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OCCURRENCE OF REPRODUCTIVE DISEASES OF CATTLE AT SATURIA, MANIKGONJ

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ABSTRACT

The present investigation was undertaken to determine the clinical trend of reproductive diseases and disorders of cows at Saturia Government Veterinary Hospital, Manikgonj. More than 4 years (January 2007 to April 2011) data were collected from the patient register. The recording of animal description and owner's complaint, and diagnosis of diseases or disorders of cattle were performed by the Government Veterinary Surgeon. A total of 10652 cases were collected and examined of which 61.0% (n=6496) were cattle. The lowest occurrence of diseases or disorders was in cattle at less than 1 year of age (10.44%; n=678) and the highest occurrence was in cows at 5-8 years of age (43.39%; n=2814). The occurrence of diseases or disorders that needed treatment by medicine expert was the highest (86.98%) and the occurrence of diseases or disorders that needed treatment by reproduction expert was the lowest (5.51%). Eight major reproduction related diseases and disorders were diagnosed among 5.51%, n=358 registered sick cows. The highest proportion of cows was diagnosed as anoestrus (22.35%; n=80) followed by retained placenta (20.39%; n=73), repeat breeding (19.27%; n=69), dystocia (13.69%; n=49), utero-vaginal prolapse (13.40%; n=48), pyometra (8.66%; n=31), abortion (1.95%; n=7) and ovarian cysts (0.28%; n=1). Eight major diseases and disorders were diagnosed among 7.50%, n=488 cattle registered with surgery related complaints. The highest proportion of cattle was affected with myiasis (23.98%; n=117) followed by hump sore (22.54%; n=110), lameness (19.08%; n=93), atresia ani (13.32%; n=65), umbilical hernia (10.45%; n=51), upward patellar fixation (5.33%; n=26), abscess (3.39%; n=19) and horn fracture (1.43%; n=7). In conclusion, the highest occurrence of anoestrus and retained placenta is very alarming which needs further research to decrease the occurrence of such disorders of cows in population.

Key words: Reproductive diseases, Cattle, Manikgonj

INTRODUCTION

Various diseases and disorders play an important role in developing healthy productive livestock in Bangladesh. It has been reported that reproductive disorders is responsible for remarkable economic loss to the dairy farmers in Bangladesh (Mia and Haque, 1967). In European and American dairy herds, about a third of all cows are culled because of reproductive disturbances (Faruq, 2001). The occurrence of different reproductive disorders in cows has been reported in Bangladesh by several authors (Shamsuddin *et al*., 1988; Das *et al*., 1995; Shamsuddin *et al*., 1995). The occurrence of various reproductive disorders is increased in Bangladesh due to introduction of intensive cross breeding programme through artificial insemination (Faruq, 2001).

Nevertheless, the diseases and disorders of livestock are treated by the specialized veterinarians related broadly to medicine, surgery and reproduction. Although the usual prevalence of diseases or disorders related to medicine is higher than that of surgery and reproduction related counterparts, the reproduction-related diseases or disorders cause most economic loss to farmers. The economic dairy farming greatly depends on the yearly calf production from each healthy dam with normal reproductive physiology. Unlike many diseases related to medicine, occurrence of most of the reproduction related problems can not be controlled or prevented by vaccination. Further, the skill of field veterinarians is not without question to diagnose and treat reproduction related diseases or disorders in Bangladesh. Therefore, it is important to know the occurrence of reproductive related diseases or disorders for making future research plan for reducing occurrence of such diseases or disorders by proper diagnosis and treatment. So far, the investigation on prevalence of different reproductive disorders has been conducted on crossbred cows in an organized dairy farm (Shamsuddin *et al*., 1988). However, according to my knowledge, still there is no comprehensive study to determine the clinical occurrence of reproduction related diseases or disorders in rural areas of Bangladesh. The present investigation was undertaken to determine the clinical trend of reproductive diseases and disorders of cattle at Saturia Government Veterinary Hospital, Manikgonj.

MATERIALS AND METHODS

The study was carried out at the Saturia Veterinary Hospital, Manikgonj during the period from February to May 2011 for data collection.

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All sick animals brought for treatment to the hospital were first registered in the patient registered book. The description of each registered animal and owner's complaint were recorded.

Data collection

More than four years (January 2007 to April 2011) data on treated animals were collected from the patient register of Saturia Veterinary Hospital. The register was maintained by the Government Veterinary Surgeons. All animals brought to the Hospital for having treatment were recorded with respect to date of treatment, owner's name and address, species of animals, age of animals, owner's complaint, tentative diagnosis and treatment.

Determination of age of animals

The age of each animal was determined by examination of teeth eruption and interviewing the owners of the animals by the working Government Veterinary Surgeon.

Method of diagnosis of diseases or disorders

The tentative diagnosis of diseases or disorders were performed on the basis of history, clinical signs and clinical examination of animals by the working Government Veterinary Surgeon.

Study approaches

The number of cattle treated during the period from January 2007 to April 2011 was recorded from the patient register. To determine the age related variation in occurrence of diseases or disorders of cattle, the age of treated animals was divided into 5 groups on the basis of patient register. The age groups were below 1 year, 1 to less than 2 years, 2 to less than 3 years, 3 years to less than 5 years, and 5 to 8 years. The diseases or disorders of cattle were also divided into 3 categories on the basis of required treatment or interventions such as medicine related, surgery related and reproduction related. Further, reproduction related and surgery related diseases or disorders were grouped into specific diseases or disorders on the basis of patient register.

Data analysis

The data were entered in the MS Excel data sheet and descriptive statistics were performed. The data were presented as percentage of occurrence of disease or disorders.

RESULTS AND DISCUSSION

The investigation was carried out to determine the clinical trend of occurrence of reproductive diseases and disorders in cows at the Saturia Government Veterinary Hospital, Manikgong during the period from January, 2007 to April, 2011. According to the patient register, a total of 10652 patients were registered for receiving treatment among which 6496 (61.0%) patients were cattle. As per statistics of Saturia upazila, the total population of cattle is 66217. Occurrence of diseases or disorders in 9.81% (n=6496) cattle at Saturia upazila is alarming. This may be true because our national estimation indicated that not more than 5-10% of the livestock are actually reached by department of livestock services (Groenewold *et al.,* 1983). However, the real occurrence of diseases or disorders in cattle at Saturia upazila might be several folds more than that of registered sick cattle. Because, many of the sick cattle did not register in the hospital for receiving treatment as these were treated in farmers' house either by the veterinarians or paravets. There is a report on occurrence of 69 clinical diseases in 2581 sick cattle registered during one year period at an upazila veterinary hospital located in rural area of Bangladesh (Tana, 1988). Moreover, occurrence of 12 types of diseases in 2079 sick calves and 20 diseases and disorders in 2537 adult sick cattle was documented in a veterinary hospital located in metropolitan city during one year period (Haque, 1996). However, so far I know, there is no report on overall occurrence of clinical diseases or disorders in cattle during more than 4 years period in any rural area hospital in Bangladesh.

The age of animals is considered as an influencing factor for occurrence of diseases or disorders. In the present investigation, the occurrence of diseases or disorders in cattle at different age groups ranged from 10.44 to 43.39%. The lowest occurrence of diseases or disorders was in cows at less than 1 year of age and the highest occurrence was in cows at 5-8 years of age (Table 1). The present finding of the lowest occurrence of diseases or disorders in less than 1 year old cattle is somewhat unusual. Because, it is likely that the occurrence of diseases and disorders is more in calves as their immunity is lower than that of young age counterpart (Tana, 1988). Moreover, newborn calves suffer more from congenital abnormalities which are absent in young and adult cattle. The present finding of the highest occurrence of diseases or disorders in 5-8 years old cattle is also unusual. It is well established that old cattle are more prone to diseases than grown counterpart due to their compromised immunities. The recoded maximum age of cattle was 8 years in the present investigation.

The cattle of 5-8 years age group can be considered as fully grown aged cattle and the immunity in fully grown cattle should be at peak level. However, the contrasting findings of the present study might be due to careless or incorrect recording of age of cattle in the register.

Table 1. Occurrence of diseases or disorders in cattle at different age groups

Age (Years)	No. of cattle registered	Percentage of occurrence
<1	678	10.44
1 to <2	723	11.13
2 to<3	1248	19.11
3 to <5	1033	15.90
5 to 8	2814	43.39

Nevertheless, in line with the present study, Tana (1988) reported the lowest occurrence of diseases or disorders in less than 6 months old calves and the highest in more than 24 months old sick cattle.

The occurrence of diseases or disorders in cattle that needed different expert for treatment ranged from 5.51 to 86.98% (Table 2). The occurrence of diseases or disorders that needed treatment by medicine expert was the highest and the occurrence of diseases or disorders that needed treatment by reproduction expert was the lowest. In the present investigation, although the recorded clinical occurrence of reproduction related problem among sick cattle is low, the actual prevalence of reproduction related diseases or disorders will be many folds more in the population. Because, most of the reproduction related problems except periparturient disorders do not create any acute clinical problems in cows. As a result, most of the farmers do not consider the cows with reproduction related problems as sick. This is supported by the report that about 14.6% of the cows at Tangail milk shed area was affected by reproduction related diseases or disorders (Das *et al*., 1995). This indicates the lack of awareness of farmers about reproduction related diseases or disorders of cattle which needs to overcome for profitable dairying in Bangladesh.

Table 2. Occurrence of different types of diseases or disorders in cattle

Expert category	No of cattle registered	Percentage (%)
Medicine	5650	87.0
Surgery	488	7.5
Reproduction	358	5.5

In the present investigation, eight major reproduction related diseases and disorders were diagnosed among 5.51%, n=358 registered sick cows during more than 4 years period. The present investigation demonstrate that the highest proportion of cows was diagnosed as anoestrus (22.35%) followed by retained placenta (20.39%), repeat breeding (19.27%), dystocia (13.69%), utero-vaginal prolapse (13.40%), pyometra (8.66%), abortion (1.95%) and ovarian cysts (0.28%) (Table3).

Table 3. Occurrence of reproduction related diseases and disorders in cows

Diseases/Disorders	No. of cows diagnosed (n=358)	Percentage of occurrence
Anoestrus	80	22.35
Retained placenta	73	20.39
Repeat breeding	69	19.27
Dystocia	49	13.69
Utero-vaginal prolapse	48	13.40
Pyometra	31	8.66
Abortion	7	1.95
Ovarian cyst	1	0.28

Contrasting to the present study, the highest occurrence of endometritis (26.2%) was reported at Tangail milk shed area by Das *et al.,* (1995). Moreover, the highest occurrence of retained placenta in Savar Dairy farm (42.6%) by Shamsuddin *et al.* (1988) and in mini dairy farms at Natore district (4.5%) by Shamsuddin *et al*., (1995) was reported among the cows with reproduction related problems. Moreover, the occurrence of pyometra was 4.5% (similar to occurrence of retained placenta) in mini dairy farms at Natore district (Shamsuddin *et al*., 1995). Further, utero-vaginal prolapse was reported to be occurred in the lowest proportion of cows by Shamsuddin *et al.* (1995). The variation in occurrence of various reproductive problems among investigations may be due to variations in management of cows, breed used and nature of studies. Nevertheless, the present study emphasizes the requirement of performing detailed research on anoestrus and retained placenta of cows in Bangladesh. The present investigation reports occurrence of eight major diseases and disorders among 7.50%, n=488 cattle registered with surgery related complaints. The highest proportion of cattle was affected with myiasis (23.98%) followed by hump sore (22.54%), lameness (19.08%), atresia ani (13.32%), umbilical hernia (10.45%), upward patellar fixation (5.33%), abscess (3.39%) and horn fracture (1.43%) (Table 4). Contrasting to the present study, the highest occurrence of wound (49.2%) and the lowest occurrence of hernia have been reported among the surgery related cattle registered in Bangladesh Agricultural University Veterinary Clinic for treatment (Hossain *et al*., 1986). Moreover, the highest occurrence of abscess (6.24%) and the lowest occurrence of ventral hernia (0.27%) have been documented in cattle with surgery related problems in different veterinary hospitals in Bangladesh (Das, 1986). Recording 13.32% atresia ani and 10.45% umbilical hernia in cattle in the present study is very alarming. Contrasting reports show that the occurrence of atresia ani is 0.64% (Das, 1986) and of umbilical hernia is 0.87% (Das, 1986) and 0.8% (Hossain *et al.,* 1986). The reason of increased occurrence of atresia ani and umbilical hernia in the present study might be due to using intensive cross breeding of cattle in Bangladesh. In cattle, atresia ani and umbilical hernia are considered to be hereditary disorders which may descend from the sire side. The present study emphasizes on proper selection of breeding bulls before introducing into mass AI programme in Bangladesh to prevent hereditary disorders in cattle.

Table 4. Occurrence of surgical diseases and disorders in cow

Diseases/Disorders	No. of cows diagnosed (n=488)	Percentage of occurrence
Myiasis	117	23.98
Hump sore	110	22.54
Lameness	93	19.08
Artesia ani	65	13.32
Umbilical hernia	51	10.45
Upward patellar fixation	26	5.33
Abscess	19	3.39
Horn fracture	07	1.43

CONCLUSIONS

The present investigation concluded that the cattle are the most suffering animals among the livestock species. Five to 8 years old cattle suffer more than that of their young counterpart. Most sick cattle need treatment by medicine expert. Among reproduction related diseases or disorders, the highest proportion of cows suffers from anoestrus and the lowest proportion suffers from ovarian cysts. Among surgery related diseases or disorders, the highest proportion of cows suffers from myiasis and the lowest proportion suffers from horn fracture.

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