# PREVALENCE OF CLINICAL DISEASES AND DISORDERS OF CATTLE AND GOAT AT UPAZILA VETERINARY HOSPITAL, SHERPUR SADAR, SHERPUR


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**Session: 2016-2017**


**A clinical report is submitted in partial satisfaction for the requirements of the Degree of Doctor of Veterinary Medicine (DVM)**


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**Chattogram Veterinary and Animal Sciences University**

**Khulshi, Chattogram-4225, Bangladesh**


**November, 2022**

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**A clinical report is submitted as per approved style and content**

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**November, 2022**

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# Abstract

At the Upazila Veterinary Hospital (UVH), Sherpur Sadar, in the Sherpur district, research was done from February to April 2022 to compare the clinical prevalence of various diseases and disorders in cattle and goats. Total animals were 235, among them cattle were 110 and goats were 125. Diagnosis was done based on general examination, physical examination, and clinical examination. Clinical examinations detected 18 different types of diseases and disorders in 110 cattle. Among the cases, Gastrointestinal problems 43 (19.2%), Musculoskeletal problems 32 (29.1%), Urogenital problems 18 (16.4%), Integumentary problems 17 (15.4%) were recorded in cattle. Age wise prevalence in young and adult cattle were 29 (26.4%) and 81 (73.6%) respectively. Sex wise prevalence in male and female cattle were 37 (33.6%) and 73 (66.4%) respectively. In case of goats 14 different diseases and disorders were recorded in 125 goats. Among the cases, Gastrointestinal problems 40 (28%), Musculoskeletal problems 18 (14.4%), Integumentary problems 18(12.8%), Urogenital problems 22 (17.6%), Respiratory problems 30 (24%), Sense organ problems 1 (0.8%), Circulatory problems 3 (2.4%) were recorded. Age wise prevalence in young and adult goats were 29 (26.4%) and 81 (73.6%) respectively. Sex wise prevalence in male and female goats were 37 (33.6%) and 73 (66.4%) respectively. There are diseases and disorders in cattle and goats that affect both juvenile and adult animals, however some of the specific diseases and disorders only affect older animals because they are more vulnerable to them. The study found that ruminants (cattle and goats) are more prone to gastrointestinal issues, musculoskeletal issues, and urogenital issues. For veterinarians, researchers, and policymakers to take the required actions to reduce the incidence of clinical diseases in goats and cattle, it will be helpful to identify and analyze the trend of clinical diseases that are present in the study region.



**Keywords:** **Prevalence, diseases and disorders, cattle, goats.**

# Chapter I: Introduction

In Bangladesh, livestock is an integral part of the diverse agricultural structure that has existed for centuries, accounting for 1.9% of the gross domestic product (GDP) (DLS, 2022). There are about 24.7 million cattle and 26.77 million goats in our country (DLS, 2022). In addition, 20% (directly) and 50% (partial) of the population depend on livestock for their livelihood (DLS, 2022). Agriculture and livestock farming provide employment for almost 80% of the people (Uddin et al., 2020). Ruminants, especially cattle and goats, make up most of the livestock reared in Bangladesh, primarily in rural regions where the majority of animals are kept under traditional management systems. Additionally, goats have been recognized as a vital part of the present mixed farming systems to assist the rural landless people.

Among the various constrains in the development of livestock, diseases are one of the most important limiting factors which not only degrade the productivity but also causing mortality (Islam et al., 2015). There are many issues in Bangladesh's livestock industry, including a lack of grazing area, technical experts, vaccine supply, epidemiologic research, a paucity of government workers on the ground, and many diseases affecting various animal systems (Uddin et al., 2020). In addition, inadequate biosecurity measures and poor hygiene conditions are to blame for many illnesses and goat and cattle reproductive failure (Meher et al., 2021). Due to malnutrition and illnesses, majority of our animals are weak, ill, and malnourished, and their productive performances are not good (Badruzzaman et al., 2015).

Livestock suffers significant losses due to infectious diseases and disorders. In Bangladesh, diseases are the major cause of hindering the development of livestock population. One of the primary challenges to raising livestock in Bangladesh is parasitism (Jabbar and Green, 1983). The hot humid climatic condition in Bangladesh greatly favors the survival and development of ectoparasite and endoparasite that makes violence of parasitism. One of the main challenges to raising livestock is gastrointestinal parasite infestations (Islam et al., 2015).

In case of gastrointestinal disorders young and female are more susceptible than adult and male cattles and goats. The prevalence gastrointestinal disorders in goat and cattle were 13.9% (Sarder et al., 2015) and 45.14% (Badruzzaman et al., 2015) respectively. Sarder et al. (2015) reported that the prevalence of musculoskeletal problems was 2.6% and male and adult goats are more susceptible than female and young goats. The prevalence of integumentary problems in goat and cattle were 12.8% (Sarder et al., 2015) and 6.60% (Kabir et al., 2010) respectively.

Lucky et al. (2016) reported that the prevalence of myiasis, foot rot in goats was (28.30%), (17.64%) respectively. In case of PPR, the prevalence is 27.78% according to Rimon et al. (2018) and 12.30% according to Alam et al. (2015). Due to the geographic location of Bangladesh the prevalence of FMD in cattle is 14.44% and 38.62% according to Alam et al. (2015) and Lucky et al. (2016) respectively. Kabir et al. (2010) reported that reproductive disorders was 6.03% in cattle.

Sherpur upazila consists of many commercial dairy and goat farms. Besides this people rear small number of livestock at backyard system. Almost all the family especially in rural areas have at least one to two goats or cattle in their house. A large number of cattle and goats were suffered in various diseases and disorders throughout the year. Upazila Veterinary Hospital (UVH), Sherpur Sadar is the place where people usually visit with their diseased animals for diagnosis and treatment. Not only the people of this upazila but also people came here from the other upazila of the district. For an effective disease control program, it is essential to understand the incidence, prevalence, distribution, and determinants or risk factors of diseases in this area. This study was conducted and designed to identify and analyze trends in clinical diseases and disorders in goats and cattle available at Upazila Veterinary Hospital in Sherpur Sadar to understand the diversity of diseases in ruminants.

**Objectives of the study:**

- To determine the prevalence of different diseases and disorders of cattle and goat population at Sherpur Sadar upazila.
- To study the comparative clinical prevalence of diseases and disorders of cattle and goats.

# Chapter II: Methodology

## *2.1. Study area*

The study was conducted in the Sherpur Distric, Sherpur, Bangladesh. The climate of the study area was warm and temperate.

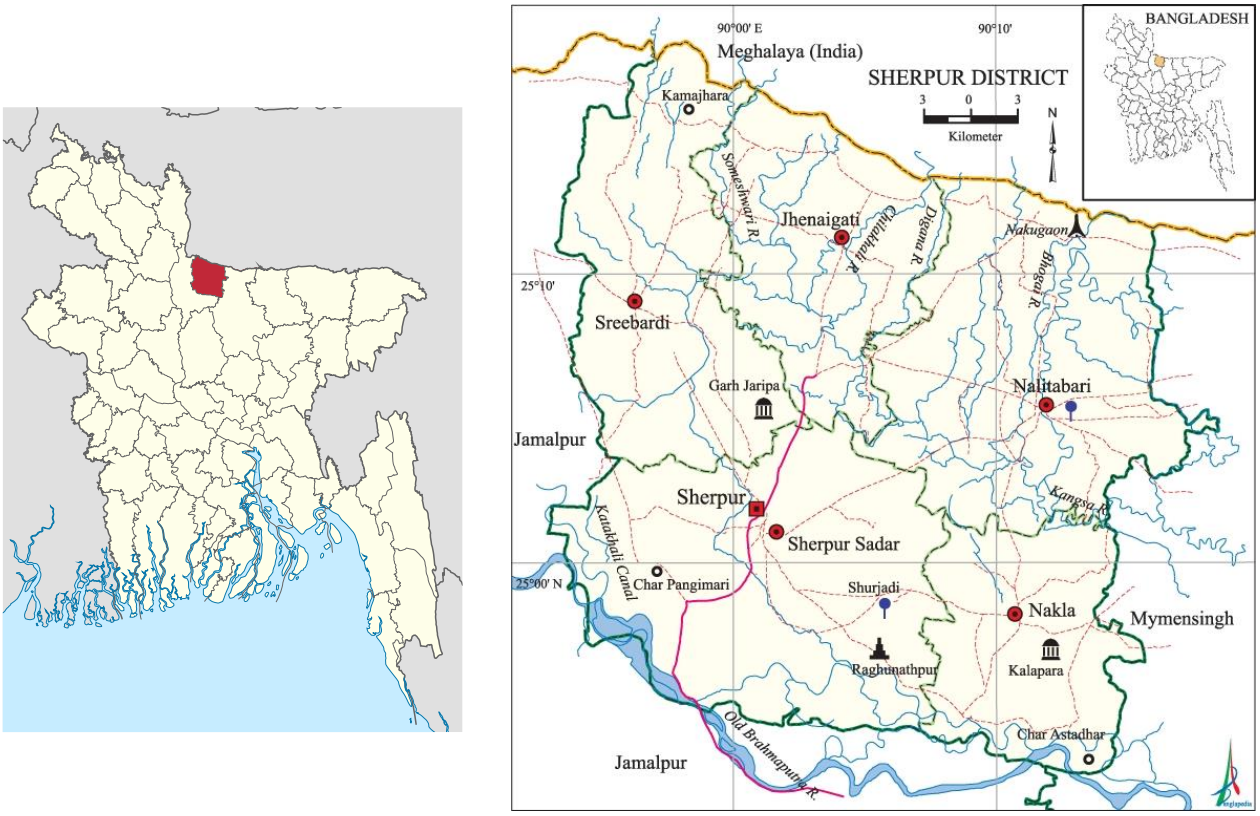



**Figure 1: Study area**

## *2.2. Study Period*

The study period was about 3 months from February 16 to April 28, 2022.

## *2.3. Study Population*

The study population was cattle and goat. Data were obtained from outdoor hospital patients. A total of 125 (goats) and 110 (cattle) cases were investigated.

## 2.4. Diagnostic procedure of diseases and disorders

### *2.4.1. General examination:*

The patient's behavior, posture, stride, superficial skin sores, prolapse of the uterus and vagina, salivation, runny nose, bloating, and movement problems were all noted during the visual examination.

### *2.4.2. Physical examination:*

Examination of various parts and systems of the body of each sick animal was investigated using animal palpation, percussion, auscultation, needle puncture, and gait procedures.

### *2.4.3. Clinical examination:*

These unwell animals' body temperatures, pulse rates, and respiration rates were all noted. By combining the medical history, owner complaints, and symptoms by age for 235 clinically ill ruminants (cattle = 110, goat = 125), the diseases and disorders were identified. A thorough examination of each case's history, both present and past, led to recommendations for animal testing.

### *2.5. Statistical analysis:*

The resulting information was downloaded and stored in Excel Sheet. The data was then analyzed using MS Excel 2010 and IBM SPSS 25. Results are presented as frequencies with percentages.

# Chapter III: Results

## 3.1 Overall prevalence of diseases and disorders in goat and cattle

A total of 235 affected animals were registered during the study period for diagnosis and treatment. Among them the number of cattle and goat cases were 110 (47%) and 125 (53%) respectively.

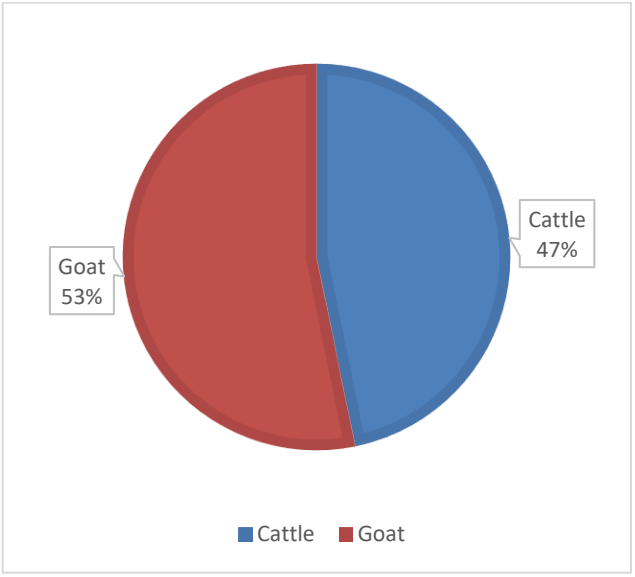
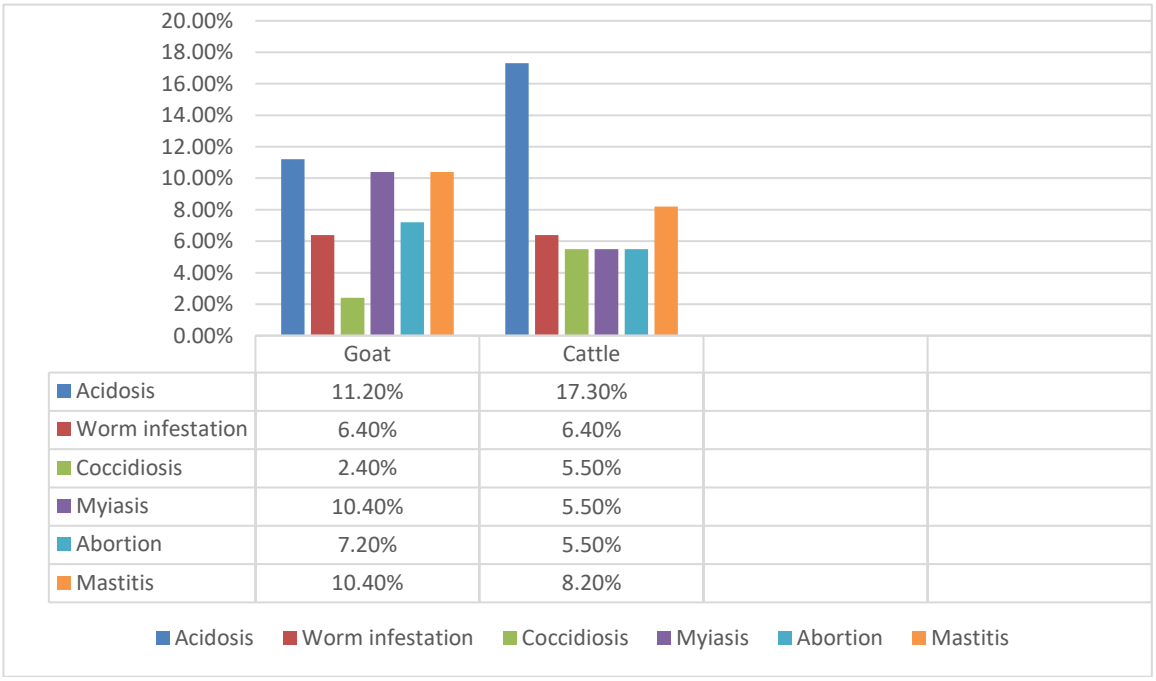



Figure 2: Disease prevalence in goat and cattle




| | Goat | Cattle | | |
|---|---|---|---|---|
| Acidosis | 11.20% | 17.30% | | |
| Worm infestation | 6.40% | 6.40% | | |
| Coccidiosis | 2.40% | 5.50% | | |
| Myiasis | 10.40% | 5.50% | | |
| Abortion | 7.20% | 5.50% | | |
| Mastitis | 10.40% | 8.20% | | |

Figure 3: Specific diseases prevalence between cattle and goat

### 3.2 Prevalence of disease and disorders in goats in different systems

Among the 125 cases, 35 (28%), 18 (14.4%), 22 (17.6%), 16 (12.8%) & 30 (24%) were recorded in gastrointestinal, musculoskeletal, urogenital, Integumentary, and respiratory problems respectively in goat (Table 1).

**Table 1: Prevalence of disease and disorders in goats at upazila veterinaryhospital, Sherpur Distric, Sherpur (N=125)**

| System Involvement | Diseases | No. of affected | Percentage (%) | Total (%) |
|---|---|---|---|---|
| Gastrointestinal | Acidosis | 14 | 11.2 | 28 |
| | Simple indigestion | 10 | 8 | |
| | Worm infestation | 8 | 6.4 | |
| | Coccidiosis | 3 | 2.4 | |
| Musculoskeletal | Foot Rot | 5 | 4 | 14.4 |
| | Myiasis | 13 | 10.4 | |
| Integumentary | Mange | 2 | 1.6 | 12.8 |
| | Lice infestation | 14 | 11.2 | |
| Urogenital | Abortion | 9 | 7.2 | 17.6 |
| | Mastitis | 13 | 10.4 | |
| Respiratory | Pneumonia | 14 | 11.2 | 24 |
| | PPR | 16 | 12.8 | |
| Sense organ | Eye worm infestation | 1 | 0.8 | 0.8 |
| Circulatory | Anaplasmosis | 3 | 2.4 | 2.4 |
| **Total** | | 125 | | |

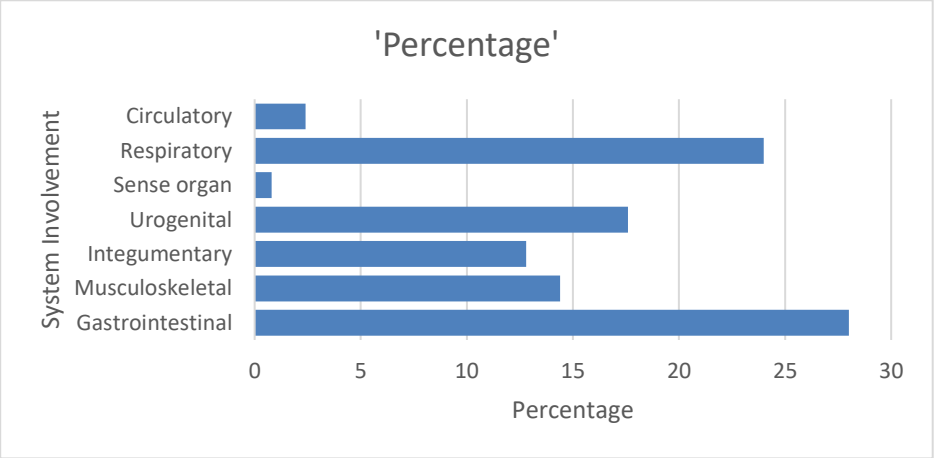



Figure 4: Percentage of diseases of different system

### 3.3 Sex wise comparison of clinical prevalence of diseases and disorders in goats

The comparative clinical prevalence of diseases and disorders in male and female goats are presented in Table-2 and it indicates that females were more vulnerable than male.

**Table 2: Comparative clinical prevalence of male and female goats**

| System Involvement | Diseases | Male | | Female | | Total (%) | |
|---|---|---|---|---|---|---|---|
| | | No. of affected | (%) | No. of affected | (%) | Male | Female |
| Gastrointestinal | Acidosis | 5 | 4 | 9 | 7.2 | 14.4 | 17 |
| | Simple indigestion | 7 | 5.6 | 3 | 2.4 | | |
| | Worm infestation | 5 | 4 | 3 | 2.4 | | |
| | Coccidiosis | 1 | 0.8 | 2 | 1.6 | | |
| Musculoskeletal | Foot Rot | 3 | 2.4 | 2 | 1.6 | 5.6 | 8.8 |
| | Myiasis | 4 | 3.2 | 9 | 7.2 | | |
| Integumentary | Mange | 2 | 1.6 | 0 | 0 | 9.2 | 4 |
| | Lice infestation | 9 | 7.6 | 5 | 4 | | |
| Urogenital | Abortion | 0 | 0 | 9 | 7.2 | 0 | 22 |
| | Mastitis | 0 | 0 | 13 | 10.4 | | |
| Respiratory | Pneumonia | 6 | 4.8 | 8 | 6.4 | 10.4 | 13.6 |
| | PPR | 7 | 5.6 | 9 | 7.2 | | |
| Sense organ | Eye worm infestation | 0 | 0 | 1 | 0.8 | 0 | 0.8 |
| Circulatory | Anaplasmosis | 1 | 0.8 | 2 | 1.6 | 0.8 | 1.6 |
| | | 50 | 40% | 75 | 60% | 40.4% | 59.6% |

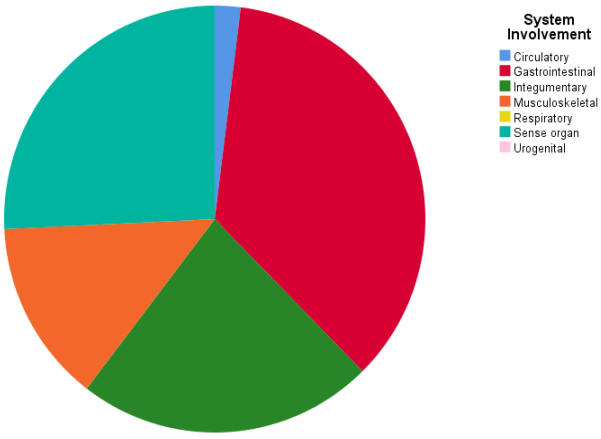



Figure 5: System Involvement of male goat

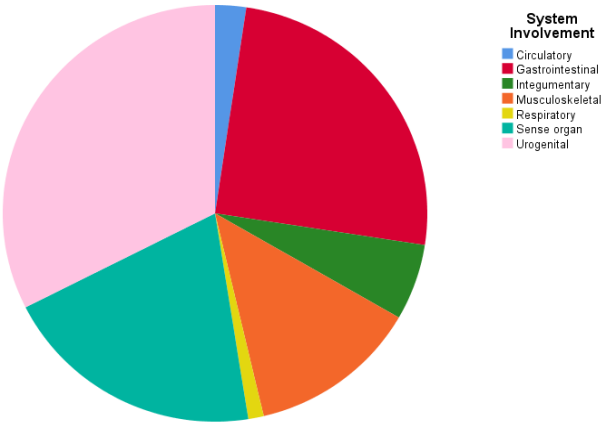



Figure 6: System involvement of female goat

### 3.4 Age wise clinical prevalence of diseases and disorders in goats

The Gastrointestinal problems (Acidosis, simple indigestion, worm infestation, coccidiosis), Musculoskeletal problems (Foot rot, myiasis), Integumentary problems (Mange, Lice infestation), Urogenital problems (Abortion, urolithiasis, mastitis), Respiratory problems (Pneumonia, PPR), Sense organ problems (Eye worminfestation), Circulatory (Anaplasmosis) were recorded in both young and adult goat (Table- 3). And it indicated that adult goats were more vulnerable than young goats.

**Table 3: Age wise clinical prevalence of diseases and disorders in goats**

| System involvement | Diseases | Young(<1 year) | | Adult(>1 year) | | Total (%) | |
|---|---|---|---|---|---|---|---|
| | | No. of affected | (%) | No. of affected | (%) | Young | Adult |
| Gastrointestinal | Acidosis | 1 | 0.8 | 13 | 10.4 | 6.4 | 21.6 |
| | Simple indigestion | 2 | 1.6 | 8 | 6.4 | | |
| | Worm infestation | 5 | 4 | 3 | 2.4 | | |
| | Coccidiosis | 0 | 0 | 3 | 2.4 | | |
| Musculoskeletal | Foot Rot | 0 | 0 | 5 | 4 | 0.8 | 13.6 |
| | Myiasis | 1 | 0.8 | 12 | 9.6 | | |
| Integumentary | Mange | 0 | 0 | 2 | 1.6 | 0.8 | 12 |
| | Lice infestation | 1 | 0.8 | 13 | 10.4 | | |
| Urogenital | Abortion | 0 | 0 | 9 | 7.2 | 0 | 17.6 |
| | Mastitis | 0 | 0 | 13 | 10.4 | | |
| Respiratory | Pneumonia | 9 | 7.2 | 5 | 4 | 17.6 | 2.8 |
| | PPR | 13 | 10.4 | 3 | 2.4 | | |
| Sense organ | Eye worm infestation | 0 | 0 | 1 | 0.8 | 0 | 0.8 |
| Circulatory | Anaplasmosis | 1 | 0.8 | 2 | 1.6 | 0.8 | 1.6 |
| | | 33 | 26.4 | 92 | 73.6 | 26.4 | 73.6 |

### 3.5 Prevalence of disease and disorders in Cattle

A total of 21 diseases and disorders were enrolled from 110 cattle delivered for treatment to a veterinary hospital during the study period. Among the 110 cases, 43 (19.2%), 32 (29.1%), 18(16.4%), 17 (15.4%) were recorded in Gastrointestinal problems (Acidosis,bloat, worm infestation, coccidiosis), Musculoskeletal problems (Epimeral fever, FMD, myiasis, naval ill, lumpy skin diseases), Urogenital problems (Mastitis, abortion, anestrus, retained placenta), Integumentary problems (ring worm, hoof injury, lice infestation) in cattle (Table-4).

**Table 4: Prevalence of diseases and disorders in cattle**

| System Involvement | Diseases | No. of affected | % | Total(%) |
|---|---|---|---|---|
| Gastrointestinal | Acidosis | 19 | 17.3 | 39.2 |
| | Bloat | 11 | 10.0 | |
| | Worm infestation | 7 | 6.4 | |
| | Coccidiosis | 6 | 5.5 | |
| Musculoskeletal | Epimeral fever | 2 | 1.8 | 29.1 |
| | FMD | 15 | 13.6 | |
| | Myiasis | 6 | 5.5 | |
| | Naval ill | 3 | 2.7 | |
| | Lumpy skin diseases | 6 | 5.5 | |
| Urogenital | Mastitis | 9 | 8.2 | 16.4 |
| | Abortion | 6 | 5.5 | |
| | Retained placenta | 3 | 2.7 | |
| Integumentary | Ringworm | 4 | 3.6 | 15.4 |
| | Hoof injury | 11 | 10.0 | |
| | Eye worm infestation | 2 | 1.8 | |
| | | 110 | 100 | 100 |

### 3.6 Sex wise comparison of clinical prevalence of diseases and disorders in cattle

The comparative clinical prevalence of diseases and disorders in male and female Cattles are presented in Table 5 and it indicated that females wre more vulnerable than male.

**Table 5: Comparative clinical prevalence of male and female cattle**

| System Involvement | Diseases | Male | | Female | | Total | |
|---|---|---|---|---|---|---|---|
| | | No. of affected | (%) | No. of affected | (%) | Male | Female |
| Gastrointestinal | Acidosis | 11 | 10.0 | 8 | 7.3 | 19.9 | 19.1 |
| | Bloat | 4 | 3.6 | 7 | 6.4 | | |
| | Worm infestation | 3 | 2.7 | 4 | 3.6 | | |
| | Coccidiosis | 4 | 3.6 | 2 | 1.8 | | |
| Musculoskeletal | Epimeral fever | 2 | 1.8 | 0 | 0.0 | 9.9 | 19 |
| | FMD | 3 | 2.7 | 12 | 10.9 | | |
| | Myiasis | 2 | 1.8 | 4 | 3.6 | | |
| | Naval ill | 1 | 0.9 | 2 | 1.8 | | |
| | Lumpy skin diseases | 3 | 2.7 | 3 | 2.7 | | |
| Urogenital | Mastitis | 0 | 0.0 | 9 | 8.2 | 0 | 16.4 |
| | Abortion | 0 | 0.0 | 6 | 5.5 | | |
| | Retained placenta | 0 | 0.0 | 3 | 2.7 | | |
| Integumentary | Ringworm | 1 | 0.9 | 3 | 2.7 | 3.6 | 11.8 |
| | Hoof injury | 2 | 1.8 | 9 | 8.2 | | |
| | Eye worm infestation | 0 | 0.9 | 1 | 0.9 | | |
| | | 37 | 33.6 | 73 | 66.4 | 33.6 | 66.4 |

### 3.7 Age wise clinical prevalence of diseases and disorders in Cattle

The Gastrointestinal problems (Acidosis, bloat, worm infestation, coccidiosis) Musculoskeletal problems (Epimeral fever, FMD, myiasis, lumpy skin diseases), Urogenital problems (Mastitis, abortion, retain placenta), Integumentary problems (Ringworm, hoof injury, Lice infestation), Sense organ problems (eye worm infestation) were recorded in both young and adult in Cattle. And it turns out that young cattle wre more vulnerable than adult cattle.

**Table 6: Age wise clinical prevalence of diseases and disorders in Cattle**

| System Involvement | Diseases | Young (<2Yrs) | | Adult (>2Yrs) | | Total (%) | |
|---|---|---|---|---|---|---|---|
| | | No. of affected | (%) | No. of affected | (%) | Young | Adult |
| Gastrointestinal | Acidosis | 12 | 10.9 | 7 | 6.4 | 24.5 | 14.5 |
| | Bloat | 8 | 7.3 | 3 | 2.7 | | |
| | Worm infestation | 3 | 2.7 | 4 | 3.6 | | |
| | Coccidiosis | 4 | 3.6 | 2 | 1.8 | | |
| Musculoskeletal | Epimeral fever | 2 | 1.8 | 0 | 0.0 | 19.9 | 9 |
| | FMD | 12 | 10.9 | 3 | 2.7 | | |
| | Myiasis | 4 | 3.6 | 2 | 1.8 | | |
| | Naval ill | 0 | 0.0 | 3 | 2.7 | | |
| | Lumpy skin diseases | 4 | 3.6 | 2 | 1.8 | | |
| Urogenital | Mastitis | 9 | 8.2 | 0 | 0.0 | 16.4 | 0 |
| | Abortion | 6 | 5.5 | 0 | 0.0 | | |
| | Retained placenta | 3 | 2.7 | 0 | 0.0 | | |
| Integumentary | Ringworm | 3 | 2.7 | 1 | 0.9 | 12.7 | 2.7 |
| | Hoof injury | 9 | 8.2 | 2 | 1.8 | | |
| | Eye worm infestation | 2 | 1.8 | 0 | 0.0 | | |
| | | 81 | 73.6 | 29 | 26.4 | 73.6 | 26.4 |

# Chapter IV: Discussion

## 4.1. Prevalence of diseases and disorders in Goats

A total of 25 diseases and disorders were enrolled from 125 goats delivered for treatment to a veterinary hospital during the study period. Among the 125 cases, 40(28%) were recorded in gastrointestinal disorders including acidosis 4(11.2%), Simple indigestion 10(8%), worm infestation 8(6.4%), coccidiosis 3(2.4%) respectively in goats.

### 4.1.1. Gastrointestinal disorders

In case of gastrointestinal disorders young and females are more susceptible than adult and male goats. A study was conducted by (Sarder et al., 2015) where gastrointestinaldisorders in goat was 13.9%. Another study was conducted (Islam et al., 2015) where digestive disorders was 11.81% (Uddin et al., 2020) and reported the clinical incidence of 6.98% digestive disorders in goat at the Pabna district. Other than that, a study was conducted by (Lucky et al., 2016) where digestive diseases and worm infestation in goat was 21.88% and 26.58%. A gastrointestinal disorder depends on different factors such as deworming practices, source of water, housing, feeding and management.

### 4.1.2. Musculoskeletal problems

Among the 125 cases, 18(14.4%) were recorded in musculoskeletal problems including foot rot 5(4%), myiasis 13(10.4%) respectively in goat. In that case male and adult goats are more susceptible than female and young goats.

### 4.1.3. Integumentary problems

Among the 125 cases 16(12.4%) were recorded in integumentary problems including Mange 2 (1.6%), Lice infestation 14(11.2%), respectively in goat. In this case male and adult goats are more susceptible than female and young goats. A study was conducted by (Sarder et al., 2015) where Integumentary problems were 12.8% in goats. (Lucky et al., 2016) reported that the lice infestation in goats was 7% which is nearer to my conducted study. Mange 3.89% was reported by (Alam et al., 2015) in goats. Among the 125 cases 22(17.6%) were recorded in urogenital problems including Abortion 9(7.2%), mastitis 13(10.4%) respectively in goats.

### 4.1.4. Respiratory problems

Among the 125 cases 30(24%) were recorded in respiratory problems including Pneumonia 14(11.2%), PPR 16(12.8%) respectively in goat.In case of respiratory problems young and male are more susceptible than adult and female goats. (Sarder et al., 2015) reported that respiratory problems were (12.3%) in goat in Northern Barind Tract. (Karim et al., 2014) reported that (9.5%) respiratory problems were found in goats. Another study was conducted by (Sarker et al., 2015) where PPR (5.16%), pneumonia and pneumonitis (4.11%) were found in goat.

### 4.1.5. Sense organ problems

Among the 125 cases 1(0.8%) were recorded in sense organ problems including eye worm infestation 1(0.8%) respectively in goat. In these cases, male and adult goats are more susceptible than female and young goat. A study was conducted by (Sarder et al., 2015) where sense organ problems was (2.9%) in goat. (Sardar etal., 2006) reported that (1.61%) conjunctivitis in adult goat. another study was conducted by (Uddin et al., 2020) where eye infection was (0.49%) in goats.

### 4.1.6. Circulatory problems

Among the 125 cases 3(2.4%) were recorded in Circulatory problems including anaplasmosis 3(2.4%) in goat. Male and adult are more susceptible than female and young goat. (Bashar et al., 2020) reported that (12%) anaplasmosis was recorded in goats.

### 4.2. Prevalence of disease and disorders in Cattle

A total of 15 diseases and disorders were enrolled from 110 Cattles delivered for treatment to a veterinary hospital during the study period. Among the 110 cases, 43 (22.8%) were recorded in gastrointestinal disorders including acidosis 19(17.3%), bloat 11(10%), worm infestation 7(6.4%), coccidiosis 6(5.5%) respectively in cattle. In the gastrointestinal disorders female and young are more susceptible than male and adult cattle. (Badruzzaman et al., 2015) reported that the digestive disorders in cattle were (45.14%). (Kabir et al., 2010) reported that the digestive disorders in cattle were (11.5%). A study was conducted by (Lucky et al., 2016) where the Acidosis, bloat, worm infestation was (14.87%), (23.64%), (30.61%) respectively in cattle (Uddin et al., 2020) reported that digestive disorders and worm infestation was (6.98%) and (46.71%) in cattle. A gastrointestinal disorder depends on different factor such as deworming practices, source of water, housing, feeding and management.

#### 4.2.1. Musculoskeletal problems

Among the 110 cases, 32(29.1%), were recorded in Musculoskeletal problems including epimeral fever 2(1.8%), FMD 15(13.6%), myiasis 6(5.5%), naval ill 3(2.7%), lumpy skin diseases 6(5.5%) respectively in cattle. (Rimon et al., 2018) reported that epimeral fever, FMD, myiasis was (0.27%), (4.74%), (8.11%) respectively in cattle. (Kabir et al., 2010) reported that FMD in cattle was (35.92%). A study was conducted by (Lucky et al., 2016) where FMD, myiasis in cattle was (38.62%), (17.01%) respectively. (Hasib et al., 2021) reported that the clinical prevalence of LSD in the study population was 10% in Chattogram.

#### 4.2.2. Urogenital problems

Among the 110 cases, 18 (16.4%) were recorded in urogenital problems including Mastitis 9(8.2%), abortion 6(5.5%), retained placenta 3(2.7%) respectively in cattle. Female and adult are more vulnerable than young. (Lucky et al., 2016) reported that the mastitis, abortion, anestrus and retain placenta was (40%), (7.06%), (23.52%) and (4.71%) respectively in adult cattle. A study was conducted by (Uddin et al., 2020) where reproductive disorders in cattle was (1.38%). (Kabir et al., 2010) reported that reproductive disorders were (6.03%) in cattle. (Sen et al., 2018) reported that the gynaeco-obstetricalproblems in cattle were 5.71% at Sylhet. Another study was conducted by (Rimon et al., 2018) where reproductive problems were 16.85% in adult cattle at Thakurgaon.

### 4.2.3. Integumentary problems

Among the 110 cases, 17 (15.4%) were recorded in Integumentary problems including ring worm 4(3.6%), hoof injury 11(10%) respectively in cattle. The male and adult goats are more vulnerable than female and young goat. (Kabir etal., 2010) reported that the skin diseases were (6.60%) in cattle. (Lucky et al., 2016) reported that the wart and lice infestation was (6.80%) and (10.20%) respectively in cattle. Integumentary problems depends on available vectors, environment condition and management.

### 4.2.4. Sense organ problems

Among the 110 cases, 2 (1.8%) were recorded in Sense organ problems including eye worm infestation 2(1.8%) respectively in cattle. In the case male andadult are more susceptible than female and young. (Uddin et al., 2020) reported that eye infection in cattle was (0.49%). (Parvez et al., 2014) reported that the eye infection in cattle was (2.05%). Another study was conducted by (Karim et al., 2014) where sense organ problems were (3.99%) in cattle.

# Chapter V: Conclusion

This study was conducted to investigate the present situation of clinical diseases and disorders of the animal. Goats were most susceptible to gastrointestinal problems (28%), respiratory problems (24%), and other diseases. Cattles were most susceptible to gastrointestinal problems (39.2%), musculoskeletal problems (29.1%), and other diseases. This may be due to the temperate environment where intermediate hosts for parasitic infestation are available, and the farmers are not aware of the anthelmintic treatment of animals. Contagious disease like lumpy skin diseases (LSD) was out broken in this area.

## Recommendation

Necessary biological security measures should be taken to prevent seasonal exposure of livestock to infectious diseases. Therefore, proper feeding, care and regular anthelmintic treatment are essential to maximize the yield of rural livestock. Restriction of movement and vaccination is necessary to control these types of diseases. The study showed that worm infestation, foot rot, anestrus, epidermal fever, mastitis is predominantly present. The knowledge gained through this study will increase our understanding of animal clinical practices in specific fields and take necessary preventive measures against the disease at the national policy level. Appropriate plans and programs must be put in place to prevent and control diseases and disorders.

## Limitations

- The number of clinical cases in this study was relatively small (235 cases).
- Some diseases were not diagnosed by laboratory tests.
- Only clinical signs were used to diagnose the cases in this study.
- Every case could not be followed up for looking treatment response.

## Acknowledgement

The author wishes to acknowledge the immeasurable mercy of **Almighty 'God'**, the foremost authority and supreme ruler of the universe, who permits the author to complete this work successfully.

The author expresses his deepest perception of gratitude, respect, and immense gratefulness to his honorable teacher and supervisor **Professor Dr. Bhajan Chandra Das**, Department of Medicine and Surgery, Chattogram Veterinary and Animal Sciences University for her academic guidance, generous supervision, precious advice, constant inspiration, radical investigation, and effective judgment in all steps of the study.

The author expresses his genuine gratitude and respect to the honorable teacher **Professor Dr. Md. Alamgir Hossain**, Dean, Faculty of Veterinary Medicine, and **Professor Dr. A. K. M. Saifuddin**, Director of External Affairs, Chattogram Veterinary and Animal Sciences University for proceeding with this internship program.

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