Prevalence of diseases and disease conditions in cattle and Goats at the Upazilla Veterinary Hospital, Debidwar, Comilla

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Zakir Hossain Road, Khulshi, Chittagong-4225

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Clinical Report Submitted as per approved style and content

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ABSTRACT

Upazilla Veterinary Hospital (UVH) plays an important role in different animal health services to animal welfare. There are lots of animals were recorded UVH everyday from neighboring villages for treatment, de-worming, vaccination etc. So an investigation was done to determine the prevalence of diseases and disease conditions in cattle and goats at the Upazilla Veterinary Hospital, Debidwar under Comilla district. Data of diseases were collected from the record book of hospital during April 2016 to March 2017. Total animals were 889, among them cattle were 637 (71.65%) and goats were 252 (28.35%). Diagnosis performed on the basis of general examination, physical, examination, clinical examination, and microscopic examination using common laboratory techniques. Clinical examinations detected 14 different types of diseases and disease conditions in 637 (71.65% of total animals) cattle where FMD (14.44%, n=92), mastitis (6.59%, n=42), digestive disorders (19%, n=121), respiratory disorders (6.12%, n=39), parasitic infestation (34.22%, n=218), acidosis (1.88%, n=12), myiasis (6.12%, n=39), corneal opacity (1.57%, n=10), protozoal diseases (1.26%, n=8), BQ (2.20%, n=14), milk fever (0.94%, n=6), reproductive disorders (4.87%, n=31) and others (0.75%, n=5) were recorded. Age wise prevalence in young and adult were (38.62%, n=246) and (61.38%, n=391) respectively. Sex wise prevalence in male and female were (34.85%, n=222) and (65.15%, n=415) respectively. In goat 252 (28.35% of total animal) 11 different types of diseases and disease conditions such as PPR (12.30%, n=31), mastitis (2.38%, n=6), digestive disorders 50 (19.84%, n=50), parasitic infestation (29.76%, n=75), respiratory disorders (15.08, n=38), myiasis (11.11%, n=28), corneal opacity (4.76%, n=12), acidosis (1.98%, n=5) protozoal diseases (0.79%, n=2) and reproductive disorders (1.59%, n=4) respectively. Sex wise prevalence in male and female goat were (44.05%, n=111) and (55.95%, n=141) respectively. Diseases and disease conditions of cattle and goats which were recorded more or less present in both young and adult animals but some of the specific diseases and disease conditions were in animals due to age susceptibility such as black quarter in young cattle and PPR in young goats.

Keywords: Cattle, Goats, Prevalence, Diseases, Disease conditions, Debidwar

CHAPTER I: INTRODUCTION

Livestock is an important component of the mixed farming system practiced in Bangladesh for centuries. Livestock sub sector contributes 12% to agricultural GDP and 3% to National economy (Mia, 2013). Ruminant, especially cattle and goats constitute the major portion of the livestock. There are about 26.828 million cattle and 16.242 million goats in Bangladesh (BBS, 2010). The density of livestock population per acre of cultivable land is 7.37. This density has been increasing every year in the country. The country has a relative density of livestock population well above the averages for many other countries of the world. Most of these animals are reared under smallholder traditional management system in rural areas (Karim *et al*., 2014). However, more than 10 million people directly depend on these sectors for their livelihoods (Karim *et al*., 2010). Livestock products materials or substance produced by domestic animals such as cattle, buffalo, goat or sheep for farm or homestead use or for sell to get economic benefit. Most important products of livestock origin are milk, meat and eggs. These products are essentially required for human nutrition. The production of milk, meat and eggs was 2.28 million metric tons, 1.04 million metric tons and 5363 million, respectively, in 2006-07. Improper management, poor sanitation and introduction are the main reasons of spreading of animal diseases. The management practices of animals and geo-climatic condition of Bangladesh are favorable for the occurrence of various diseases (Onneshan, 2014). Nutritional insufficiency such as animal receiving inadequate amounts of carbohydrates, protein, fat, vitamins and minerals lower the resistance to disease. Physiological defects cause improper functioning of glands, organs, or body systems. These defects cause several diseases in animal body. Diseases in animal may be caused by morphological defects such as cuts, scratches, broken bones etc. The health of an animal may be affected due to infection by bacteria, virus, mycoplasma and parasites. Imbalance in the metabolic system may also affect the livestock health. Moreover, an apparently healthy animal may not necessarily be in a state of good reproductive health. Poor reproductive performances are often associated with failure in conception, infertility, embryonic deaths and abortion, and other reproductive disorders. . Most of the villagers of Bangladesh rear cattle and goats for their subsistence household income though some farmers have the commercial farms.

Cattle usually suffer from a variety of diseases and disease conditions such as parasitic diseases, digestive diseases, respiratory diseases, enteric diseases, metabolic

diseases. Most of them are common among herds that not maintained proper managemental system and good hygienic condition. Goats are more sensitive animal than cattle and suffered from various bacterial, viral, parasitic, and other non-infectious diseases. The diagnosis of the goat diseases based on the clinical symptoms is most difficult, as many diseases resemble one another. Common diseases and disease conditions are parasitic infestation, PPR, acidosis, myiasis, corneal opacity etc. Veterinary hospital is an ideal and reliable source of information about animal diseases and their solution. People from the neighboring areas bring their sick animals to the Veterinary hospital every day. Analysis of the case record gives a comprehensive idea about the disease problems at local areas. Although some reports on clinical case records from Haluaghat Upazilla Veterinary Hospital, Mymensingh (Sarker *et al.*, 1999), Chandanaish Upazilla of Chittagong district, Bangladesh (Ullah *et al.*, 2015) Mohammadpur Upazilla veterinary hospital, Magura (Karim *et al.*, 2014) are available but similar reports on ruminants are very limited in Debidwar Upazilla of Comilla district of Bangladesh. In the last few decades, as the major infectious diseases of cattle in Bangladesh are brought under control by vaccination and farmer's awareness, emphasis has increasingly shifted to economically important diseases to the dairy producers. However, more information is required to describe the pattern of occurrence of diseases for the provision of appropriate veterinary care and effective disease control programme and animal production.

This study was conducted with the objectives of determining the prevalence of diseases and disease conditions in cattle and goats, comparative prevalence of diseases and disease conditions of male vs. female and young vs. adult in cattle and comparative prevalence of diseases and disease conditions of male vs. female and young vs. adult in goats at the Upazilla Veterinary Hospital, Debidwar, Comilla.

CHAPTER II: MATERIALS AND METHODS

Debidwar Upazila with an area of 238.36 sq km is bounded by Chandina upazilla on the south, Burichang and Brahmanpara upazilas on the east, Muradnagar upazila on the west. This clinical study was undertaken at the Upazilla Veterinary Hospital, Debidwar, Comilla to determine the prevalence of clinical diseases and disease conditions in cattle and goats during the period between April, 2016 and March, 2017. A total 889 animal were registered where 637 were cattle and 252 were goat. Age of the cattle was categorized as young (≤2.5 years), adult (>2.5 years) and in case of goat young (≤1 year), adult (>1 year) (Kabir *et al*., 2010).
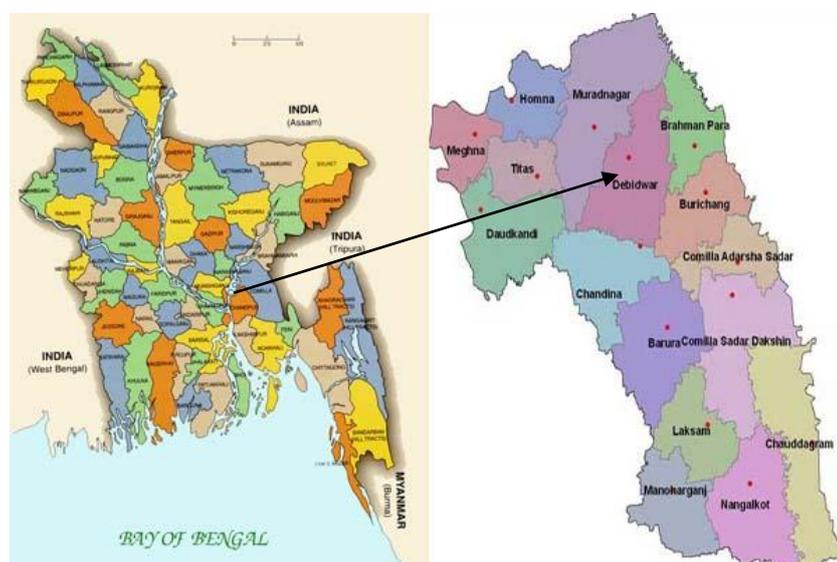
Figure 1: Location of Debidwar Upazilla

2.1. Examination of the animal

2.1.1. General examination

Physical condition, behavior, posture, gait, superficial skin wound, salivation, nasal discharge, distension of the abdomen, locomotive disturbance, prolapse of the uterus and vagina, etc were observed by visual examination of the patient. This examination is made by standing a few feet (about 5) away from the animal without disturbing and handling the animal.

General appearance and activities: Demeanor, physical condition (weight of animal), posture, gait, eating, defecation, urination, voice, respiratory, ruminal, and other sounds etc

Body regions: Rumination, respiratory character (type, depth, dyspnea), abdomen, size, skin and coat, head (eyes, ears, horns, face, nose, lips etc) tail, digits, mammary glands, scrotum, vulva, prepuce, umbilicus, brisket, lymph nodes etc.

2.1.2. Physical examination

In physical examination various parts and structures of the body were examined by palpation, percussion, auscultation with the stethoscope, needle pierce and movement of the affected animals. Proper restraint (movement control) of the animal on standing position is necessary prior to physical examination. All of the organs and systems of body are examined.

General physical exanimation techniques: It includes close inspection, auscultation, palpation, percussion and their modified forms.

Special physical examination techniques: It includes skin fold test, weakness test, exertion test, breathing inhibition test, deafness test, pole test, zone test etc.

2.1.3. Clinical examination

The animals were restrained so that it can be examined carefully, safely and with confidence. After restraining animal were visually examined more closely if any further abnormalities can be detected. Clinical examination of different organs and system (lymph node, skin, head and neck, cardiovascular system, respiratory system, urinary system, genital system, musculo-skeletal system, nervous system etc) were performed.

Pulse, respiratory rate and temperature were recorded. These examinations were conducted on the basis of the disease history and owner's complains, symptoms and techniques such as microscopic examination, laboratory common techniques used by Rosenberger *et al*. (1979) and Samad *et al*. (1988).

2.2. Statistical analysis

Data were structured in the Microsoft® Excel spreadsheet and the percentages of disease conditions prevalent in different groups were intended.

Figure 2a: FMD in cattle

Figure 2b: Acidosis in cattle

Figure 2c: Mastitis in cow

Figure 2d: BQ in cattle

Figure 2e: Coccidiosis in calf

Figure 2f: Myiasis in calf

Figure 2g: Endometritis in cow

Figure 2h: PPR in goat

Figure 2i: Fasioliosis in goat
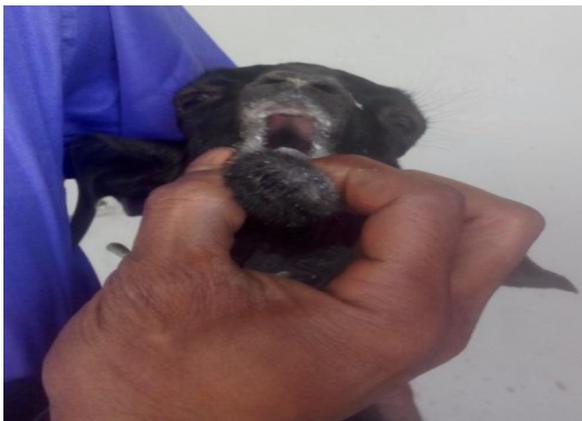

Figure 2j: Mastitis in goat

Figure 2k: PPR in goat

Figure 2l: Milk fever in goat

Figure 2: Picture of different disease and disease conditions in Cattle and Goats

CHAPTER III: RESULTS AND DISCUSSION

3.1. Prevalence of diseases and disease conditions in cattle

In total 13 diseases and disease conditions were recorded in six hundred and thirty seven (637) cattle, brought to the Veterinary Hospital, for treatment purposes during the study period. Among the 637 cases, (14.44%, n=92), (6.59%, n=42), (19%, n=121), (6.12%, n=39), (34.22%, n=218), (1.88%, n=12), (6.12%, n=39), (1.57%, n=10), (1.26%, n=8), (2.20%, n=14), (0.94%, n=6), (4.87%, n=31), (0.75%, n=5) were recorded in FMD, mastitis, digestive disorders, respiratory disorders, parasitic infestation, acidosis, myiasis, corneal opacity, protozoal diseases, BQ, milk fever, reproductive disorders, and others respectively in cattle (Table-1). The prevalence of FMD is 14.44% which is slightly lower than the reported prevalence (38.62%) of FMD according to Lucky *et al*. (2016). Rahman *et al*. (2013) reported that the prevalence of parasitic diseases (50.4%), gastrointestinal disorders (14.2%) and foot and mouth disease (3.6%) under hospital condition. Hoque and Samad (1996) reported 2.17% incidence of BQ in cattle from different geographical location in Bangladesh. Sarker *et al*. (1999) , Samad (2001) and Rahman *et al*. (2013) who reported clinical mastitis in 0.89%, 0.71% and 0.9% cows, respectively. Rahman *et al*. (2013) reported 1.9% cases of corneal opacity in cattle. Samad (2001) recorded 5.46% gynecological cases in cattle during 1999 to 2001 from BAU Veterinary clinic, Mymensingh.

Table 1: Prevalence of diseases and disease conditions in cattle at the Upazilla Veterinary Hospital, Debidwar, Comilla

Sl No.	Diseases	Cattle(N=637) Percentage(%), n, 95%CI
1	FMD	14.44 (92, 11.80-17.42)
3	Mastitis	6.59 (42, 4.79-8.81)
4	Digestive disorders	19.00 (121, 16.02-22.26)
5	Respiratory disorders	6.12 (39, 4.39-8.27)
6	Parasitic infestation	34.22(218, 30.54-38.05)
7	Acidosis	1.88(12, 0.9-3.27)
8	Myiasis	6.12(39, 4.39 8.27)
9	Corneal opacity	1.57(10, 0.8-2.9)
10	Protozoal diseases	1.26(8, 0.5-2.46)

| 11 | BQ | 2.20(14, 1.20-3.66) |
12	Milk fever	0.94(6, 0.34-2.04)
13	Reproductive disorders	4.87(31, 3.33-6.84)
14	Others	0.75(5, 0.65-4.57)

3.1.1. Sex wise comparison of prevalence of diseases and disease conditions in male and female cattle

This is presented in Table-2 in which FMD, digestive disorders, parasitic infestation, respiratory disorders, acidosis, myiasis, corneal opacity, BQ were recorded in both male (7.54%, n=48), (5.18%, n=33), (15.07%, n=96), (0.47%, n=3), (0.16%, n=1), (3,77%, n=24), (0.63%, n=4), (0.63%, n=4) and (1.10%, n=7) respectively and female (6.91%, n=44), (13.81%, n=88), (5.65%, n=36), (1.73%, n=11), (2.35%, n=15), (0.94%, n=6), (0.63%, n=4) and (1.10%, n=7) respectively. In this study the prevalence of FMD was 7.54% in male and 6.91% in female which is lower than the prevalence of FMD (16.09% in male and 19.82% in female) reported by Kabir *et al*. (2010) .The comparative prevalence revealed that female are more susceptible than male. According to Garcia-Blanco and Cullen (1991) immunity may vary on the basis of sex as female physiological and immunological conditions vary from male.

Table 2: Comparative prevalence of disease and disease conditions in male and female cattle at the Upazilla Veterinary Hospital. Debidwar, Comilla

	Male(N=222)	Female(N=415)
Diseases	male%, n, 95%CI	female%, n, 95%CI
FMD	7.54(48, 5.61-9.87)	6.91(44, 5.06-9.16)
Mastitis	-	6.59(42, 4.97-8.81)
Digestive disorders	5.18(33, 3.59-7.20)	13.81(88, 11.23-16.74)
Parasitic infestation	15.07(96, 12.38-18.09)	19.15(122, 16.17-22.43)
Respiratory disorders	0.47(3, 0.09-1.37)	5.65(36, 3.99-7.74)
Acidosis	0.16(1, 0.003-0.87)	1.73(11, 0.87-3.07)
Myiasis	3.77(24, 2.43-5.55)	2.35(15, 1.32-3.85)
Corneal opacity	0.63(4, 0.17-1.60)	0.94(6, 0.35-2.04)
Protozoal diseases	0.63(4, 0.17-1.60)	0.63(4, 0.17-1.60)
BQ	1.10(7, 0.44-2.25)	1.10(7, 0.44-2.25)
Milk fever	-	0.94(6, 0.35-2.04)

| Reproductive disorders | - | 4.87(31, 3.33-6.84) |
| Others | 0.31(2, 0.04-1.13) | 0.47(3, 0.09-1.37) |
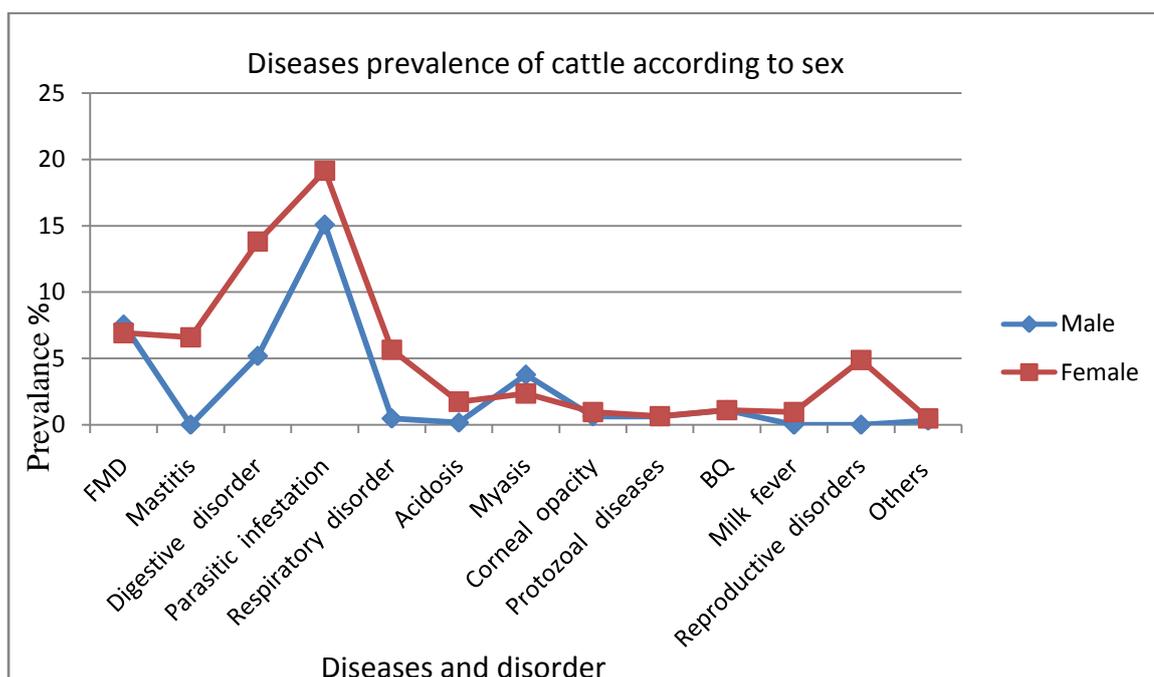
Graph 1: Diseases prevalence of cattle according to sex
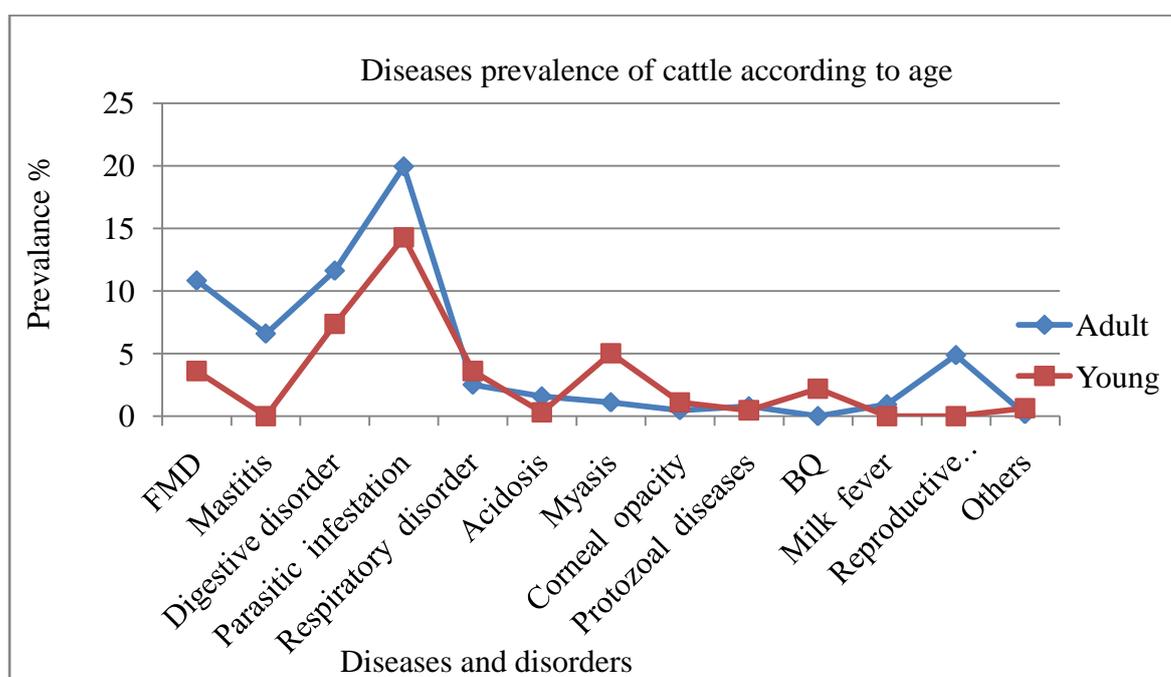
3.1.2 Comparative prevalence of diseases and disease conditions in young (up to 2.5 years) and adult (above 2.5 years) cattle at this hospital

This is presented in Table-3 in which FMD, digestive disorders, parasitic infestation, respiratory disorders, acidosis, myiasis, corneal opacity, protozoal diseases were recorded in both adult (10.83%, n=69), (11.62%, n=42), (19.94%, n=127), (2.51%, n=16), (1.57%, n=10), (1.10%, n=7), (0.47%, n=3), and (0.78%, n=5) respectively and in young (3.61%, n=36), (7.38%, n=47), (14.29%, n=91), (3.61%, n=23), (0.31%, n=7), (5.02%, n=32), (1.10%, n=7) and (0.47%, n=3) respectively. FMD, digestive disorders, parasitic infestation, respiratory disorders, acidosis, myiasis, corneal opacity, protozoal diseases were recorded in both young and adult. But diseases and disease conditions may vary according to age. In this study the prevalence of FMD was higher in adult and the prevalence of BQ was lower in adult which has similarity with the reports of Ullah *et al*. (2015).

Table 3: Age wise prevalence of diseases and disease conditions in cattle at the Upazilla Veterinary Hospital, Debidwar, Comilla

	Adult (N=391)	young(N=246)
Diseases	Adult%, n, 95%CI	Young%, n, 95%CI

FMD	10.83(69, 8.53-13.51)	3.61(23, 2.30-5.37)
Mastitis	6.59(42, 4.47-8.81)	-
Digestive disorders	11.62(74, 9.24-14.36)	7.38(47, 5.47-9.69)
Parasitic infestation	19.94(16.90-23.25)	14.29(91, 11.66-17.25)
Respiratory disorders	2.51(16, 1.44-4.05)	3.61(23, 2.30-5.37)
Acidosis	1.57(10, 0.76-2,87)	0.31(7, 0.44-2.25)
Myiasis	1.10(7, 0.44-2.25)	5.02(32, 3.46-7.02)
Corneal opacity	0.47(3, 0.09-1.37)	1.10(7, 0.44-2.25)
Protozoal diseases	0.78(5, 0.26-1.82)	0.47(3, 0.09-1.37)
BQ	-	2.20(14, 1.21-3.66)
Milk fever	0.94(6, 0.35-2.04)	-
Reproductive disorders	4.87(31, 3.33-6.84)	-
Others	0.16(1, 0.003-0.87)	0.63(4, 0.17-1.60)

Graph 2: Diseases prevalence of cattle according to age

3.2. Prevalence of diseases and disease conditions in goats

In total 11 diseases and disease conditions were recorded in two hundred and fifty two (252) goats presented at Table-4.75 (29.76%) were affected with parasitic infestation, 50 (19.84%) were affected with digestive disorders, 38 (15.08%) were affected with respiratory disorders, 28 (11.11%) were affected with myiasis, 12 (4.76%) were affected with corneal opacity, 31 (12.30%) were affected with PPR, 6 (2.38%) were

affected with mastitis, 5 (1.98%) were affected with acidosis and 2 (0.79%) were affected with protozoal diseases. Findings in this study found more or less similar with the previous studies. The reported prevalence of PPR in goat at present study was 12.30%. In contrary with the results higher prevalence reported by Islam *et al.* (2013), Subir and Islam (2011), Rahman *et al.* (2011) who reported 50.27% in Patuakhali, 20.57% in Rajshahi, 55% in Black Bangle goat(BAU). This variation might be due to different geographical location, research period, and different management practices. Karim *et al.* (2014) reported that the prevalence of mastitis in does was 1.6%. Lucky *et al.* (2016) found digestive diseases (15.31%) parasitic in an investigation. Hassan *et al.* (2011) reported 52.72% parasitic diseases in a study that performed in Chittagong which is higher than the present study. Kabir *et al.* (2010) reported 6.97% prevalence of respiratory disorders. According to the investigation of Alam *et al.* (2014) the prevalence of lactic acidosis is 1.90% which is similar with this study. Finding of myiasis have conformity with the earlier reports of Karim *et al.* (2014) reported 11.1% myiasis in goats. Rahman *et al.* (2013) reported 9.9% cases of corneal opacity in goats. Karim *et al.* (2014) reported 0.9% cases of reproductive disorder of goats.

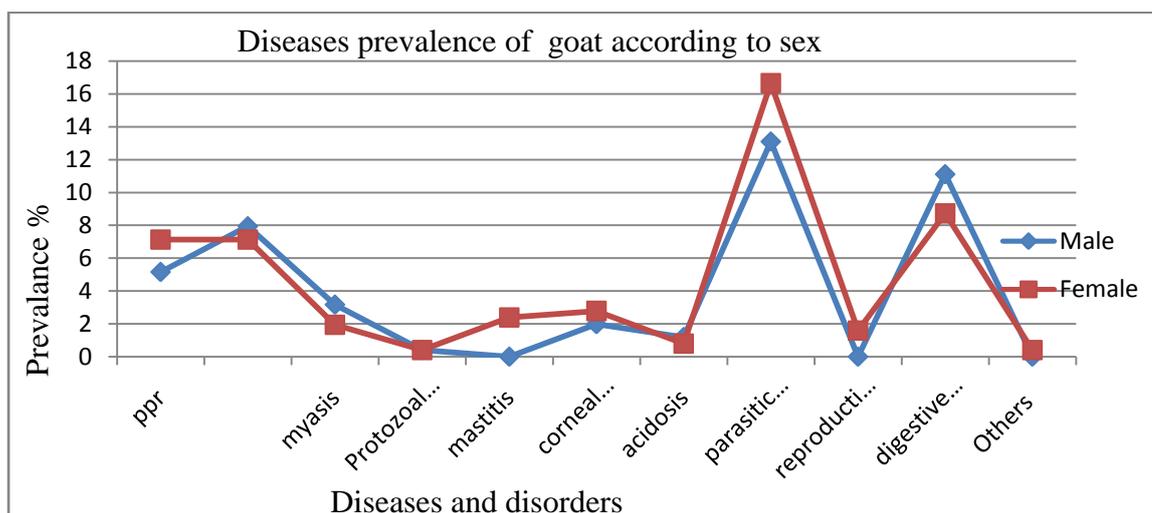**Table 4: Prevalence of diseases and disease conditions in goats at the Upazilla Veterinary Hospital, Debidwar, Comilla**

Sl No.	Diseases	Goat(N=252) Percentage(%),n, 95%CI
2	PPR	12.30(31, 8.51-17.00)
3	Mastitis	2.38(6, 0.88-5.11)
4	Digestive disorders	19.84(50, 15.10-225.31)
5	Respiratory disorders	15.08(38, 10.90-20.10)
6	Parasitic infestation	29.76(75, 24.19-35.82)
7	Acidosis	1.98(5, 0.65-4.57)
8	Myiasis	11.11(28, 7.51-15.66)
9	Corneal opacity	4.76(12, 2.84-8.17)
10	Protozoal diseases	0.79(2, 0.09-2.84)
12	Milk fever	-
13	Reproductive disorders	1.59(4, 0.43-4.01)
14	Others	0.40(1, 0.01-2.19)

3.2.1. Prevalence of diseases and disease conditions of male and female goats

This is presented in Table-5 in which PPR, respiratory disorders, myiasis, protozoal diseases, corneal opacity, acidosis, parasitic infestation, digestive disorders were recorded in both male (5.16%, n=13), (7.94%, n=20), (3.17%, n=8), (0.40%, n=1), (1.98%, n=5), (1.19%, n=3), (13.10%, n=33) and (11.11%, n=28) respectively and female (7.14%, n=18), (7.14%, n=18), (7.94%, n=20), (0.40%, n=1), (2.78%, n=7), (0.79%, n=2), (16.67%, n=42) and (8.73%, n=22) respectively. According to the table-5 PPR, myiasis, corneal opacity, parasitic infestations were more frequent in female than male.

Table 5: Comparative prevalence of diseases and disease conditions in male and female goats

Diseases	Male(N=111)	Female(N=141)
	male%, n, 95%CI	female%, n, 95%CI
PPR	5.16(13, 2.78-8.67)	7.14(18, 4.29-11.05)
Respiratory disorders	7.94(20, 4.92-11.99)	7.14(18, 4.29-11.05)
Myiasis	3.17(8, 1.38, 6.16)	7.94(20, 4.92-11.99)
Protozoal diseases	0.40(1, 0.01-2.19)	0.40(1, 0.01-2.19)
Mastitis	-	2.38(6, 0.88-5.11)
Corneal opacity	1.98(5, 0.65-4.57)	2.78(7, 1.12-5.64)
Acidosis	1.19(3, 0.25-3.44)	0.79(2, 0.09-2.84)
Parasitic infestation	13.10(33, 9.19-17.90)	16.67(42, 12.28-21.85)
Reproductive disorders	-	1.59(4, 0.43-4.01)
Digestive disorders	11.11(28, 7.51-15.66)	8.73(22, 5.55-12.92)
Others	-	0.40(1, 0.01-2.19)

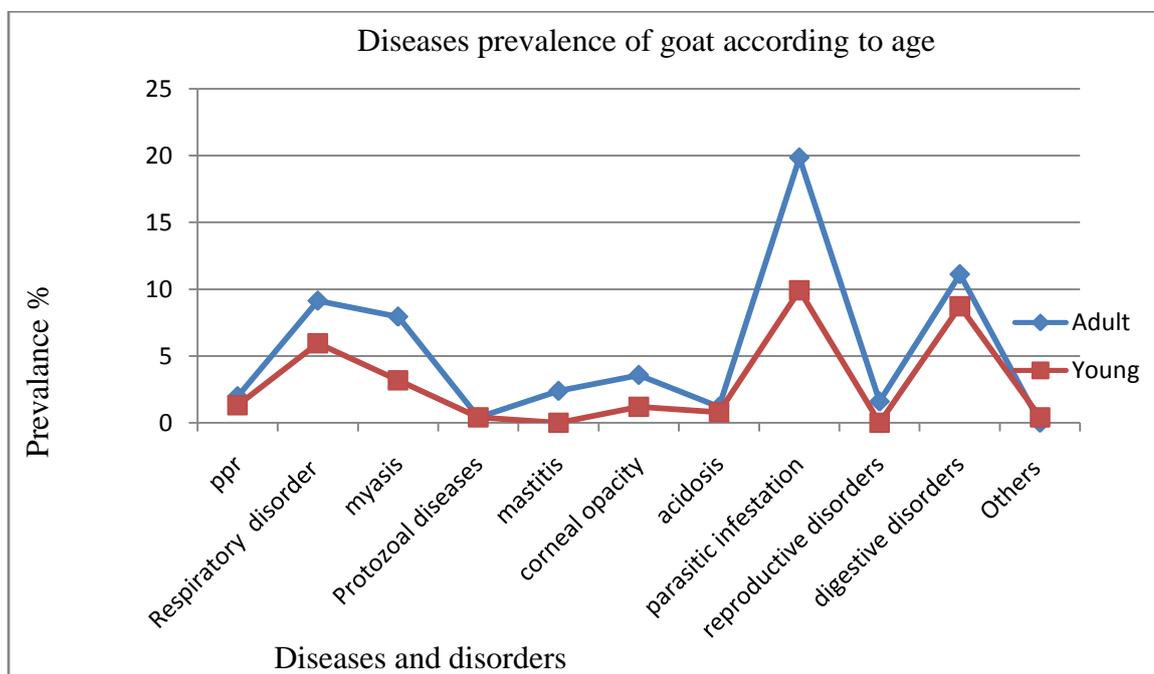**Graph 3: Diseases prevalence of goat according to sex**

3.2.2. Comparative prevalence of diseases and disease conditions in young (up to 1 year) and adult (above 1 year) goat at the UVH

This is presented in Table-6 in which PPR, respiratory disorders, myiasis, protozoal diseases, corneal opacity, acidosis, parasitic infestation were recorded in both adult (1.98%, n=5), (9.13%, n=23), (7.94%, n=20), (0.40%, n=1), (3.57%, n=9), (1.19%, n=3) and (19.84%, n=50) respectively and in young (10.32%, n=26), (5.95%, n=15), (3.17%, n=8), (0.40%, n=1), (1.19%, n=3), (0.79%, n=2) and (9.92%, n=25) respectively. Prevalence of PPR was higher in young goats than the adult. Rests of the diseases were higher in frequency in adult goats than the young goats.

Table 6: Comparative prevalence of diseases and disease conditions in young and adult goats

Diseases	Adult (N=149)	young(N=103)
	Adult%, n, 95%CI	young%, n, 95%CI
PPR	1.98(5, 0.65-4.57)	10.32(26, 6.85-14.75)
Respiratory disorders	9.13(23, 5.87-13.38)	5.95(15, 3.37-9.63)
Myiasis	7.94(20, 4.92-11.99)	3.17(8, 1.38, 6.16)
Protozoal diseases	0.40(1, 0.01-2.19)	0.40(1, 0.01-2.19)
Mastitis	2.38(6, 0.88-5.11)	-
Corneal opacity	3.57(9, 1.65-6.67)	1.19(3, 0.25-3.44)
Acidosis	1.19(3, 0.25-3.44)	0.79(2, 0.09-2.84)
Parasitic infestation	19.84(50, 15.10-25.31)	9.92(25, 6.52-14.30)
Reproductive disorders	1.59(4, 0.43-4.01)	-

| Digestive disorders | 11.11(28, 7.51) | 8.73(22, 5.55-12.92) |
| Others | - | 0.40(1, 0.01-2.19) |

Graph 4: Diseases prevalence of goat according to age

3.3. Comparative prevalence of diseases and disease conditions in cattle and goats

Among cattle and goats mastitis, digestive disorders, respiratory disorders, parasitic infestation, acidosis, myiasis, corneal opacity, protozoal diseases, reproductive disorders were recorded as (6.59%, n=42) and (2.38%, n=6), (19%, n=121) and (19.84%, n=50), (6.12%, n=39) and (15.08%, n=38), (34.22%, n=218) and (29.76%, n=75), (1.88%, n=12) and (1.98%, n=5), (6.12%, n=39) and (4.76%, n=12), (1.57%, n=10) and (4.67%, n=12), (1.26%, n=8) and (0.79%, n=2), (4.87%, n=31) and (0.40%, n=4) in both cattle and goats respectively. Parasitic infestation found highest in both cattle and goats. In this study mastitis, parasitic infestation, reproductive disorders were more in cattle than goats. According to Karim *et al*. (2014) mastitis in higher in goats than cattle who reported 1.6% in goats and 1.1% in cattle. In this study myiasis was more frequent in goats than cattle that opposed by the Karim *et al*. (2014) who reported 11.1% and 20.8% myiasis in goats and cattle, respectively. Finding of reproductive disorders have similarity with the reports of Rahman *et al*. (2013) reported 1.1% gynaeco-obstetrical cases in goats and 4.7% in cattle.

Table 7: Comparative prevalence of diseases and disease conditions of cattle and goats

Diseases	Cattle(N=637)	Goat(N=252)
	Percentage(%), n, 95%CI	Percentage(%), n, 95%CI
FMD	14.44 (92, 11.80-17.42)	-
PPR	-	12.30(31, 8.51-17.00)
Mastitis	6.59 (42, 4.79-8.81)	2.38(6, 0.88-5.11)
Digestive disorders	19.00 (121, 16.02-22.26)	19.84(50, 15.10-225.31)
Respiratory disorders	6.12 (39, 4.39-8.27)	15.08(38, 10.90-20.10)
Parasitic infestation	34.22(218, 30.54-38.05)	29.76(75, 24.19-35.82)
Acidosis	1.88(12, 0.9-3.27)	1.98(5, 0.65-4.57)
Myiasis	6.12(39, 4.39 8.27)	11.11(28, 7.51-15.66)
Corneal opacity	1.57(10, 0.8-2.9)	4.76(12, 2.84-8.17)
Protozoal diseases	1.26(8, 0.5-2.46)	0.79(2, 0.09-2.84)
BQ	2.20(14, 1.20-3.66)	-
Milk fever	0.94(6, 0.34-2.04)	-
Reproductive disorders	4.87(31, 3.33-6.84)	1.59(4, 0.43-4.01)
Others	0.75(5, 0.65-4.57)	0.40(1, 0.01-2.19)
Total no. of diseases	13	11
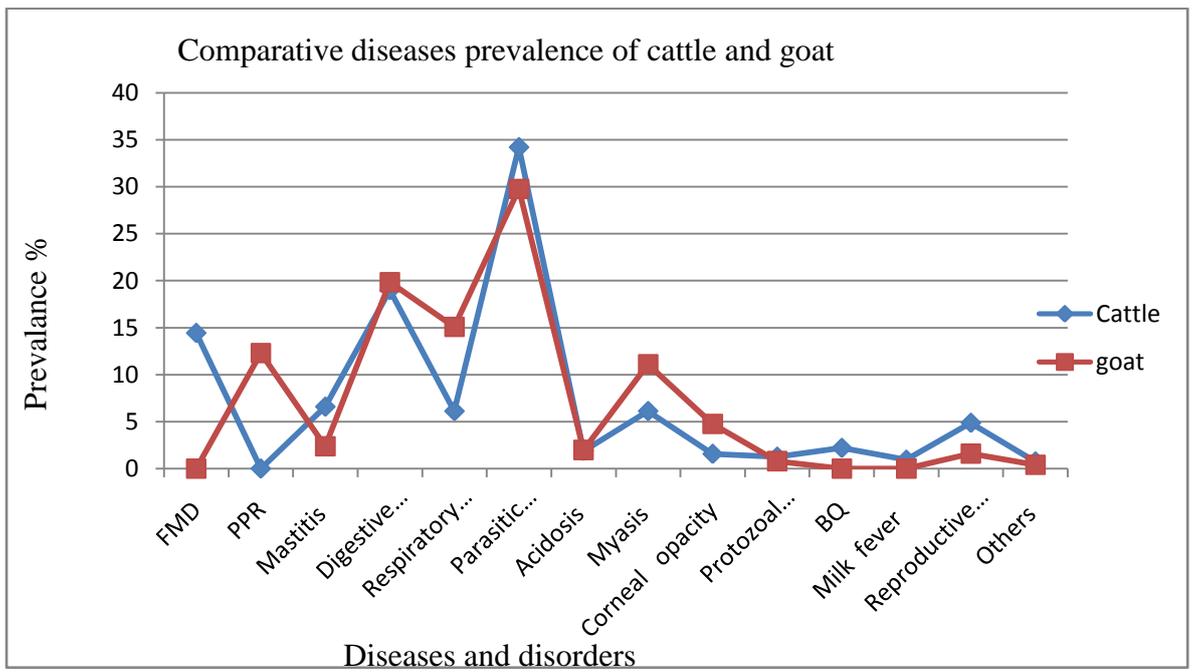
Graph 5: Comparative diseases prevalence of cattle and goat

LIMITATIONS

Study was performed only with hospital cases (from hospital record book) so the finding does not cover the whole Upazilla evenly. The diagnoses of cases were mostly done based on clinical signs and symptoms but few of them were based on laboratory diagnosis. Inclusion of retrospective cases was another limitation as information of retrospective cases may not be as fresh as new cases.

CONCLUSION

Various diseases are prevailing among the animals especially in cattle and goats in Comilla region of Bangladesh. These two animals are mostly vulnerable to parasitic infestation, digestive disorders and are frequently affected with FMD and PPR respectively. The district has border area as a result diseases like FMD and PPR were frequently outbreaks in cattle and goat respectively. So restriction of movement and vaccination program must be undertaken in border area. However, the findings of the current study can be considered as groundwork which may assist the veterinarian to investigate the particular consequence for extensive curative exercise in Bangladesh, and finally for effective control and treatment of specific infection and disorders in cattle and goats of the Comilla region.

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