



CLINICAL PREVALENCE OF DISEASES AND DISORDERS OF CATTLE AT THE UPAZILLA VETERINARY HOSPITAL, CHAUHALI, SIRAJGANJ

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An investigation was undertaken to determine the general clinical prevalence of diseases and disorders in cattle at the Upazilla Veterinary Hospital, Chauhali, Sirajganj during the period from January to December 2014. A total of 2646 clinical cases on cattle were recorded and analyzed. Diagnosis of each of the clinical cases was made on the basis of owner history, clinical examination and common laboratory techniques. The clinical cases were divided into three groups on the basis of treatment required viz. (1) Medicinal (2) Gynaeco-obstetrical and (3) Surgical cases. Among the three types of cases, medicinal cases constituted the highest percentage (79.33%) in comparison to gynaeco-obstetrical (11.60%) and surgical (9.07%) cases. Among the medicinal cases, the highest cases was recorded with parasitic diseases (55.97%), followed by infectious diseases (24.21%) and digestive disorders (10.34%). Other cases were general systemic states (3.91%), musculo-skeletal disorder (1.57%), skin condition (1.57%), metabolic diseases (1%), respiratory disorders (0.76%), sensory organ diseases (0.43%) and dog biting (0.24%). Among the gynaeco-obstetrical cases, repeat breeding (42.35%), anestrus (31.60%), orchitis (9.77%), posthitis (5.86%), dystocia (4.89%) and retained placenta (4.23%) were recorded as major gynaeco-obstetrical problems in cattle. Navel-ill (45%), myiasis (43.33%), abscess (6.25%) and fracture (3.34%) were recognized as the main disorders which required surgical interventions. Prevalence of diseases was high (39.38%) in summer season (March-June) followed by (34.73%) in winter (November-February) and lowest (25.89%) in rainy season (July-October). It may be concluded that a number of diseases with various percentages have been occurring in the Chauhali upazila and this report may help to develop control strategies against major diseases reported in this study.

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INTRODUCTION

Livestock constitute an important part of the wealth of a country. It provides manure, meat and milk to the vast majority of the people. Cattle are a big portion of the livestock. There are about 23.4 million cattle in Bangladesh (Anon., 2014). About 20% of the population of Bangladesh earns their livelihood through work associated with raising cattle. Most of them are reared under smallholder traditional management system in rural areas. The management practices of animals and geo-climatic condition of Bangladesh are favorable for the occurrence of various diseases. Retrospective evaluation of clinical case records help to understand the predominant clinical problems and also their demographic and seasonal distribution in a particular area. Chauhali upazila of Sirajganj district in Bangladesh is surrounded by The Jamuna River and it is a natural calamity affected area which encourages many diseases in livestock. Although some reports on clinical case records from Bangladesh Agricultural University Veterinary Clinic (Rahman et al., 1972; Hossain et al., 1986; Das and Hashim, 1996; Samad, 2001; Samad et al., 2002), Haluaghat Upazila Veterinary Hospital, Mymensingh (Sarker et al., 1999) and Dairy Cooperatives in Pabna district (Pharo, 1987), Baghabari Milking zone of Bangladesh (Sarker et al., 2013), Ulipur Upazila Veterinary Hospital, Kurigram (Kabir et al., 2010), Khagrachari Sadar Veterinary Hospital, Khagrachari (Ali et al., 2011), Upazilla Veterinary Hospital, Mohammadpur, Magura (Karim et al., 2014), Chandanaish Upazila of Chittagong district, Bangladesh (Pallab et al., 2012) and Patuakhali Science and Technology University Veterinary Clinic (Rahman et al., 2012) are available but similar report on cattle are very limited in Chauhali upazila of Sirajganj district of Bangladesh. The objective was to determine the clinical prevalence of diseases and disorders in cattle at the Upazila Veterinary Hospital, Chauhali, Sirajganj.

MATERIALS AND METHODS

This clinical study was undertaken at the Upazila Veterinary Hospital (Officially named as upazilla livestock office), Chauhali, Sirajganj to determine the clinical prevalence of diseases and disorders in cattle during the one year study period from January to December, 2014.

General examination

Physical condition, behavior, posture, gait, superficial skin wound, prolapse of the uterus and vagina, salivation, nasal discharge, distension of the abdomen, locomotive disturbance etc were observed by visual examination of the patient.

Physical examination

Examination of different parts and system of the body of each of the sick animals were examined by using procedure of palpation, percussion, auscultation, needle puncture and walking of the animals.

Clinical examination

The temperature, pulse, and respiratory rate from each of these sick animals were recorded. Clinical examinations of all 2646 clinically sick cattle of different ages were conducted on the basis of diseases history, owner complaint, symptoms, to diagnose the following diseases and disorders. History of each case (present and past) was carefully taken which gave a guideline for examination of the animals. According the merit of the individual case, general clinical examination were conducted on the basis of disease history and owners complaint, symptoms and techniques such as microscopic examination, common laboratory techniques used by Rosenberger (1979) and Samad et al. (1988). These recorded clinical cases were primarily categorized into three major groups on the basis of treatment required. These groups were: (1) Medicinal cases (2) Gynaeco-obstetrical cases and (3) Surgical cases. The medicinal cases were categorized into major diagnostic groups that were considered sufficiently distinct so as to make clinical diagnosis accurate, such as (i) parasitic diseases (ii) infectious diseases (iii) digestive disorders (iv) general systemic states (v) musculo-skeletal disorders (vi) skin conditions (vii) metabolic and nutritional deficiency diseases (viii) respiratory disorders (ix) the sensory organ diseases and (x) other diseases. The study period was divided into three seasons on the basis of local climatic conditions viz. Summer (March to June), Rainy (July to October) and Winter (November to February). Data were organized in the Microsoft® Excel spreadsheet and percentages of disease conditions prevalent in different seasons were calculated.

RESULTS AND DISCUSSION

Of the 2646 recorded clinical cases of sick cattle, medicinal, gynaeco-obstetrical and surgical cases were 79.33%, 11.60% and 9.07% respectively (Table 1). This observation supports the earlier report of Rahman et al. (2012) and Karim et al. (2014). Rahman et al. (2012) recorded 84.1%, 4.7% and 11.20% and Karim et al. (2014) recorded 86.5%, 6.1% and 7.3% medicinal, gynaeco-obstetrical and surgical cases respectively. However, Samad (2001) recorded 90.76% medicinal, 5.46% gynaeco-obstetrical and 3.78% surgical cases in cattle. In addition to that, the highest number of cases were recorded in summer (39.38%), followed by winter (34.73%) and rainy (25.89%) seasons (Table 2, Figure 2), which is supported by Rahman et al. (2012) who reported the highest prevalence in summer followed by rainy and winter seasons.

Medicinal cases

Of the 2099 medicinal cases in cattle, the highest cases was recorded with parasitic diseases (55.97%), followed by infectious diseases (24.21%) and digestive disorders (10.34%). The least recorded cases were dog biting (Table 1). The findings support Rahman et al. (2012) who reported the highest 50.4% parasitic diseases, 14.2% digestive disorders, 14.8% systemic states and 5.5% respiratory disorders with some variations. However, infectious diseases are higher and systemic states are lower in this study because it is well known that the occurrence of disease varies with different geographical locations.

Parasitic diseases

The highest prevalence among different parasitic diseases was Gastro-intestinal worm infestation followed by Fascioliasis, Lice infestation and Coccidiosis (Table 1). The findings are supported by Rahman et al. (2012), Sarker et al. (2013), Kabir et al. (2010) and Ali et al. (2011) with a slight variation. The highest number of parasitic diseases may be due to grazing in the lowland area, irregular deworming, using inadequate dose of anthelmintics, favorable environment for the parasites etc. Again, the highest number of parasitic diseases in cattle was during winter followed by summer and rainy seasons (Table 2, Figure 1). However, Rahman et al. (2012) reported almost similar percentages of parasitic diseases during the three seasons in cattle.

Infectious diseases

The major infectious diseases in cattle were foot and mouth disease (FMD), ephemeral fever and dermatophilosis (Table 1). The findings are supported by Sarker et al. (2013), Kabir et al. (2010), Rahman et al. (2012) and Karim et al. (2014) with a slight variation. The highest frequency of FMD and other infectious diseases in the area is due to the fact that the area is situated beside a big river and is a flood affected area, introduction of diseased cattle from India etc. Again, the highest number of infectious diseases was recorded during summer season (Table 2, Figure 1) which is supported by Rahman et al. (2012).

Digestive disorders

Diarrhea (7.91%) and dysentery (2.43%) were found to be the major digestive disorders in cattle (Table 1). Rahman et al. (2012) and Sarker et al. (2013) also found the same result. However, Pallab et al. (2012) reported the highest 47.05% digestive disorders. Although the diarrheal and dysenteric cases were recorded in cattle in all the seasons of the year but highest percentage was recorded during summer followed by rainy and winter (Table 2, Figure 1). However, Rahman et al. (2012) recorded digestive disorders same during all seasons.

General systemic states

It was revealed that 2.48% and 1.43% cattle were affected with anorexia and acidosis (Tables 1). However, Sarker et al. (2013) reported 17.55% cattle with anorexia. In this study, most of the anorexic cases were counted under the specific diseases. The cases were recorded highest in rainy followed by summer and winter seasons (Table 2, Figure 1). However, Rahman et al. (2012) recorded the cases highest in winter followed by rainy and summer seasons.

Table 1. Clinical prevalence of diseases and disorders in cattle recorded at Upazilla Veterinary Hospital, Chauhali, Sirajganj

S/N	Diseases	Cattle (n=2646)	
		No. of affected cattle	Percentage (%)
	Parasitic diseases	1175	55.97
1	Gastro-intestinal Worm infestation	900	42.88
2	Fascioliasis	149	7.10
3	Lice infestation	70	3.33
4	Coccidiosis	28	1.33
5	Babesiosis	16	0.76
6	Hump sore	12	0.57
	Infectious diseases	508	24.21
7	FMD	204	9.72
8	Ephemeral Fever	111	5.29
9	Dermatophilosis	108	5.15
10	Mastitis	33	1.57
11	Papillomatosis	26	1.24
12	Black quarter	17	0.81
13	Tetanus	4	0.19
14	Foot rot	3	0.14
15	Actinobacillosis	2	0.10
	Digestive disorders	217	10.34
16	Diarrhoea	166	7.91
17	Dysentery	51	2.43
	General Systemic states	82	3.91
18	Anorexia	52	2.48
19	Acidosis	30	1.43
	Musculo-Skeletal disorder	33	1.57
20	Arthritis	33	1.57
	Skin condition	33	1.57
21	Urticaria	33	1.57
	Metabolic diseases	21	1.00
22	Agalactia	12	0.57
23	Milk fever	9	0.43
	Respiratory disorder	16	0.76
24	Pneumonia	16	0.76
	Sensory organ diseases	9	0.43
25	Corneal opacity	1	0.05
26	Otitis	8	0.38
	Other condition	5	0.24
27	Dog bite	5	0.24
	Sub-total (Medicinal cases)	2099	79.33
1	Repeat breeding	130	42.35
2	Anestrous	97	31.60
3	Orchitis	30	9.77
4	Posthitis	18	5.86
5	Dystocia	15	4.89
6	Retention of placenta	13	4.23
7	Vaginitis	3	0.98
8	Abortion	1	0.33
	Sub-total (Gyneco-obstetrical cases)	307	11.60
1	Navel-ill	108	45.00
2	Myiasis	104	43.33
3	Abscess	15	6.25
4	Fracture	8	3.34
5	Upward Patellar Fixation	3	1.25
6	Atresia ani	2	0.83
	Sub-total (Surgical cases)	240	9.07
Overall		2646	100

Table 2. Season-wise Clinical prevalence of diseases and disorders in cattle recorded at Upazilla Veterinary Hospital, Chauhali, Sirajganj

S/N	Diseases	No. of affected cattle (%), Cattle (n=2646)			
		Summer	Rainy	Winter	Total
	Parasitic diseases	429(36.51)	208(17.70)	538(45.79)	1175(55.97)
1	Gastro-intestinal Worm infestation	356(39.56)	152(16.89)	392(43.56)	900(42.88)
2	Fascioliasis	27(18.12)	0	122(81.88)	149(7.10)
3	Lice infestation	28(40)	35(50)	7(10)	70(3.33)
4	Coccidiosis	9(32.14)	10(35.71)	9(32.14)	28(1.33)
5	Babesiosis	7(43.75)	5(31.25)	4(25)	16(0.76)
6	Hump sore	2(16.67)	6(50)	4(33.33)	12(0.57)
	Infectious diseases	265(52.17)	177(34.84)	66(12.99)	508(24.21)
7	FMD	119(58.33)	56(27.45)	29(14.22)	204(9.72)
8	Ephemeral Fever	43(38.74)	68(61.26)	0	111(5.29)
9	Dermatophilosis	78(72.22)	14(12.96)	16(14.81)	108(5.15)
10	Mastitis	10(30.30)	13(39.39)	10(30.30)	33(1.57)
11	Papillomatosis	4(15.38)	15(57.69)	7(26.92)	26(1.24)
12	Black quarter	9(52.94)	8(47.06)	0	17(0.81)
13	Tetanus	0	3(75)	1(25)	4(0.19)
14	Foot rot	0	0	3(100)	3(0.14)
15	Actinobacillosis	2(100)	0	0	2(0.10)
	Digestive disorders	104(47.93)	63(29.03)	50(23.04)	217(10.34)
16	Diarrhoea	87(52.41)	49(29.52)	30(18.07)	166(7.91)
17	Dysentery	17(33.33)	14(27.45)	20(39.22)	51(2.43)
	General Systemic states	29(35.37)	34(41.46)	19(23.17)	82(3.91)
18	Anorexia	24(46.15)	16(30.77)	12(23.08)	52(2.48)
19	Acidosis	5(16.67)	18(60)	7(23.33)	30(1.43)
	Musculo-Skeletal disorder	9(27.27)	19(57.58)	5(15.15)	33(1.57)
20	Arthritis	9(27.27)	19(57.58)	5(15.15)	33(1.57)
	Skin condition	3(9.09)	17(51.52)	13(39.39)	33(1.57)
21	Urticaria	3(9.09)	17(51.52)	13(39.39)	33(1.57)
	Metabolic diseases	8(38.10)	7(33.33)	6(28.57)	21(1)
22	Agalactia	5(41.67)	5(41.67)	2(16.67)	12(0.57)
23	Milk fever	3(33.33)	2(22.22)	4(44.44)	9(0.43)
	Respiratory disorder	5(31.25)	3(18.75)	8(50)	16(0.76)
24	Pneumonia	5(31.25)	3(18.75)	8(50)	16(0.76)
	Sensory organ diseases	2(22.22)	3(33.33)	4(44.44)	9(0.43)
25	Corneal opacity	0	1(100)	0	1(0.05)
26	Otitis	2(25)	2(25)	4(50)	8(0.38)
	Other condition	2(40)	0	3(60)	5(0.24)
27	Dog bite	2(40)	0	3(60)	5(0.24)
	Sub-total (Medicinal cases)	856(40.78)	531(25.30)	712(33.92)	2099(79.33)
1	Repeat breeding	41(31.54)	18(13.85)	71(54.61)	130(42.35)
2	Anestrous	41(42.27)	28(28.87)	28(28.86)	97(31.60)
3	Orchitis	7(23.33)	16(53.33)	7(23.33)	30(9.77)
4	Posthitis	9(50)	5(27.78)	4(22.22)	18(5.86)
5	Dystocia	5(33.33)	6(40)	4(26.67)	15(4.89)
6	Retention of placenta	2(15.38)	5(38.46)	6(46.15)	13(4.23)
7	Vaginitis	0	1(33.33)	2(66.67)	3(0.98)
8	Abortion	0	1(100)	0	1(0.33)
	Sub-total (Gyneco-obstetrical cases)	105(34.20)	80(26.06)	122(39.74)	307(11.60)
1	Navel-ill	27(25)	46(42.59)	35(32.41)	108(45)
2	Myiasis	47(45.19)	12(11.54)	45(43.27)	104(43.33)
3	Abscess	3(20)	12(80)	0	15(6.25)
4	Fracture	3(37.50)	2(25)	3(37.50)	8(3.34)
5	Upward Patellar Fixation	0	2(66.67)	1(33.33)	3(1.25)
6	Atresia ani	1(50)	0	1(50)	2(0.83)
	Sub-total (Surgical cases)	81(33.75)	74(30.83)	85(35.42)	240(9.07)
Overall		1042(39.38)	685(25.89)	919(34.73)	2646(100)

Musculo-skeletal disorders

About 1.57% cattle were suffering from arthritis (Table 1). However, Sarker et al. (2013) reported 2.53% cases of arthritis in cattle. The highest number of arthritis in cattle was during rainy season (Table 2, Figure 1). However, Rahman et al. (2012) recorded the highest percentage of arthritis in cattle during summer season.

Skin conditions

Urticaria was recorded in 1.57% cattle (Table 1) and the highest cases were recorded during rainy seasons (Table 2, Figure 1). However, Ali et al. (2011) recorded 0.5% urticaria in cattle and the highest cases of urticaria in summer followed by winter and rainy season.

Metabolic diseases

Milk fever (0.43%) and agalactia (0.57%) was diagnosed in cattle under this group (Table 1). Ali et al. (2011) reported 0.59% milk fever and 2.09% agalactia. However, Pallab et al. (2012) reported 4.24% metabolic diseases. The frequency may be increased due to mineral deficiency or impairment of metabolism. The most of the cases were recorded in summer season (Table 2, Figure 1) which is supported by Rahman et al. (2012).

Respiratory disorders

Around 0.76% cases of pneumonia were recorded in this study (Table 1) which is supported by Samad (2001) and Karim et al. (2014) who reported 0.84% and 0.7% pneumonia in cattle, respectively. The highest percentage of pneumonia was recorded during winter season in cattle (Table 2, Figure 1) which is supported by Samad et al. (2002).

The sensory organ diseases

The cattle were affected with 0.38% otitis and 0.05% corneal opacity (Table 1). Sarker et al. (2013) reported 0.02% otitis and 0.97% eye disease. However, Samad et al. (2002) reported a high percentage (2.42%) of corneal opacity in cattle. The percentage of eye and ear diseases was the highest during winter season (Table 2, Figure 1). However, Samad et al. (2002) reported the highest percentage of eye diseases during rainy season.

Dog biting

Dog bite was recorded in 5 cattle (0.24%). The cases were recorded as 60% in winter season and 40% in summer season (Table 2, Figure 1). Ali et al. (2011) found one case of dog biting only in summer season during a five year study.

Gynaeco-obstetrical cases**Repeat breeding**

Repeat breeders are those cows that fail to conceive after three or more regularly spaced services in the absence of detectable abnormalities of the internal genitalia (Samad, 2000). The highest gynaeco-obstetrical cases, repeat breeder was recorded in 42.35% cattle (Table 1). Karim et al. (2014) also reported the same result. Public unconsciousness, no service in the remote area, quack treatment etc. are some of the major causes of repeat breeder cattle. The highest number of repeat breeding in cattle was found during winter season (Table 2, Figure 2) which is supported by Rahman et al. (2012).

Anestrous

Anestrous was recorded in 31.60% cows (Table 1). Rahman et al. (2012) reported 59.50% anestrous cases in cattle. Vitamin A deficiency, cystic ovaries, atrophied ovaries, other ovarian disease are mainly responsible for anestrous in cattle. The highest number of cases in cattle was recorded during summer seasons (Table 2, Figure 2), However, Rahman et al. (2012) reported the highest in winter season.

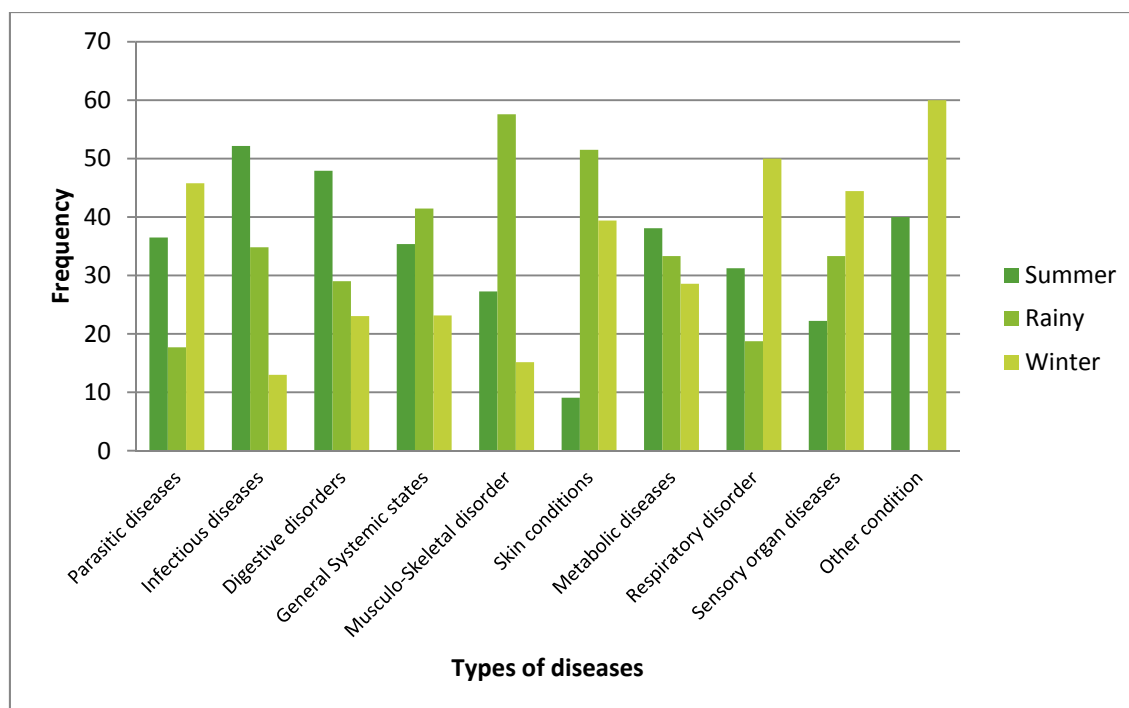


Figure 1. Season-wise distribution of various medicinal cases in cattle

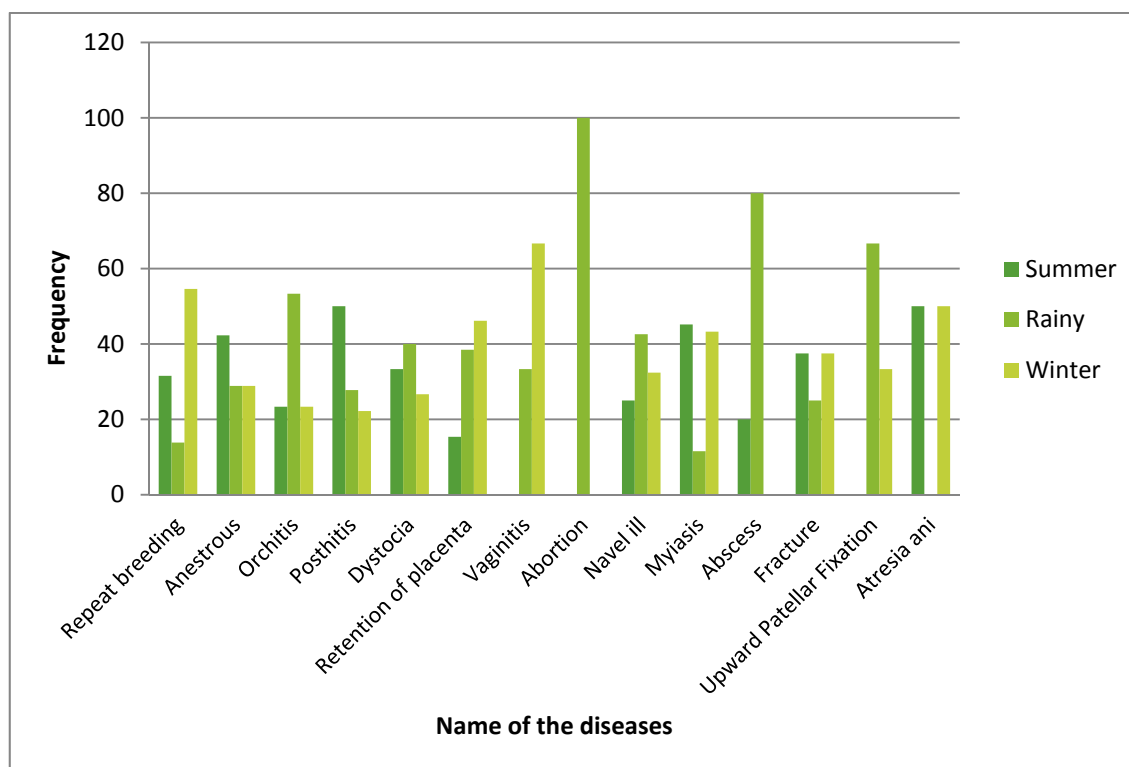


Figure 2. Season-wise distribution of various gynecological-obstetrical and surgical cases in cattle

Orchitis

This study recorded 9.77% cases of orchitis in cattle (Table 1). The highest number of orchitis in cattle was during rainy, followed by summer and winter seasons (Table 2, Figure 2). However, the recorded cases in cattle could not be compared due to lack of similar inland reports.

Posthitis

Posthitis was recorded in 5.86% cattle (Table 1). However, Rahman et al. (2012) reported the cases 0.70% in cattle. In this study, most of the cattle were bulls so frequency of the disease is higher. The highest number of cases in cattle was recorded during summer, followed by rainy and winter seasons (Table 2, Figure 2). However, Rahman et al. (2012) reported posthitis in all seasons of the year.

Dystocia

This study recorded 4.89% cases of dystocia in cows (Table 1). However, Samad (2001) and Ali et al. (2011) reported 0.02% and 1.8% dystocia cases in cows respectively. The highest number of dystocia in cattle was during rainy, followed by summer and winter seasons (Table 2, Figure 2). However, Rahman et al. (2012) recorded dystocia only in summer season.

Retained placenta

This disorder was recorded only in 4.23% cows (Table 1). Rahman et al. (2012) reported 8.1% cases of retained placenta in cows. In winter seasons the cases were mostly found (Table 2, Fig. 2). Rahman et al. (2012) recorded the most of the cases of retained placenta in rainy season.

Vaginitis and abortion

These disorders were recorded only in 0.98% and 0.33% cows respectively (Table 1). Ali et al. (2011) reported 0.90% abortion in cows. Vaginitis is recorded the highest in winter followed by rainy seasons. The abortion cases were recorded only in summer season in cattle (Table 2, Figure 2).

Surgical cases**Navel-ill**

The highest surgical cases, navel-ill were recorded in 45% cattle (Table 1). Sarker et al. (2013) and Sarker et al. (2014) also found navel ill was the highest among the surgical disorders. Unhygienic maternity pen and calving pen, lack of colostrums intake, no antiseptic use on the naval cord, unconsciousness may be responsible for the high frequency of navel-ill. The highest cases were recorded during rainy season (Table 2, Figure 2). However, Rahman et al. (2012) recorded the highest cases during winter season.

Myiasis

Myiasis was recorded in 43.33% cattle (Table 1) which is supported by Rahman et al. (2012). However, Nooruddin et al. (1986) and Das and Hashim, (1996) found a low prevalence of 1.07% and 2.20% myiasis in cattle. Unconsciousness of the people is mainly responsible for myiasis because the abscess is not properly treated which produces myiasis. The highest number of cases in cattle was recorded during summer season (Table 2, Figure 2) which is supported by Samad (2001) and Rahman et al. (2012).

Abscess

Abscess was recorded in 6.25% cattle (Table 1). This observation supports the report of Sarker et al. (2013). However, Rahman et al. (2012) reported 1.1% cattle affected with abscess. The highest cases were recorded during rainy season and rest in summer season (Table 2, Figure 2). Rahman et al. (2012) recorded abscess only in summer season.

Fracture

Fracture was recorded in 3.34% cattle (Table 1). The number of fracture cases in cattle was recorded as same during summer and winter seasons followed by rainy season (Table 2, Figure 2). However, the recorded cases in cattle could not be compared due to lack of similar inland reports.

Upward Patellar Fixation

Upward Patellar Fixation was recorded in 1.25% cattle (Table 1) and the cases were recorded during rainy and winter seasons (Table 2, Figure 2). Rahman et al. (2012) supports the finding who reported 2.2% cattle affected with upward patellar fixation but only in summer season.

Atresia ani

This study recorded 0.83% cases of atresia ani in calves (Table 1). The cases were recorded as half in summer and half in winter seasons (Table 2, Figure 2). However, the recorded cases in cattle could not be compared due to lack of similar inland reports.

CONCLUSIONS

Occurrence of diseases was recorded during clinical examination of sick cattle at Upazila Veterinary Hospital, Chauhali, Sirajganj, Bangladesh. It was observed from the study that the cattle were most susceptible to parasitic infestation. Parasitic infestation causes heavy economic losses in every year. So, regular anthelmintics treatment should be given to control the parasitic diseases. Proper planning and program should be undertaken to prevent and control diseases and disorders of cattle in the study area.

AUTHORS' CONTRIBUTIONS

MG Morshed and SHMF Siddiki designed the experiments, collected the data from the hospital, MS Parvin and SHMF Siddiki analysed the data. MS Parvin, L Naher and SHMF Siddiki wrote the manuscript. All authors participated in experimental design and read and approved the final manuscript.

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