# PREVALENCE OF SEVERAL DISEASES IN CATTLE AT CHANDANAISH, CHITTAGONG

**S. M. Ullah, M.S. Pallab, M.M. Uddin, M.S.Mahmud and O. F. Miazi**

Department of Genetics and Animal Breeding, Department of Medicine and Surgery, Department of Anatomy and Histology, Chittagong Veterinary and Animal Sciences University Khulshi, Chittagong-4225, Bangladesh,
Bangladesh Livestock research Institute, Savar, Dhaka-1344.,Bangladesh ,
Corresponding author: DR. Omar Faruk Miazi, Department of Genetics and Animal Breeding, Chittagong Veterinary and Animal Sciences University, Khulshi, Chittagong 4225; E-mail: f_cvasu@yahoo.co.in

*Abstract*: **Prevalence of several diseases is one of the most economically important thing for maintain a good treatment schedule of an area. This study detects the prevalence of several diseases and to evaluate the disease condition of cattle population in the selected area. Records of 306 clinical cases of cattle (120 dairy cows, 89 bulls and 97 calves) treated at the Chandanaish Upazila Veterinary Hospital during month December 2008 to February 2009 were analyzed to assess the importance of existing diseases.  The  recorded clinical cases were classified into seven major diagnostic groups, of which highest prevalence was recorded with Digestive disorders ( 47.05% ), followed by Parasitic infection ( 26.79% ), Infectious diseases( 7.84%),Respiratory disorder( 6.2% ),Surgical affection ( 5.22% ), Metabolic disorder ( 4.24% ), Ectoparasitic infection ( 1.96% ) and others( 0.65% ). The percentage of occurrence of major diagnostic groups of diseases constituted Infectious diseases ( cows 41.66% ,bulls 33.33%& calves 25% ), Parasitic diseases ( cows 37.80%,bulls19.5% & calves 42.68% ),'Digestive disorders(cows41.66%,bulls35.41% & calves 22.91% ), Respiratory disorders ( cows 21.05%,bulls26.31% & calves 52.63% ), Ectoparasitic infection ( cows 16.66%,bulls 33.33% & calves 50% ), Metabolic diseases(cows46.15%,bulls 38.46% & calves 15.38% ) and Surgical affection ( cows 50%,bulls 12.5% & calves 37.5% ). Though the each of all the diagnostic groups of diseases is significant but the digestive disorder, parasitic and infectious diseases were the most pressing constraint for improvement of cattle in the Chandanaish Upzila.**

*Index Terms*: **Cattle, diseases, prevalence diagnostic groups and Chittagong**

## I. INTRODUCTION

Bangladesh has one of the highest cattle densities; 145 large ruminants/km$^2$ compared with 90 for India, 30 for Etiopia and 20 for Brazil. But most of them trace their origin to a poor genetic base. The average weight of local cattle ranges from 125 to 150 kg for cows and from 200 to 250 kg bulls that fall 25-35% short of average wt of all purpose cattle in India. Milk yields are extremely low 200-250 liter during 10 month lactation period in contrast to 800 liter for Pakistan, 500 liter for India and 700 liter for all Asia. Despite of the highest cattle densities in Bangladesh the current production of meat, egg and milk are inadequate to meet the current requirement and the deficit are 85.9, 77.4 and 73.1% respectively. According to Bangladesh Economic Review (2006) the growth rate GDP in 2004-2005 for livestock was   the highest subsector at 7.23% compared to 0.15% crops and 3.65% for fisheries subsector. The PRSP (Poverty Reduction Strategy Paper) stresses the importance of the livestock subsector in sustaining the acceleration of the poverty reduction in the country.(National Livestock Development Policy,2007; Ministry of Livestock & Fisheries). So the dynamic potential of this emerging subsector .thus requires critical policy attention to animal health & production. Among the various constrains to development of cattle ,diseases are one of the most important limiting factors which not only degraded the productivity of cows but also causing mortality; especially in cross-bred calves. In addition, it is well established that exotic and cross-bred cattle are highly susceptible to diseases in comparison to local zebu cattle. The occurrence of diseases and surgical affections of rural cattle have been reported from the district of Mymensingh ( Rahman *et al.,* 1972 ; Hossain *et al,* 1988 ; Das and Hashim, 1996 ) but there is a paucity of information on the occurrence of diseases in cross-bred cows and calves in the cattle crossbreeding program through artificial insemination has recently been launched throughout the Bangladesh and success of cattle breeding program depends upon the rate of survival of calf crop produced. In addition, to sustain the mini dairy farms and cattle population in Bangladesh, it is essential to

save the neonatal calves from morbidity and mortality. Calf mortality represents not only irrefutable and irrevocable financial loss but also causes genetic loss to the dairy industry. Calf mortality up to 12 months of age has been reported to be 9% under rural (Debnath *et al.,* 1990 ) and 13.4% under a farm ( Debnath *et a/.,* 1995 ) conditions in Bangladesh. Very limited data on the clinical aspects of calf diseases are currently available concerning the important constraints on calf health in Bangladesh ( Samad, 2000 ). However, reports on necropsy examination of dead calves ( Hossain *et al.,* 1988, 1992ab ; Hossain and. Hossain, 19989 ), general clinical incidence ( Hoque and Samad, 1996 ; Masuduzzaman *et a/.,* 1999 ), surgical affections ( Das and Hashim, 1996 ; Hashim and Das, 1997 ) and some etio-therapeutic aspects of calf diseases are available in inland literature ( Samad, 2000 ). This paper describes the .clinical disease situation in rural calves recorded at the Chandanaish Upazila Veterinary hospitals in the district of Chittagong. The objective of the present study was to know the prevalence of several diseases in cattle of Chandanaish Upazila.

## II.   MATERIALS & METHOD

Records of 306 clinical cases of cattle (120 dairy cows, 89 bulls and 97 calves) treated at the Chandanaish Upazila Veterinary Hospital during three months December 2008 to February 2009 were analyzed to assess the importance of existing diseases. The results were analyzed into seven major diagnostic groups in cows, bulls and calves. The age of each animal was determined by asking the owner and by dentition. Diagnosis of these cases were made on the basis of (age, sex, breed), clinical history, clinical examinations To avoid overlapping of these diseases, certain adjustments were made so that each disease was counted under only one group. The data on the occurrence of clinical diseases and disorders were analyzed into seven major diagnostic groups. These groups were: (1) Ectoparasitic infection,(2) Infectious diseases, (3) Parasitic diseases, (4) Digestive disorders, (5) Respiratory disorders, (6) Metabolic diseases and (7) Surgical affection. The age and sex influence on the occurrence of diseases were analyzed. Accordingly, data were analyzed into two age groups: cows & bulls (above 2 years) and calves (below 1 year).

CLINICAL EXAMINATION

Examination of body condition, temperature, consistency of faeces and any prominent clinical signs were recorded. Based on these findings a presumptive diagnosis was made. In addition, skull bone was palpated to feel the thickness of bone, the umbilical region of the calves were examined for any swelling, wound or hernial ring. The preputial mucosa and glans penis were examined for the presence of any purulent discharge or ulceration. The hindquarter and thigh muscles were observed to see lameness and crepitation on palpation. The udders of the cows were palpated to detect any enlargement, reddening or pain. The body surface of animals was examined for any swelling, wound or solid outgrowth. In ungulate animals mouth and feet were observed to detect any vesicle, wound or salivation. Cows with the history of failure to conceive after insemination for more than three times were examined by rectal palpation.  Ruminal movement was observed through palpation. Different joints of the animals were examined to detect any swelling or pain. Abnormal sound of respiratory tract was detected through stethoscope. The groups of infectious diseases are FMD,BQ, Papillomatosis, Arthritis, Navel ill, Eye infection, Dog bite ,Mastitis, The groups of digestive disorder are Indigestion and Diarrhoea. The groups of surgical affections are Wound, Abscess, Utero-vaginal prolapse. The respiratory disorder was diagnosed on the basis of owner's complaint & recording abnormal functions respiratory system like polypnea, dyspnea, coughing, thoraco-abdominal breathing and by examining the entire respiratory tract as described by Blood & Radostitis (1989). The Ectoparasitic  infection  (mange infection) was diagnosed by itching ,scab, alopecia lesion on skin. Parasitic infection was    diagnosed by hair loss, emaciaton, weakness, rough coat and pale visible mucus membrane. The metabolic disorder was diagnosed by just after parturition.  In surgical cases Myiasis wound was found & Abscess was confirmed by needle puncture.

The collected data were analyzed by using the statistical program of computer, Microsoft word, Microsoft Excel, SPSS and ANOVA.

## III.  RESULT AND DISCUSSION

The prevalence of major infectious diseases 7.84% comparing to total clinical cases are presented in Table 1. The occurrence of infectious diseases in cows 3.26%,in bulls 2.61% and in calves 1.96% was found (Table 2). The occurrence of major infectious diseases in cows constituted Mastitis 2.5% , Foot-and-mouth disease 3.33% , whereas in bulls FMD 4.49% showing (Table 3). The occurrence of FMD found in bulls comparatively higher. It might be due to lack of vaccination program and contagious nature of disease. The occurrence of mastitis in cows slightly lower the report of Raman *et al*., (1972) who reported 3.65% prevalence rate of clinical mastitis in cows.

Table 1 Clinical case in hospital

| Clinical cases | NO. of Cases | Prevelance |
|---|---|---|
| Digestive disorder | 144 | 47.05 |
| Ectoparasitic infection | 06 | 1.96 |
| Infectious diseases | 24 | 7.84 |
| Metabolic disorder | 13 | 4.24 |
| Parasitic infection | 82 | 26.79 |
| Respiratory disorder | 19 | 6.20 |
| Surgical affection | 16 | 5.22 |
| Others(congenital) | 02 | 0.65 |
| Total | 306 | 100 |

Table- 2: Occurrences of clinical cases groups in cows, bulls and calves

| SL NO | Clinical cases | Occurrence %(no) | | |
|---|---|---|---|---|
| | | cows | bulls | calves |
| 01 | Digestive disorder | 19.6(60) | 16.66(51) | 0.10(33) |
| 02 | Ectoparasitic infection | 0.32(1) | 0.65(2) | 0.98(3) |
| 03 | Infectious diseases | 3.26(10) | 2.61(8) | 1.96(6) |
| 04 | Metabolic disorder | 1.96(6) | 1.63(5) | 0.65(2) |
| 05 | Parasitic infection | 10.13(31) | 5.22(16) | 11.43(35) |
| 06 | Respiratory disorder | 1.30(4) | 1.63(5) | 3.26(10) |
| 07 | Surgical affection | 2.6(8) | 0.65(2) | 1.96(6) |
| 08 | Others(congenital) | - | - | 0.65 |

Table- 3: Occurrences of clinical cases in cows, bulls and calves

| SL NO | Diseases and disorders | Occurrence  % (no) | | |
|---|---|---|---|---|
| | | cows | bulls | calves |
| 01 | FMD | 3.33(4) | 4.49(4) | 1.03(1) |
| 02 | BQ | - | - | 1.03(1) |
| 03 | Papillomatosis | - | - | 1.03(1) |
| 04 | Arthritis | 1.66(2) | - | 1.03(1) |
| 05 | Navel ill | - | - | 1.03(1) |
| 06 | Eye infection | 0.83(1) | 1.12(1) | - |
| 07 | Dog bite | 0.83(1) | 1.12(1) | - |
| 08 | Mastitis | 2.5(3) | - | - |
| 09 | Indigestion | 29.1(35) | 33.70(30) | 20.61(20) |
| 10 | Non-specific diarrhoea | 16.66(20) | 20.22(18) | 11.34(11) |
| 11 | Wound | 4.16(5) | 4.96(4) | 1.03(1) |
| 12 | Abscess | - | 1.12(1) | 1.03(1) |
| 13 | Utero-vaginal prolapse | 2.5(3) | - | - |
| 14 | Milk fever | 0.83(1) | - | - |

The prevalence of parasitic diseases was showed 26.79% comparing to all clinical cases   (Table 1). Of the 10.13 % cases of parasitic infections recorded in cows, 5.22% in bulls and 11.43% in calves (Table 2).  This result on the clinical prevalence of parasitic diseases in calves is higher than cows and bulls. It is possible that calves infected with parasitic infection become more susceptible to other diseases (Radostits, 2000). The poor management system of rearing calves might have also contributed to a great extent in making the calves more susceptible to parasitic infection.

The prevalence of digestive disorder was showed 47.5% comparing all clinical case   (Table 1). The occurrence of simple indigestion 29.1% and non-specific diarrhoea 16.66% in cows, simple indigestion 33.70% and non-specific diarrhoea 20.22% in bulls and simple indigestion 20.61% and non-specific diarrhoea 11.34% in calves were recorded (Table 3). Comparatively higher occurrence of indigestion & non specific diarrhea was found in bulls. Therefore, further specific investigation is required to elucidate the etiology and seasonal patterns of non-specific diarrhoea in cattle.

The prevalence of respiratory disorder were  showed  6.2 % in all clinical case    ( Table 1).Respiratory disorders was recorded in cows 1.30% ,bulls 1.63% and calves 3.26%  in this study ( Table 2 ). The above findings showed that calves were more vulnerable to respiratory problem than in cows &bulls. However, Hossain *et a\.* (1988) reported 15.49% incidence rate of pneumonia in calves on necropsy examination in Mymensingh. Among several factors which are known to cause pneumonia, pasteurellosis ( *Pasteurella multocida* ) reported from Bangladesh ( Dewan *et al.,* 1967 ; Rahman and Samad, 1981) as one of the causes but there may be other factors which need to be investigated.

The prevalence of ectoparasitic infection were showed 1.96% in all clinical case ( Table 1).Tick & mite infection was recorded as the major skin diseases occurence in cows 0.32%, in bulls 0.65% and in calves 0.98% in this study ( Table 2 ). Investigation of etiological factors and classification of dermatitis could not be made in this limited general clinical investigation. However, Mia and Haque (1967), Samad *et al.* (1979) and Nooruddin and Dey (1990) have classified the different skin diseases of cattle in Bangladesh.

The prevalence of surgical affection was showed 5.22% comparing to all clinical case (Table 1). Surgical affection was recorded as diseases occurrence in cows 2.6%, in bulls 0.65% and calves 1.96% in this study (Table 2). Utero-vaginal prolapsed 2.5% were recorded in dairy cows (Table 3). Hossain *et al.* (1986) reported 0.4% uterine prolapsed cases on the basis of analysis of hospital records on reproductive disorder cases in cows. The detailed studies on utero-vaginal prolapsed in animals have not yet been made in Bangladesh. However, the 5.08% prevalence rate recorded in this study supports the 3.35% incidence rate reported in cows from India ( Shukla and Parekh, 1987).

The prevalence of metabolic disorder were showed 4.24% in all clinical case (Table 1). The Metabolic disorder was recorded as diseases occurrence in cows 1.96%, in bulls 1.63% and calves in 0.65 % in this study (Table 2). The occurrence of metabolic disorder found in cows comparatively more than bulls and calves .Milk fever was recorded 0.83% in cows. The disorder mainly was observed after parturition and malnutrition but there may be other factors which need to be investigated.

## IV. CONCLUSION

The study showed that digestive disorder of cattle predominantly present as well as parasitic infection. Proper feeding management & with regular anthelmintic therapy is therefore necessary to gain maximum output from rural cattle. The knowledge derived from this study will increase our understanding the clinical case of cattle in a particular area & taking necessary preventive measure to disease at national level policy Therefore; further studies would be required for the identification and characterization of etiological agents.

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