, 2004). Reproductive disorders (dystocia, abortion, pyometritis and vaginal prolapsed) cause significant losses in small ruminants (Kene and Sundaravadanan, 1990; Arthur *et al.*, 1998). Improvement in the reproductive efficiency of these animals would lead to improved animal production. To achieve this, major disorders that affect the reproductive systems of small ruminants should be controlled. This study was undertaken to determine (from records) some female reproductive disorders of the indigenous female sheep and goats (over a ten year period) that were presented to the Veterinary Teaching Hospital, Ahmadu Bello University, Zaria, Nigeria.

KEY WORDS: Reproductive disorders, Indigenous Sheep and Goats, Zaria, Nigeria

MATERIALS AND METHODS

Animals

The animals were those presented to the Veterinary Teaching Hospital (Large Animal Clinic) Ahmadu Bello University, Zaria for treatment with different ailments over a period of 10 year (1988-1997). Most animals were from Zaria locality.

Data collection

A 10-year study of female reproductive disorders at the Large Animal Clinic of Veterinary Teaching Hospital, Ahmadu Bello University, Zaria was conducted. Records of female reproductive disorders were collected from 175 small ruminants; 73 sheep and 102 goats. The distribution of the disorders based on

breed, species, age, and year were analyzed.

Data analysis

SAS Institute method of analysis was used; separation was based on the Duncan's Multiple Range Test (DMRT).

RESULTS AND DISCUSSION

The result of this study showed that dystocia, abortion and retained placenta are the most frequent reproductive disorders of female sheep and goats around Zaria, Nigeria (Table I). These conditions in the different breeds showed no significant difference ($P > 0.05$). Dystocia in both sheep and goats was observed to be highest

(54.9% in the younger animals (12 years old) which occurred in the month of March (13.1%) and October (13.0 %) of 1989 and 1990 respectively.

The high prevalence of dystocia observed in younger animals (Table II) could have been due to early pregnancy when they were not physically mature for normal kidding/lambing at the time of parturition. In a similar study Kene and Sundaravandanan (1990) also reported high prevalence of dystocia (76.4%) in the primigravid goats, where 58.8 % of dystocia was in animals of ages between 1 and 2 years. Similarly, Oyedipe *et al.* (1982) and Arthur *et al.* (1998) reported that dystocia was common in the primigravid than in multigravid sheep and goats.

Vulvo-vaginitis and pyometritis had high prevalence rates in both sheep and goats (Arthur *et al.*, 1998). Usually vulvo-vaginal infection could ascend into the uterus resulting into pyometritis. This might have accounted for the high prevalence of pyometra in Yankasa sheep (100%) and Red Sokoto goats (81.8%) (Table III), however, the condition did not have significant difference ($P>0.05$) between sheep and goats.

Prevalence of uterine and vaginal prolapse which recorded the lowest percentages of 3.4 % in sheep and 2.3 % in goats might be due to forceful foetal traction by the owners. At times it results from animals not physically matured for lambing or kidding; the size of the lamb or the kid and also the level of nutrition may lead to uterine/vaginal prolapsed.

TABLE 1: Breed distribution of reproductive problems in small ruminants (1988-1997).

DISEASES	BREED OF SHEEP			BREED OF GOATS			Ovine species	Caprine Species	TOTAL
	Balami	Udda	Yankasa	WAD	Red Sk	Sahelein			
Dystocia									
No	4	1	19	2	25	1	24	28	52
%	16.7	4.1	79.1	7.1	89.3	3.6	46.2	53.8	29.7
Retained placenta									
No	1	4	17	1	22	0	22	23	45
%	4.5	18.2	77.3	4.3	95.7	0.0	48.9	51.1	25.5
Abortion									
No	3	1	16	1	28	0	20	29	49
%	15.0	5.0	80.0	3.4	96.6	0.0	40.8	59.2	28.0
Uterine prolapse									
No	0	0	2	0	4	0	2	4	6
%	0.0	0.0	100.0	0.0	100.0	0.0	33.3	66.6	3.4
Vaginal prolapse									
No	0	1	0	0	3	0	1	3	4
%	0.0	100.0	0.0	0.0	100.0	0.0	25.0	75.0	2.3
Pyometra									
No	0	0	3	2	9	0	3	11	14
%	0.0	0.0	100.0	18.2	81.8	0.0	21.4	78.6	8.0
Vulvovaginitis									
No	0	1	0	0	4	0	1	4	5
%	0.0	100.0	0.0	0.0	100.0	0.0	20.0	80.0	2.9
TOTAL									
No	8	8	57	6	95	1	73	102	175
%	11.0	11.0	78.0	5.9	93.1	1.0	41.7	58.3	100

TABLE II: Average age distribution of female reproductive disorders of small ruminants (1988-1997)

AGE YEARS		1 - 2	3 - 4	5- 6	7 and above	TOTAL
Sheep	No.	35	33	5	0	73
	%	47.9	45.2	6.9	0.0	41.7
Goats	No.	61	38	2	1	102
	%	59.8	37.2	2.0	1.0	58.3
Total	No.	96	71	7	1	175
	%	54.9	40.6	4.0	0.5	100.0

The method of husbandry might have caused the high prevalence of dystocia observed in this study; where sheep and goats of different sexes and ages were confined in the same pen and graze together under free-range management system (Iman and Slyter 1996; Akinnusi and Adeleye, 2001). In these circumstances, males readily service any female that come on heat. Thus sheep and goats which have attained physiological maturity become pregnant though they have not acquired the physical maturity essential for normal kidding/lambing.

In the study area, the dry season lasts from November to April, while the rainy season from May to October (Wilson, 1991). During the period of rainy season, sheep and goats are confined in pens to prevent them from destroying farm crops. Farm crops are usually harvested from November to December/January; crop residues are left for animals to graze on. The high prevalence of dystocia during the month of October corresponds with the end of gestation period of

sheep and goats that become pregnant during confinement, while that of March, when animals were released from confinement.

High prevalence of abortion occurred in Yankasa sheep (80.0%) and the Red Sokoto goats (96.6 %). These animals are mostly kept in small numbers and often owners practice free-range management where neither feed supplementation nor veterinary care is provided (Wilson, 1991). The animals scavenge to survive and the pregnant ones abort probably due to ingestion of abortifacient agents which are usually found in both spoilt food remnants and some plants containing toxic substances. These substances could cause abortion and probably lead to retained placenta in small ruminants (Arthur *et al.*, 1998).

Higher prevalence of retained placenta was observed in Yankasa sheep (77.3%) and in Red Sokoto goats (95.7%), which followed the pattern of dystocia as was reported by Kene and Sundaravadanan (1990).

TABLE III: Yearly distribution of reproductive disorders in small ruminants (1988 - 1997)

YEAR	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	TOTAL	
Sheep	No.	7	17	11	10	11	5	5	4	1	2	73
	%	9.1	23.3	15.1	13.7	15.1	6.8	6.8	5.5	14	2.7	41.7
Goats	No.	10	12	14	14	8	11	11	14	2	6	102
	%	9.8	11.8	13.7	13.7	7.8	10.8	10.8	13.7	2.0	5.9	58.3
Total	No.	17	29	25	24	19	16	16	18	3	8	175
	%	9.7	16.6	14.3	13.7	10.9	10.9	9.1	10.3	1.7	4.6	100

TABLE IV: Cumulative monthly distribution of reproductive disorders in small ruminants (1988 1997)

MONTH	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Sheep													
No.	6	3	11	5	8	1	2	6	3	16	6	6	73
%	8.2	4.1	15.1	6.9	11.0	1.4	2.7	8.2	4.1	21	8.2	8.2	41.7
Goats													
No.	8	9	12	14	6	7	8	5	11	9	7	7	102
%	7.8	8.8	11.8	13.7	5.9	6.9	7.8	4.9	10.8	7.8	6.9	6.9	58.3
Total	14	12	23	19	8	8	10	11	14	24	13	13	175
%	8.0	6.9	13.1	10.9	4.6	4.6	5.7	6.3	8.0	13	7.4	7.4	100

CONCLUSION

These reproductive disorders lead to wastages that are very difficult to quantify in monetary value. The alleviation of these disorders will certainly pave way for improvement and further increase in livestock production (especially small ruminants) and subsequent increased animal protein intake.

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