

Research Article

Prevalence of Clinical Conditions of Livestock and Pets at Veterinary Teaching Hospital of Gazipur Agricultural University, Gazipur

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Abstract | The population of livestock and pet animals is rising rapidly in Bangladesh. In the Gazipur district, the veterinary Teaching Hospital (VTH) of Gazipur Agricultural University (GAU) is crucial for providing medical treatment of animals from the surrounding areas. The objective of this investigation is to determine the prevalence of various kinds of diseases at the Veterinary Teaching Hospital (VTH) of Gazipur Agricultural University (GAU), which were categorized by the species, breed, age, and sex of the animals. The statistics were gathered from June 2022 to July 2023 from the record book of VTH, GAU. The animals received treatment from the designated veterinary specialists. The data were gathered, manually assembled, and evaluated with MS Excel 365. A total of 256 cases were identified, comprising 41 cases involving cattle, and 92, 112, and 11 cases concerning goats, pets, and poultry, respectively. Duck plague and Newcastle disease were the most frequent infectious cases, each with a prevalence of 36.36%, followed by Lumpy skin disease (LSD) in cattle at 19.51%, Peste des petits ruminants (PPR) at 17.2%, and Feline panleukopenia at 15.17%. Diarrhea in cattle exhibited the highest prevalence among metabolic illnesses at 9.76%, followed by constipation in pet animals at 6.25%, and anorexia in goats and sheep at 5.4%. Castration occurred at a prevalence of 11.8%, while accidental injuries in pet animals represented the largest prevalence among surgical cases at 18.75%. This was followed by castration in goats at 11.8% and external wounds in cattle at 4.88% prevalence, respectively. In gynecological cases, cesarean section had the greatest frequency at 5.35%. The results of this study highlight the high occurrence of infectious and surgical cases across different species at the VTH, with Feline panleukopenia, PPR and accidental injuries being the most frequent. The findings emphasize the need for targeted preventive strategies, improved clinical readiness and community awareness to address the most prevalent animal health challenges in Gazipur district.

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Introduction

Livestock is an essential component of the mixed agriculture system used in Bangladesh for decades. Ruminants, especially cattle and goats, are the primary category of livestock (Karim *et al.*, 2014). In 2022-2023, Bangladesh's total livestock population was 44.28 million, comprising 5.71 million ruminants and 38.57 million poultry. Livestock accounts for 1.85% of Bangladesh's overall GDP (BBS, 2024). Bangladesh possesses an agriculture-based economy whereby the bulk of its population depends on a mixed farming system for sustenance. The existing geo-climatic conditions and conventional livestock management practices have led to an increased incidence of commercially significant animal diseases (Sen *et al.*, 2018). In addition to the growing of domesticated livestock, pet ownership has experienced a substantial increase in Bangladesh in recent years, particularly among the middle and upper middle classes. As a result, there has been a significant increase in the importation of various pet animal breeds and pet animal-related accessories. The National Board of Revenue reports that Bangladesh imported live animals and birds valued at Tk 285.21 crore in the fiscal year 2020-21, the highest quantity since FY 2016-17, despite the absence of detailed data (Hasib, 2023). Veterinary Teaching Hospital, Gazipur Agricultural University provides treatment to all kinds of animals in the surrounding area. To receive expert veterinary care, people come from various regions of Gazipur as well as the neighboring areas to this facility. This hospital is determined to maintain good health for animals. Additionally, the hospital's case record book provides a rapid and efficient overview of the most common diseases treated and aids in understanding the trends of various diseases in this region. Although there was a published data on the prevalence of different diseases in VTH, GAU (Rahman *et al.*, 2020), this study provides an insight into the current conditions of disease patterns in the surrounding areas. This study is aimed to assess the prevalence of bacterial, viral, parasitic diseases, gynecological conditions and surgical cases in various animals (cattle, goats, dogs, and cats) presented to the VTH, GAU.

Materials and Methods

This research was conducted at the Veterinary Teaching Hospital of Gazipur Agricultural University,

Gazipur. The patients were treated by the assigned specialized veterinarians. Ethical approval (Ref. No.: FVMAS/AREC/2023/74) was acquired from the convener of the Animal Research Ethics Committee of GAU prior to the initiation of this research. This study involved the completion of a case record form documenting the history, clinical symptoms, or lesions indicative of certain diseases. In certain diseases, there was corroborative laboratory data derived from the analysis of pathological specimens. Laboratory diagnostic tests included fecal sample test for endoparasite egg detection, skin scrapping test for ectoparasite infestation detection, rapid antigen kit test for Feline panleukopenia, etc. The research timeframe for data collecting was one year, from April 2022 to March 2023. This study specifically depends on the data documented in the case record book of VTH, GAU. The data were consistently documented by designated specialized veterinarians and intern Doctor of Veterinary Medicine (DVM) students from the Faculty of Veterinary Medicine and Animal Science (FVMAS) at GAU. After that, the data was gathered from the case record book and manually sorted according to the study design. The animals were categorized into 4 groups to cover all the species as well as to calculate the prevalence more accurately and effectively. This study examined a total of 256 clinical patients, comprising 41 cattle, 92 goats, 112 pets, and 11 poultry, to assess the prevalence of various illnesses, disorders, and surgical cases using Microsoft Excel and Statistical Package for the Social Sciences (SPSS) software and expressed as percentages. The study excludes vaccination, deworming, feeding, housing, and breeding consultations. The clinical conditions were categorized into four primary groups according to the treatment administered by the specialized veterinarians. The categories were (1) bacterial, viral, and parasite infections, (2) digestive and metabolic disorders, (3) gynecological and gynecological conditions, and (4) surgical cases. This study also examined the species, breed, sex, and age of the patients. The VTH, GAU was founded in 2019; hence, it remains unfamiliar to the rural beneficiaries. The majority of patients originate from the neighboring regions of GAU, including Naga, Salna, Shimultoly, Shantibag, Hatibag, Luxmipura, Porabari, Masterbari, Vurolia, and Joydebpur. Several serious cases were referred from the Upazila Livestock Office and Veterinary Hospitals throughout several Upazilas in Gazipur district. Comprehensive general, physical, clinical, and laboratory evaluations were

conducted for the diagnosis of illnesses and disorders.

Results

A total of 256 cases were identified during the study period. Among the cases 41 cases involved cattle whereas 92 cases were related to goats and sheep followed by 112 in pet animals and 11 in poultry (Figure 1). The cases were categorized into infectious diseases caused by virus, bacteria or parasites, metabolic diseases, surgical cases and gynecological cases.

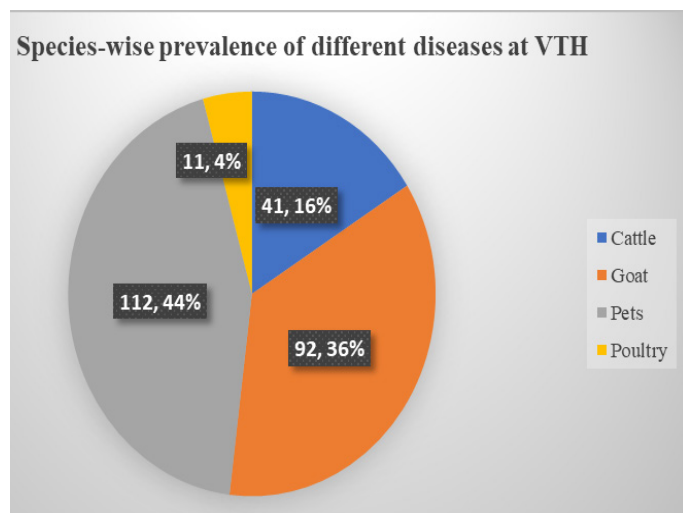


Figure 1: Species-wise distribution of different diseases at VTH during the study period.

Prevalence of diseases in cattle

Prevalence of infectious diseases in cattle: Twenty six

cattle were identified with bacterial, viral, and parasite diseases. Lumpy skin disease (LSD) exhibited the highest prevalence at 19.51%, succeeded by worm infestation at 12.19% and Bovine ephemeral fever at 7.32%. Crossbred animals had a higher prevalence of such diseases at 39.02% compared to local cattle at 24.39%. Female cattle had a higher disease prevalence (34.15%) compared to male cattle (29.27%). The incidence in both calves and adult animals was identical at 31.71% (Table 1).

Prevalence of metabolic diseases in cattle

Diarrhea had the highest prevalence among metabolic diseases at 9.76%, followed by weak calf syndrome at 7.32%, bloat at 4.88%, and anorexia at 2.44%. Indigenous cattle had a greater prevalence (14.63%) compared to crossbred cattle (9.76%). Regardless of gender or age group, the prevalence was 12.19 percent (Table 2).

Prevalence of surgical cases in cattle

Throughout the study period, four surgical conditions were addressed, with a prevalence of 9.76%. Two cases of external wounds were identified, along with one case of hernia repair and one case of navel ill that was addressed (Table 3).

Prevalence of gynecological cases in cattle

There was only 1 instance (prevalence 2.44%) of gynecological case where pregnancy determination was conducted (Table 4).

Table 1: Prevalence of infectious diseases in cattle.

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Indigenous	Crossbred	Male	Female	Calf	Adult
Worm infestation	12.19 (5)	7.32 (3)	4.88 (2)	7.32 (3)	4.88 (2)	7.32 (3)	4.88 (2)
Calf scour	2.44 (1)	0 (0)	2.44 (1)	2.44 (1)	0 (0)	2.44 (1)	0 (0)
Ectoparasite infestation	7.32 (3)	2.44 (1)	4.88 (2)	2.44 (1)	4.88 (2)	2.44 (1)	4.88 (2)
Wart	2.44 (1)	0 (0)	2.44 (1)	2.44 (1)	0 (0)	2.44 (1)	0 (0)
Pneumonia	2.44 (1)	0 (0)	2.44 (1)	2.44 (1)	0 (0)	0 (0)	2.44 (1)
Lumpy skin disease	19.51 (8)	12.19 (5)	7.32 (3)	7.32 (3)	12.19 (5)	7.32 (3)	12.19 (5)
Bovine ephemeral fever	7.32 (3)	2.44 (1)	4.88 (2)	0 (0)	7.32 (3)	4.88 (2)	2.44 (1)
Foot rot	2.44 (1)	0 (0)	(1)	(1)	0 (0)	(1)	0 (0)
Keratoconjunctivitis	2.44 (1)	0 (0)	(1)	0 (0)	(1)	0 (0)	(1)
Udder impetigo	2.44 (1)	0 (0)	(1)	0 (0)	(1)	0 (0)	(1)
Joint ill	2.44 (1)	0 (0)	(1)	(1)	0 (0)	(1)	0 (0)
Total	63.41 (26)	24.39 (10)	39.02 (16)	29.27 (12)	34.15 (14)	31.71 (13)	31.71 (13)

Prevalence (%) = The total number of existing cases of a disease in a population at a specific point of time.

Table 2: *Prevalence of metabolic diseases in cattle.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Indigenous	Crossbred	Male	Female	Calf	Adult
Weak calf syndrome	7.32 (3)	4.88 (2)	(1)	7.32 (3)	0 (0)	7.32 (3)	0 (0)
Anorexia	2.44 (1)	0 (0)	2.44 (1)	2.44 (1)	0 (0)	0 (0)	2.44 (1)
Diarrhoea	9.76 (4)	4.88 (2)	4.88 (2)	2.44 (1)	7.32 (3)	2.44 (1)	7.32 (3)
Bloat	4.88 (2)	4.88 (2)	0 (0)	0 (0)	4.88 (2)	2.44 (1)	2.44 (1)
Total	24.39 (10)	14.63 (6)	9.76 (4)	12.19 (5)	12.19 (5)	12.19 (5)	12.19 (5)

Table 3: *Prevalence of surgical cases in cattle.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Indigenous	Crossbred	Male	Female	Calf	Adult
External wound	4.88 (2)	4.88 (2)	0 (0)	4.88 (2)	0 (0)	2.44 (1)	2.44 (1)
Hernia	2.44 (1)	2.44 (1)	0 (0)	2.44 (1)	0 (0)	2.44 (1)	(0)
Navel ill	2.44 (1)	0 (0)	2.44 (1)	2.44 (1)	0 (0)	2.44 (1)	(0)
Total	9.76 (4)	7.32 (3)	2.44 (1)	9.76 (4)	0 (0)	7.32 (3)	2.44 (1)

Table 4: *Prevalence of gynecological cases in cattle.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Indigenous	Crossbred	Male	Female	Calf	Adult
Pregnancy diagnosis	2.44 (1)	(0)	2.44 (1)	(0)	2.44 (1)	(0)	2.44 (1)
Total	2.44 (1)	(0)	2.44 (1)	(0)	2.44 (1)	(0)	2.44 (1)

Table 5: *Prevalence of infectious diseases in goats and sheep.*

Disease	No. of affected animals	Prevalence %					
		Breed		Sex		Age	
		Local	Exotic	Male	Female	Young	Adult
PPR	17.2 (16)	10.7 (10)	6.5 (6)	9.6 (9)	7.6 (7)	9.6 (9)	7.6 (7)
Pneumonia	10.75 (10)	9.6 (9)	1.1 (1)	5.4 (5)	5.4 (5)	5.4 (5)	5.4 (5)
Conjunctivitis	3.2 (3)	2.1 (2)	1.1 (1)	3.2 (3)	0.00 (0)	1.1 (1)	2.1 (2)
LSD	1.1 (1)	0.00 (0)	1.1 (1)	0.00 (0)	1.1 (1)	0.00 (0)	1.1 (1)
Parasitic infestation	8.6 (8)	6.5 (6)	2.1 (2)	3.2 (3)	5.4 (5)	4.3 (4)	4.3 (4)
Total	40.86 (38)	24.73 (23)	16.12 (15)	21.50 (20)	19.35 (18)	20.43 (19)	20.43 (19)

Prevalence of diseases in goats and sheep

During the research period, 92 incidents involving goats and sheep were documented. There were 38 infectious cases (Table 5), 37 surgical cases (Table 6), 16 metabolic cases (Table 7), and 1 gynecological case (Table 8). The most common disease among the infectious cases was PPR, with a prevalence of 17.2%, followed by pneumonia at 10.75%. In the 37 surgical cases, the most common occurrence was Accidental wound and dog biting injury, followed by castration, with prevalences of 17.2% and 11.8%, respectively. Anorexia was the most prevalent metabolic condition, occurring in 5.4% of cases. In gynecological instances,

anestrus was the only case reported.

Prevalence of diseases in pet animals

During the research period, 112 incidents involving pet animals (such as cats, dogs, and rabbits) were documented. There were 49 pharmaceutical cases (Table 9), 35 surgical cases (Table 10), 19 metabolic patients, and 9 gynecological cases (Table 12). The most common disease among the medical cases was Feline panleukopenia, with a prevalence of 15.17%, followed by parasite infection at 5.35%. In the 35 surgical cases, the most common occurrence was accidental injury, followed by abscess, with prevalences of 18.75%

and 5.35%, respectively. Constipation was the most prevalent metabolic condition, occurring in 6.25% of cases. In gynecological instances, cesarean section was the most common, with a prevalence of 5.35%.

Table 6: *Prevalence of metabolic diseases in goats and sheep.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Local	Crossbred	Male	Female	Kid	Adult
Anorexia	5.4 (5)	1.1 (1)	4.3 (4)	1.1 (1)	4.3 (4)	0.00 (0)	5.4 (5)
Pregnancy Toxemia	1.1 (1)	1.1 (1)	0.00 (0)	0.00 (0)	1.1 (1)	0.00 (0)	1.1 (1)
Bloat	4.3 (4)	4.3 (4)	0.00 (0)	2.1 (2)	2.1 (2)	1.1 (1)	3.2 (3)
Diarrhoea	3.2 (3)	2.1 (2)	1.1 (1)	1.1 (1)	2.1 (2)	0.00 (0)	3.2 (3)
Malnutrition	3.2 (3)	1.1 (1)	2.1 (2)	2.1 (2)	1.1 (1)	1.1 (1)	1.1 (2)
Total	17.2 (16)	9.7 (9)	7.5 (7)	6.5 (6)	10.75 (10)	2.1 (2)	15.05 (14)

Table 7: *Prevalence of surgical cases in goats and sheep.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Local	Exotic	Male	Female	Young	Adult
Castration	11.8 (11)	8.6 (8)	3.2 (3)	11.8 (11)	0.00 (0)	11.8 (11)	0.00 (0)
Urolithiasis	3.2 (3)	1.1 (1)	2.1 (2)	3.2 (3)	0.00 (0)	1.1 (1)	2.1 (2)
Rumenotomy	1.1 (1)	1.1 (1)	0.00 (0)	0.00 (0)	1.1 (1)	1.1 (0)	1.1 (1)
Myiasis	5.4 (5)	5.4 (5)	0.00 (0)	2.1 (2)	3.2 (3)	3.2 (3)	2.1 (2)
Accidental wound and dog biting injury	17.2 (16)	14 (13)	3.2 (3)	6.5 (6)	10.7 (10)	7.5 (7)	9.7 (9)
Mammary tumor	1.1 (1)	1.11 (1)	0.00 (0)	0.00 (0)	1.1 (1)	0.00 (0)	1.1 (1)
Total	39.9 (37)	31.18 (29)	8.6 (8)	23.65 (22)	16.12 (15)	23.65 (22)	16.12 (15)

Table 8: *Prevalence of gynecological cases in goats and sheep.*

Disease	No. of affected animals	Prevalence					
		Breed		Sex		Age	
		Local	Exotic	Male	Female	Young	Adult
Anestrus	1.1 (1)	1.1 (1)	0.00 (0)	0.00 (0)	1.1 (1)	1.1 (0)	1.1 (1)
Total	1.1 (1)	1.1 (1)	0.00 (0)	0.00 (0)	1.1 (1)	1.1 (0)	1.1 (1)

Table 9: *Prevalence of infectious diseases in pet animals.*

Disease	Species	No. of affected animals	Prevalence					
			Breed		Sex		Age	
			Local	Exotic	Male	Female	Young	Adult
Calicivirus infection	Cat	3.57 (4)	3.57 (4)	0 (0)	1.78(2)	1.78(2)	0.89(1)	2.67(3)
Feline panleukopenia virus infection	Cat	15.17 (17)	14.28(16)	0.89(1)	6.25 (7)	8.92(10)	2.67 (3)	12.5(14)
Ectoparasite infestation	Cat, Dog, Rabbit	5.35 (6)	4.46(5)	0.89(1)	3.57(4)	1.78(2)	1.78 (2)	3.57(4)
Urinary tract infection	Cat	0.89 (1)	0.89 (1)	0 (0)	0.89 (1)	0 (0)	0.89 (1)	0 (0)
Feline upper respiratory tract disease	Cat	4.46(5)	4.46 (5)	0 (0)	3.57 (4)	0.89 (1)	2.67 (3)	1.78 (2)
Aspiration pneumonia	Cat	0.89(1)	0.89 (1)	0 (0)	0 (0)	0.89 (1)	(0)	0.89 (1)
Worm infestation	Cat	5.35(6)	2.67 (3)	2.67(3)	2.67(3)	2.67 (3)	0.89(1)	4.46(5)
Otitis media	Cat	1.78 (2)	0.89(1)	0.89(1)	1.78(2)	(0)	(0)	1.78(2)
Conjunctivitis	Cat	1.78 (2)	1.78(2)	(0)	0.89(1)	0.89(1)	(0)	1.78(2)
Canine Parvovirus infection	Dog	2.67 (3)	0.89(1)	1.78(2)	2.67(3)	(0)	0.89(1)	1.78(2)
Pneumonia	Cat	1.78(2)	1.78(2)	(0)	0.89(1)	0.89(1)	1.78(2)	(0)
Total		43.75(49)	36.60(41)	7.14(8)	25(28)	18.75(21)	12.5(14)	31.25(35)

Table 10: *Prevalence of metabolic diseases in pet animals.*

Disease	Species	No. of affected animals	Prevalence					
			Breed		Sex		Age	
			Local	Exotic	Male	Female	Young	Adult
Anorexia	Cat, Rabbit	5.35(6)	4.46(5)	0.89(1)	3.57(4)	1.78(2)	(0)	5.35(6)
Constipation	Cat	6.25(7)	5.35(6)	0.89(1)	1.78(2)	4.46(5)	0.89(1)	5.35(6)
Diarrhoea	Cat, Dog	4.46(5)	3.57(4)	0.89(1)	0.89(1)	3.57(4)	(0)	4.46(5)
Jaundice	Dog	0.89(1)	0.89(1)	(0)	(0)	0.89(1)	(0)	0.89(1)
Total		16.96(19)	14.28(16)	2.67(3)	6.25(7)	10.71(12)	0.89(1)	16.07(18)

Table 11: *Prevalence of gynecological cases in pet animals.*

Disease	Species	No. of affected animals	Prevalence					
			Breed		Sex		Age	
			Local	Exotic	Male	Female	Young	Adult
Cesarean section	Cat	5.35 (6)	2.67(3)	2.67(3)	(0)	5.35(6)	(0)	5.35(6)
Ovariohysterectomy	Cat	1.78(2)	1.78(2)	(0)	(0)	1.78(2)	(0)	1.78(2)
Pregnancy diagnosis	Cat	0.89(1)	0.89(1)	(0)	(0)	0.89(1)	(0)	0.89(1)
Total		8.03(9)	5.35(6)	2.67(3)	(0)	8.03(9)	(0)	8.03(9)

Table 12: *Prevalence of surgical cases in pet animals.*

Disease	Species	No. of affected animals	Prevalence					
			Breed		Sex		Age	
			Local	Exotic	Male	Female	Young	Adult
Abscess	Cat, Dog	5.35(6)	5.35(6)	(0)	2.67(3)	2.67(3)	(0)	5.35(6)
Accidental injury	Cat, Dog, Rabbit	18.75(21)	16.96(19)	1.78(2)	7.14(8)	11.60(13)	0.89(1)	17.85(20)
Tumor	Cockatiel	0.89(1)	(0)	0.89(1)	(0)	0.89(1)	(0)	0.89(1)
Amputation	Cat	0.89(1)	0.89(1)	(0)	0.89(1)	(0)	(0)	0.89(1)
Fish bone stuck	Cat	0.89(1)	0.89(1)	(0)	0.89(1)	(0)	(0)	0.89(1)
Hematoma	Dog	0.89(1)	(0)	0.89(1)	0.89(1)	(0)	(0)	0.89(1)
Fracture	Cat, Dog	1.78(2)	0.89(1)	0.89(1)	1.78(2)	(0)	(0)	1.78(2)
Atresia ani	Cat	0.89(1)	0.89(1)	(0)	0.89(1)	(0)	0.89(1)	(0)
Myiasis	Dog	0.89(1)	(0)	0.89(1)	0.89(1)	(0)	(0)	0.89(1)
Total		31.25(35)	25.89(29)	5.35(6)	16.07(18)	15.17(17)	1.78(2)	29.46(33)

Table 13: *Prevalence of diseases in poultry.*

Disease	Species	No. of affected animals	Prevalence	
			Age	
			Young	Adult
Mycoplasmosis	Chicken	9.09 (1)	0 (0)	9.09 (1)
Duck Plague	Duck	36.36 (4)	27.27 (3)	9.09 (1)
Fowl pox	Chicken	18.18 (2)	18.18 (2)	(0)
Newcastle Disease	Chicken, Pigeon	36.36 (4)	36.36 (4)	0 (0)
Total		100 (11)	81.8 (9)	18.2 (2)

Prevalence of diseases in poultry

Among the poultry diseases, duck plague and

Newcastle disease were the most prevalent with a prevalence of 36.36% (Table 13).

Discussion

At veterinary teaching hospital, GAU, the several clinical examination techniques and laboratory procedures were applied to determine the confirmatory diagnosis of the diseases and disorders in cattle, goats, poultry and pet animals. Despite numerous retrospective studies highlighting the prevalence of diseases in livestock and companion animals throughout various regions of Bangladesh, a recent, location-specific, and hospital-based epidemiological data from peri-urban areas such as Gazipur post-COVID-19 pandemic is lacking. After going through the case records for a year, a total of 256 cases were found. Of these, 41 were for cattle, 92 were for goats, 112 were for pets, and 11 were for birds. The reason for the higher number of cases for the pet animals in comparative to others is the recent increase in cat population in Gazipur following COVID period.

Among 4 categories of cases enlisted for cattle, the highest prevalence of diseases was found for bacterial, viral and parasitic diseases followed by digestive and metabolic disorders. [Rahman et al. \(2008\)](#) have found the same result in Manikgonj district ([Rahman et al., 2008](#)). Among bacterial, viral and parasitic diseases of cattle, Lumpy skin Disease (LSD) was found to be the most predominant (19.51%), followed by worm infestation (12.19%), ectoparasitic infestations and Bovine Ephemeral Fever (BEF) (7.32%). Findings of [Rahman \(2020\)](#) have resulted in the same scenario ([Rahman, 2020](#)). The incidence of LSD was higher in indigenous, female and adult cattle. [Sarkar et al. \(2020\)](#) have found almost same results. They showed that local breed (75%) and young individual (64%) were significantly higher for LSD in Dinajpur sadar. Our study also found a single case of LSD in goat. No research papers were found on LSD exposure in goats. In case of pet animals, the prevalence of Feline Panleukopenia was higher (15.17%) than other viral, bacterial and parasitic diseases. The incidence rates are higher in young male cats. This result is similar with the result of ([Hossen et al., 2024](#)). The higher rate of incidence was due to increased cat population during and after COVID 19 pandemic along with low coverage and awareness for vaccination ([Kogan et al., 2021](#)). In the case of small animals like goats and sheep, the prevalence rate of PPR was 17.20%, which is higher than the other viral and bacterial diseases, followed by pneumonia (10.75%). However, the incidence rates were 13.74%, 11.33% and 20.57%

([Rahman et al., 2018](#); [Nath et al., 2014](#); [Sarker and Islam, 2011](#)). Again, [Sarker et al. \(2016\)](#) reported the same results due to its contagious nature. Among various cases of poultry encountered at VTH, GAU, New castle disease and Mycoplasmosis were mostly predominant (36.36%).

The prevalence of parasitic diseases in animals are higher in different areas of Bangladesh. A retrospective study at Bogra and Mymensingh have reported about 44.7 % and 33.86% prevalence of parasitic diseases respectively ([Islam et al., 2016](#); [Sarker et al., 2016](#)). According to the study of ([Lucky et al., 2016](#)), the incidence of parasitic diseases were higher in cattle (26.58%) followed by in goats (23.87%). In this study conducted at VTH, GAU, the highest prevalence was recorded in cattle (internal parasitic infestation 12.19%, external parasitic infestation 7.32%), followed by goats (8.6%) and pet animals (5.35%). Our study found the lower prevalence rate then their study at Sylhet. Adults were more prone to parasitic infestations according to our study.

In our study, the highest prevalent digestive and metabolic disorder is diarrhoea followed by constipation and anorexia. The occurrence of diarrhoea is higher in cattle (9.76%) followed by 4.46% in pet animals and 3.2% in goats. This finding contrast with the report of other studies. [Sen et al. \(2018\)](#) reported the higher prevalence rate of diarrhoea for cattle (13.62%) and goat (12.79%). Adults were more prone to this disease than young one irrespective of species. The incidence of constipation in cat was 6.25% which is higher in adult and female cats.

The recorded gynecological and obstetrical cases at VTH, GAU were lower than the previous years. In a one-year study, pregnancy diagnosis was the only case for cattle. Over all 6% cases of caesarean section were found for cats. Only a single case of anestrus was found for goat in this study. [Islam et al. \(2022\)](#) reported the higher prevalence of anestrus (13.3%) in dairy cows in different districts of Bangladesh ([Islam et al., 2022](#)).

There are huge number of surgical cases were recorded in this study irrespective of species of animals. The prevalence of wounds and abscess was higher in goats (17.2%) than in cats (5.35%) and cattle (4.88%). [Sen et al., 2018](#) reported the lower rates in cattle (2.78%) and 0.33% in goats ([Sen et al., 2018](#)). [Alam et al.](#)

(2015) also found the lower rate of abscesses in goats (1.84%) in Gazipur (Alam *et al.*, 2015). The incidence was higher in adult male cattle and cats. The reason why adult male cats are more prone to wounds and abscess because they tend to roam outdoors and fight with other male cats while mating. On the other hand, local female goats were more prone to wounds according to our study. The incidence of accidental injury was higher in cats (18.75%) than in other animals. Our study found that most of the cases of accidental injury were in female cats, which is because female cats roam outdoors in most cases while in estrus and get injured (O'Neill *et al.*, 2023). The incidence of cases of castration was higher in goats (11.8%) than in cats and dogs. The majority of goats were castrated at 1 to 2 months of age, while the cats underwent castration post-sexual maturity (≥ 10 months of age). Naturally, there were more in goats because male goats are castrated due to increasing meat production and meat quality. The prevalence of urolithiasis was higher in male goats (3.2%). Male goats are predisposed to urolithiasis because to their elongated, narrow urethras and the presence of a urethral process, which heightens the likelihood of stones becoming lodged and obstructing urine flow (Bamal *et al.*, 2023). At VTH, GAU, we recorded a small number of fracture cases (1.78%), with adults more susceptible to fractures than the younger population. Rimon *et al.* (2018) reported that 11.87% cases of fracture were enlisted at Upazila Veterinary Hospital, Pirganj, Thakurgaon.

This research possesses several limitations. The limited sample size is a constraint attributable to the hospital's recent establishment. Following the COVID-19 epidemic, the hospital was closed for about two years, which explains its limited accessibility to many residents of this region. A further disadvantage of this study is its retrospective design. This study is based on data obtained from the hospital's archived case record book. This hospital alone may not provide the complete picture of disease patterns in Gazipur district. This study only examines the frequency of various diseases documented at this hospital; nevertheless, the overall prevalence of different diseases in Gazipur district may differ from the findings of this study. Notwithstanding the constraints, this study will enhance comprehension of contemporary disease trends in many animals, and the results will provide more effective control and prevention of clinical diseases in the future.

Conclusion

This study provides a comprehensive overview of the health issues affecting pets and animals presented at the Veterinary Teaching Hospital (VTH) at GAU. Infectious diseases were predominant, with Lumpy Skin Disease in cattle, Peste des Petits Ruminants in goats, and Feline Panleukopenia in cats being the most prevalent. The predominant metabolic issues were diarrhea in cattle, anorexia in caprines, and constipation in felines. Numerous surgical procedures are required, particularly for cats who sustain accidental injuries and goats that necessitate castration. The findings indicate a necessity for improved diagnostic instruments, more targeted disease management strategies (especially for viral infections such as PPR and LSD), and initiatives to educate clients on timely disease reporting and prevention. Epidemiological surveillance and location-specific clinical evaluations should be prioritized to effectively manage animal health in peri-urban areas such as Gazipur. Further study including a larger cohort and extended duration is necessary to monitor disease trends and inform national veterinary health policies.

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Novelty Statement

This study is the first post-pandemic hospital-based survey of livestock and pet diseases in Gazipur. It highlights emerging companion animal health issues alongside endemic livestock diseases, providing baseline data to inform preventive strategies and veterinary health policies.

Author's Contribution

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Md. Taimur Islam supervised the activities.

Generative AI or AI-assisted Technology Statement

The authors declare that no Genrative AI was used in the creation of this manuscript.

Conflict of interest

The authors have declared no conflict of interest.

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