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Retrospective study of diseases of cattle at Adamdighi Veterinary Hospital, Bogra

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Abstract

A retrospective epidemiological study was undertaken at the Adamdighi Veterinary Hospital, Bogra from January 2012 to December 2014 to determine the occurrence of cattle diseases. According to the diseases register, a total of 12403 sick animals were examined and 7208 cases of cattle diseases were identified. About 44.7% were parasitic, 37.8% general systemic affections, 14.2% infectious, 1.3% reproductive, 1.2% poisoning and 0.8% metabolic diseases. The common diseases were worm infestation (34.2%), pneumonia (8.7%), foot and mouth disease (2.5%), mastitis (1.9%), black quarter (0.6%), haemorrhagic septicaemia (0.5%), simple indigestion (11.9%), diarrhoea (11.7%), fever (7.5%), navel ill (2.6%), bloat (2.0%), calf scour (1.7%), organo-phosphorus poisoning (1.2%), retained placenta (0.8%) and abortion (0.6%). About 2397 cases (33.3%) were in male and 4811 cases (67.7%) in female. Animals aged between 1-3 (A_2) years had highest occurrences (34.3%) of diseases but lowest 17.1% occurrences were in cattle between 8-15 years (A_4) of age. Disease occurrence was higher (37.3%) in summer (March – June) followed by (32.5%) rainy (July – October) and lowest (30.3%) in winter season (November – February). Gastrointestinal diseases (n = 3665) were most common but lower cases of hematopoietic system were identified (n = 107). This study showed the pattern of diseases that might help to identify the risk factors of these maladies in this area. (*Bangl. vet*. 2015. Vol. 32, No. 1, 7 – 12)

Introduction

Bangladesh is an agrarian country, and livestock has been an important component of farming for centuries. The contribution of livestock to the Gross Domestic Product (GDP) is about 1.7% (BBS, 2015). Most of the animals are in poor body condition, and have low productivity due to poor management and disease. These are among the most important factors slowing its development.

The management of animals and climate of Bangladesh are favourable for the occurrence of various diseases (Onneshan, 2014). Upazilla (sub-district) Veterinary Hospitals are reliable sources of information about animal diseases. Analysis of case records gives a picture of the disease problems of that local area. Reports on clinical

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case are available from Bangladesh Agricultural University Veterinary Teaching Hospital (Das and Hashim, 1996; Samad, 2001; Samad *et al.*, 2002; Ali *et al.*, 2011; Sarker *et al.*, 2013; Sarker *et al.*, 2015), Haluaghat Upazilla Veterinary Hospital, Mymensingh (Sarker *et al.*, 1999) and Dairy Cooperatives in Pabna district (Pharo, 1987), Ulipur Upazilla Veterinary Hospital, Kurigram (Kabir *et al.*, 2010), Chandanaish Upazilla of Chittagong (Pallab *et al.*, 2012) and Patuakhali Science and Technology University Veterinary Clinic (Rahman *et al.*, 2012). No case records are analysed in Bogra region. This study was undertaken to categorize the diseases in cattle presenting at the Upazilla Veterinary Hospital, Adamdighi, Bogra from January 2012 to December 2014.

Materials and Methods

Sources and nature of data

The retrospective epidemiological study of diseases in cattle was done using three years data at Upazilla Veterinary Hospital, Adamdighi, Bogra, from January 2012 to December 2014, and analysed to determine the occurrence of diseases, with seasonal pattern and distribution. Among the cases (n = 12403) 7208 diseased cattle were studied.

Data processing

The data were checked manually for any error and analysed using Statistical Package for Social Science (SPSS) software 20 version. Chi-square test was used to compare different groups. Three seasons were considered, summer from March to May, rainy from June to October and winter from November to February (Ali *et al.*, 2011).

General, physical and clinical examinations

Veterinary surgeons recorded the physical condition, behaviour, posture, gait, superficial skin wound, salivation, nasal discharge, distension of the abdomen, locomotive disturbance etc.

Different parts and systems of the body of each of the sick animals were examined following the procedure of palpation, percussion, auscultation, needle puncture and walking of the animals.

Temperature, pulse, and respiratory rate from each animal were recorded. According to the individual case, disease history, owner's complaints were recorded. Microscopic examination of faeces, blood, urine, skin scraping were carried out if appropriate, as described by Rosenberger (1979) and Samad *et al.* (1988).

Results and Discussion

Out of 12403 cases, 7208 (58.1%) were cattle, of which 2397 (33.3%) were male and 4811 (67.7%) female.

Occurrence of diseases and disorders in cattle are shown in Table 1. About 44.7% were parasitic, 37.8% general systemic affections, 14.2% infectious, 1.3% reproductive, 1.2% poisoning and 0.8% metabolic diseases.

The 3227 affected with parasitic infection were categorised as worm (34.2%), ectoparasites (9.8%) and babesiosis (0.7%) (Table 1).

Table 1: Occurrence of diseases in cattle at the Upazilla Veterinary Hospital, Adamdighi, Bogra from January 2012 to December 2014

Type of diseases/ disorders	Diseases/ disorders	Number of cattle affected (n = 7208)	Percentage (%)	Total	Percentage (%)
Parasitic diseases	Worm infection	2468	34.2	3227	44.7
	Ectoparasite infestation	706	9.8		
	Babesiosis	53	0.7		
Infectious diseases	FMD	183	2.5	1027	14.2
	HS	39	0.5		
	BQ	45	0.6		
	Pneumonia	624	8.7		
	Mastitis	136	1.9		
Reproductive	Retained placenta	56	0.8	97	1.3
	Abortion	41	0.6		
Metabolic	Milk fever	54	0.8	54	0.8
General systemic affections	Navel ill	189	2.6	2717	37.8
	Calf scour	123	1.7		
	Fever	538	7.5		
	Simple indigestion	855	11.9		
	Diarrhoea	845	11.7		
	Blot/Tympani	143	2.0		
	Skin diseases	24	0.3		
Poisoning	Organo-phosphorus poisoning	86	1.2	86	1.2

Common infectious diseases included pneumonia (8.7%), foot and mouth disease (2.5%), mastitis (1.9%), black quarter (0.6%) and haemorrhagic septicaemia (0.5%). Other conditions included simple indigestion (11.9%), diarrhoea (11.7%), fever (7.5%), navel ill (2.6%), bloat (2.0%), calf scour (1.7%) and organo-phosphorus poisoning (1.2%). In addition, cases of retained placenta (0.8%), abortion (0.6%) and milk fever (0.8%) were diagnosed.

Cattle of all ages were affected with gastrointestinal diseases (Table 2). Cattle of 1-3 (A_2) years old were more numerous than other age groups.

Table 2: Age, sex and season distribution of diseases in different systems of cattle at Adamdighi Upazilla, Bogra from January 2012 to December 2014

System affected	Age of Cattle				Sex		Season			Total
	0-1 (A_1)	1-3 (A_2)	3-8 (A_3)	8-15 (A_4)	Male	Female	Summer	Rainy	Winter	
Digestive	711	1256	1072	625	1210	2455	1366	1190	1109	3665
GSA*	275	486	414	242	470	947	528	460	429	1417
Musculo-integument	190	336	286	167	331	648	365	318	296	979
Respiratory	121	214	182	106	209	415	233	203	189	624
Reproductive	45	80	68	40	79	154	87	76	71	233
Multiple system	36	63	54	31	61	122	68	59	55	183
Haematopoietic	21	37	31	18	37	70	40	35	32	107
Total	1399	2471	2108	1230	2397	4811	2686	2340	2182	7208
Percentage (%)	19.3	34.3	29.3	17.1	33.3	66.7	37.3	32.5	30.3	

*General Systemic Affections

Age, sex and seasonal variations of diseases and disorders in cattle are presented in Table 2. Female cattle (66.7%) were more numerous than males (33.3%). Gastrointestinal diseases (n = 3665) were most common, and mostly female cattle were affected where poor veterinary health care, particularly strategic parasitic control was lacking (Rahman *et al.*, 2012).

Temporal distribution of the diseases is shown in Fig. 1 during January 2012 to June 2015 where highest occurrence of diseases was found in March (n = 720) followed by May (n = 693) and lowest in February (n = 475). Banu *et al*. (2015) reported the highest occurrence of diseases in cattle in summer (47.9%) followed by rainy (30.1%) and in winter seasons (22.0%), which is similar to these observations.

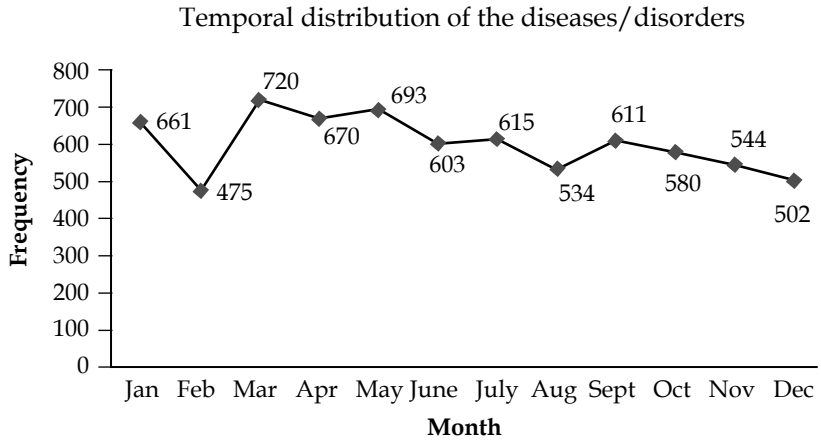

Fig. 1. Graphical representation of temporal distribution of diseases and disorders in cattle at Adamdighi Upazilla, Bogra from January 2012 to December 2014.

There is statistically significant relation between diseases and ages of cattle ($\chi^2 = 359.507$), disease and sex ($\chi^2 = 389.313$) and disease and season ($\chi^2 = 39.451$).

Conclusions

The occurrence of the diseases was higher in female than male. Animals aged between 1-3 years are more likely to be affected by the diseases and disorders. More diseases were reported in the summer season. Gastrointestinal diseases were more common. Retrospective epidemiological analysis for a period of 3 years or more will help to identify risk factors of diseases for developing future control measures.

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