



## Common diseases and disorders of cattle at Lalmohan upazila, Bhola

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### ABSTRACT

A research was conducted to obtain the prevalence of diseases and disorders of cattle at Lalmohan Upazila, Bhola, Bangladesh. The study was performed from January to March, 2016. An entire of 90 sick cattle were examined and analyzed at the time of study where young 25.56%, growing 34.44% and adult 40%; local breed 78.89% as well as cross breed 21.11%. Each of the clinical case was diagnosed on the basis of history, general examination, physical examination and clinical findings. Among the clinical cases, endoparasitic infestation 15.56% was the highest in all recorded cases. Furthermore, FMD 8.89%, bovine ephemeral fever 7.78%, diarrhea/enteritis 7.78%, mastitis 4.44 %, black quarter 1.11 %, pneumonia 2.22 %, rabies 2.22%, myiasis 3.33%, ectoparasitic infestation 5.56%, bloat 6.67%, ruminal acidosis 4.44%, retention of placenta 2.22%, wound 2.22%, anoestrus 4.44%, dermatitis 3.33% and dermatophytosis 2.22% were also commonly recorded. It was reported that local breed (78.89%) were highly susceptible than cross breed (21.11%) cattle. In relation to age, adult cattle (40%) were found more infected with diseases and disorders as compared with calf (25.56%) and growing age (34.44%) cattle. Immunoprophylaxis and hygienic management should be initiated to curb the prevalence of common diseases and disorders in cattle. So further epidemiological and laboratory study should be needed to confirm the etiology, prevention and control measures of the diseases and disorders in cattle at study area.

### INTRODUCTION

Bangladesh is considered as the most densely populated country in the world. Most of its population lives in rural area and their per capita income is very low. With continuous growing of its population, the demand for food particularly animal source food is increasing rapidly. Rearing livestock species can be the only way to fulfill this demand. About 36% of total animal protein comes from the livestock products in our everyday life (Hoque and Samad 1996). Moreover, livestock plays a vital role to national GDP through producing organic manure, supplying fuel, leather, horns, hoofs, generating cash income and earning foreign remittance. In Bangladesh, Livestock diseases and disorders are the most important hindrance towards these production and livestock development in our country. Most of our animals are weak, unhealthy, emaciated and their productive performances are not satisfactory due to various diseases and disorders. Different types

of diseases and disorders are important problems in cattle rearing in our country. It has been reported that various types of disease and disorders has already been performed in various parts of the country (Samad et al. 2002, Rahman et al. 2012 and Karim et al. 2014). Badruzzaman et al. (2015) reported the highest prevalence of common diseases in cattle were digestive disorders (45.14%) followed by parasitic diseases (30.64%) and infectious disease (9.49%) at Chittagong area. It has been reported that parasitic diseases (26.58%) in cattle were the highest in all observed cases by Lucky et al. (2016) in Sylhet, Bangladesh. Ullah et al (2015) reported that highest prevalence of cattle diseases at Chittagong area was digestive disorders (47.05%). But there are very little study performed on the prevalence of clinical diseases of cattle at Bhola district, Bangladesh. So, present study was undertaken on the occurrence of clinical diseases and disorders of cattle in study area.

Among the various constrains in the development of cattle, diseases are the most important limiting factors that cause significant mortality of adult cattle and neonatal calves each year (Debnath et al., 1990). It was reported that variation in different cattle breed, their sex, season and environmental factors greatly influence the disease prevalence in cattle (Alim et al., 2012; Sarker et al., 2011; Badruzzaman et al., 2015).

The present study was undertaken to investigate the prevalence of cattle diseases at Lalmohan upazila, Bhola of Bangladesh. Findings of this study is given a clear concept about the distribution of cattle diseases at Bhola region which might assist researchers or clinicians to design and implement priority based research on specific disease and to take efficient control strategies against the diseases.

## MATERIALS AND METHODS

The disease and disorder was diagnosed by general physical examination of animals, clinical signs, gross pathology and laboratory procedures. Clinical examination of all cattle were conducted on the basis of diseases history and owner's complaint, clinical findings and techniques used by Rosenberger (1979) and Samad (1988b) to diagnose the diseases and disorders

General physical examination was performed by observation of animal's body condition, behavior, posture, gait, locomotive disturbance, pulse, respiration, temperature, abdominal distension, defecation etc. Examination of different parts and systems of the body of sick animals were performed by using the procedure of palpation, percussion, auscultation, needle puncture and walking of animals. Owner's complaints were taken into account while performing general physical examination of a sick animal.

Physical examination of different parts and system of the body of each of the sick animals were examined by using the procedures of palpation, percussion, auscultation, needle exploration, extension and flexion of limbs and walking of animals as per methods described by Kelly (1979) and Samad (1988b).

Clinical examination of all cattle were conducted on the basis of diseases history and owner's complaint, clinical findings and techniques used by Rosenberger (1979) and Samad (1988b) to diagnose the following diseases and disorder.

Animal's breed, sex, age etc were also recorded in registered book. Specific bacterial, viral, and fungal diseases were diagnosed on the basis of specific clinical signs and gross lesions (Jones et al., 1996; Khan, 2000). In some complicated cases, confirmatory diagnosis were made by cultural and biochemical characteristics of causative organisms following standard common laboratory techniques used by (Rosenberger, 1979). Parasitic infestations were diagnosed by faeces examination under microscope as described previously (Soulsby, 1986). To confirm the hemoprotozoan infestation, blood smears were prepared and examined under microscope after Giemsa's staining according to the methods described elsewhere (Hendrix and Robinson, 2006).

## Data analysis

Diagnosed diseases were categorized as general clinical disorders, parasitic diseases, viral diseases, bacterial diseases, reproductive disorders, surgical affections, other clinical disorders for statistical analysis. Obtained data were analyzed by using statistical software 'STATA/IC-11.0' where descriptive statistics was expressed as proportion with 95% confidence interval (CI). The influences of cattle age and season on the prevalence of diseases were also analyzed.

## RESULTS AND DISCUSSION

### Endoparasitic infestation

Endoparasitic infestation was recorded 15.56% in cattle (Table 1). It was also recorded 13.33 % in local, 2.22% in cross breed, 7.78% in calf, 4.44% in growing and 3.33% in adult cattle (Table 2 & 3). Badruzzaman et al. (2015) and Karim et al. (2014) reported Fascioliasis and paramphistomiasis 10.44 %, 6.08% and 12.4%, 8.8%, respectively. Ullah et al. (2015) recorded parasitic infestation 26.79% , which is much higher than recorded study.

### **Ectoparasitic infestation**

Ectoparasitic infestation was recorded 5.56% in cattle (Table 1). It was also recorded 1.11% in calf, 2.22% in growing, 2.22% in adult and 5.56% in local cattle (Table 2&3). Ullah et al. (2015) reported ectoparasitic infestation 1.96% which is lower than recorded study. It has been observed that mange 4.6% by Karim et al. (2014). Badruzzaman et al. (2015) reported hump sore in cattle as 2.64%.

### **Mastitis**

Mastitis is an economically important disease of milch animal, was diagnosed on the basis of history and physical abnormalities of udder (Radostits, et al. 2007). Clinical mastitis was recorded 4.44% in cattle shown in (Table 1) during the period of study. It was also recorded 4.44% in adult, 1.11% in local and 3.33% in cross breed cattle shown in (Table 2&3). Kabir et al. (2010) reported clinical mastitis 1.14%, which is lower than recorded study. Karim et al. (2014) also reported prevalence of mastitis in cows as 1.1%. Lucky et al. (2016) recorded that mastitis is the highest among the all metabolic and nutritional diseases.

### **Pneumonia**

Pneumonia recorded 2.22% in cattle shown in (Table 1). It was reported 1.11% in calf and 1.11% in adult; 2.22% in local cattle in (Table 1&2). Rahman et al. (2010) reported respiratory disorders 5.5%, which was higher than performed study. Badruzzaman et al. (2015) reported respiratory disorders 3.9% and Karim et al. (2014) observed pneumonia 0.7% in cattle.

### **Black quarter**

Black quarter was recorded 1.11% shown in (Table 1). It was recorded 1.11% in growing and 1.11% in local cattle (Table 2&3). Kabir et al. (2010) and Samad (2001) reported black quarter 0.57% and 0.84%, respectively which is lower from performed study. Haque and Samad (1996) also reported incidence of BQ 2.17%, which is slightly higher than observed study.

### **Bovine ephemeral fever**

Bovine Ephemeral Fever was recorded only 7.78% in cattle (Table 1). It was also recorded 2.22% in calf, 4.44% in young, 1.11% in adult, 6.67% in local and 1.11% in cross breed cattle shown in (Table 2 and 3). Badruzzaman et al. (2015) reported 0.27% bovine ephemeral fever, which is lower than performed study. It is a vector borne disease specially tick which was prevalent at study area and support the Salkeld et al. (2015).

### **Foot and Mouth Disease**

FMD was recorded 8.89% in cattle shown in Table 1. It was observed 1.11% in young, 3.33% in growing, 4.44% in adult, 2.22% in local and 6.67% in cross breed cattle during study period (Table 2 & 3). Sarker et al. (2013) reported FMD 7.02% which is in support of recorded study. Badruzzaman et al. (2015) also recorded prevalence of FMD 4.74%, which is lower than performed study.

### **Rabies**

Occurrence of rabies was recorded in cattle 2.22% shown in Table 1. It was also recorded 2.22% in young and 2.22% in local cattle (Table 2&3). The recorded cases of rabies in cattle due to dog bite. Lucky et al. (2016) reported prevalence of rabies 22.06% in recorded bacterial and viral diseases. It has been reported that 38% cases of rabies was recorded by Uddin et al. (2015).

### **Myiasis**

Myiasis or maggot infestation was recorded 3.33% in cattle (Table 1). It was also recorded 2.22% in calf, 1.11% in growing, 2.22% in local and 1.11% cross breed cattle (Table 2&3). Arju (2013) reported myiasis 1.21% under hospital conditions in cattle which is lower than the present study. Karim et al. (2014) reported myiasis 20.8% in total surgical cases. It has also been reported that myiasis was recorded 8.11% by Badruzzaman et al. (2015), which is lower than recorded data.

### **Enteritis/Diarrhoea**

Diarrhoea is the increase frequency of defecation accompanied by feces containing an increased concentration of water and decreased in dry matter content. In this study 7.78% cattle was found infected with diarrhoea whereas 8.99%, 25.97% and 13.4% diarrhoea were described in cattle in Bangladesh by Hoque and Samad (1996), Samad (2001) and Karim et al. (2014) respectively which is relatively higher from the performed study.

### Acidosis

Acidosis was recorded 4.44% in cattle (Table 1). In cattle, it was also recorded 2.22% in growing, 2.22% in adult, 2.22% in local and 2.22% in cross

breed animal (Table 2&3). Badruzzaman et al. (2015) reported ruminal acidosis 12.24%, which is higher than recorded study.

### Anoestrus

It was recorded 4.44% in cattle shown in (Table 1). It was also recorded 1.11% in growing, 3.33% in adult and 4.44% in local cattle as shown in (Table 2&3). Sarker et al. (2013) reported anoestrus 11.44% in bovine which is much higher than the recorded data. It might be due to increase parasitic infestation and nutritional deficiency disorders in cattle at study area.

Table 1  
Overall occurrence of diseases and disorders in cattle.

Disease and disorder	Cattle	
	No. of cases	Percentage (%)
FMD	8	8.89 %
Dermatitis	3	3.33 %
Rabies	2	2.22 %
Pneumonia	2	2.22 %
Infectious bovine keratoconjunctivitis	1	1.11 %
Mastitis	4	4.44 %
Black quarter	1	1.11%
Endoparasitic infestation	14	15.56%
Bovine ephemeral fever	7	7.78%
Myiasis	3	3.33%
Babesiosis	1	1.11%
Ectoparasitic infestation	5	5.56%
Indigestion	4	4.44%
Bloat	6	6.67 %
Acidosis	4	4.44%
Retention of placenta	2	2.22%
Milk fever	1	1.11%
Diarrhea/Enteritis	7	7.78%
Wound	2	2.22%
Anestrus	4	4.44%
Alopecia	3	3.33%
Pyometra	1	1.11%
Papillomatosis	1	1.11%
Dermatophytosis	2	2.22%
Poisoning	2	2.22%
Total	90	100%

Table 2  
Common diseases and disorders of cattle in relation to breed.

Disease and disorder	Breed	
	Local n (%)	Cross n (%)
FMD	2 (2.22)	6(6.67)
Dermatitis	3 (3.33)	0(0.00)
Rabies	2 (2.22)	0(0.00)
Pneumonia	2 (2.22)	0(0.00)
Infectious bovine keratoconjunctivitis	1 (1.11)	0(0.00)
Mastitis	1 (1.11)	3(3.33)
Black quarter	1(1.11)	0(0.00)
Endoparasitic infestation	12 (13.33)	2(2.22)
Bovine ephemeral fever	6 (6.67)	1(1.11)
Myiasis	2(2.22)	1(1.11)
Babesiosis	1(1.11)	0(0.00)
Ectoparasitic infestation	5 (5.56)	0(0.00)
Indigestion	4(4.44)	0(0.00)
Bloat	5(5.55)	1(1.11)
Acidosis	2(2.22)	2 (2.22)
Retention of placenta	2 (2.22)	0(0.00)
Milk fever	1(1.11)	0(0.00)
Diarrhea/Enteritis	6 (6.67)	1 (1.11)
Wound	2 (2.22)	0(0.00)
Anestrous	4 (4.44)	0(0.00)
Alopecia	1(1.11)	2(2.22)
Pyometra	1(1.11)	0(0.00)
Papillomatosis	1(1.11)	0(0.00)
Dermatophytosis	2(2.22)	0(0.00)
Poisoning	2 (2.22)	0(0.00)
Total cases	71 (78.89%)	19 (21.11%)

### Bloat

Bloat is clinically characterized by marked distension of abdomen with severe distress and dyspnea. About 6.67% cases were recorded with bloat in this study (Table 1). In cattle, it was recorded 2.22% in growing, 4.44% in adult, 5.56% in local and 1.11% in cross breed cattle (Table 2 & 3). Arju (2013) recorded bloat 1.13% which is lower than performed study. Karim et al. (2014) also reported bloat 2.5% in cattle.

### Retained placenta

Retained placenta was recorded 2.22% in cattle (Table 1). It was also recorded 2.22% in adult cattle and 2.22% in cross breed cattle (Table 2).

Sarker et al. (2013) reported 14.27% retained placenta in cattle which is much higher than the recorded data. Karim et al. (2014) also reported 30% retained placenta in all gynaeco-obstetrical cases.

### Wound

It was recorded 2.22% in cattle as shown in Table 1. Sarker et al (2013) reported wound 20.19% which is much higher than the recorded cases.

Table 3  
Common diseases and disorders of cattle according to age.

Disease and disorder	Age			Percentage (%)
	Calf (<1year)	Growing (> 1 and < 4 year)	Adult (>4 year)	
FMD	1(1.11)	3(3.33)	4(4.44)	8.89%
Dermatitis	0(0.00)	2(2.22)	1(1.11)	3.33%
Rabies	2(2.22)	0(0.00)	0(0.00)	2.22 %
Pneumonia	1 (1.11)	0(0.00)	1 (1.11)	2.22 %
Infectious bovine keratoconjunctivitis	0(0.00)	1 (1.11)	0(0.00)	1.11 %
Mastitis	0(0.00)	0(0.00)	4(4.44)	4.44 %
Black quarter	0(0.00)	1 (1.11)	0(0.00)	1.11 %
Endoparasitic infestation	7(7.78)	4(4.44)	3(3.33)	15.56%
Bovine ephemeral fever	2 (2.22)	4(4.44)	1(1.11)	7.78%
Myiasis	2(2.22)	1(1.11)	0(0.00)	3.33%
Babesiosis	0(0.00)	0(0.00)	1(1.11)	1.11%
Ectoparasitic infestation	1(1.11)	2(2.22)	2(2.22)	5.56%
Indigestion	0(0.00)	2(2.22)	2(2.22)	4.44%
Bloat	0(0.00)	2(2.22)	4(4.44)	6.67%
Acidosis	0(0.00)	2(2.22)	2(2.22)	4.44 %
Retention of placenta	0(0.00)	0(0.00)	2(2.22)	2.22%
Milk fever	0(0.00)	0(0.00)	1(1.11)	1.11%
Diarrhea/Enteritis	3(3.33)	2(2.22)	2(2.22)	7.78%
Wound	1 (1.11)	1(1.11)	0(0.00)	2.22%
Anestrus	0(0.00)	1 (1.11)	3(3.33)	4.44%
Alopecia	2(1.11)	0(0.00)	1(1.11)	3.33%
Pyometra	0(0.00)	0(0.00)	1 (1.11)	1.11%
Papillomatosis	0(0.00)	1 (1.11)	0(0.00)	1.11%
Dermatophytosis	0(0.00)	1(1.11)	1(1.11)	2.22%
Poisoning	1(1.11)	1(1.11)	0(0.00)	2.22%
Total cases	23 (25.56%)	31 (34.44%)	36 (40%)	100%

## CONCLUSION

Prevalence of common diseases and disorders of cattle were recorded at the period of clinical examination and laboratory examination at Upazila Veterinary Hospital, Lalmohon, Bhola, Bangladesh. The study was directed to track out the current circumstances of occurrence of clinical cases in the study area. It was accomplished from the study area that the cattle were most susceptible to parasitic infestation. Parasitic infestation leads to significant financial losses including meat and milk production in all the year round. So far, regular anthelmintic should be administered for cure. In addition, frequent outbreak occurred by FMD, Bovine Ephemeral Fever as well as

Diarrhoea. In case of FMD, FMD vaccination, restriction of movement can be effective. In the circumstances of Bovine Ephemeral Fever, Live attenuated vaccine can prevent the outbreak and annually boosting maintain immunity. And also, in the state of Diarrhoea can be controlled by Sulphur drug. To recapitulate, accurate planning and program should be taken on hand for prevention and control of common diseases of cattle population in coastal study area.

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