A Report on Clinical Prevalence of Diseases and Disorder in Cattle at Janakpurdham, Nepal

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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 353 clinical cases of cattle (193 dairy cows, 42 bulls and 118 calves) treated at the Shree Bajrang veterinary & Agricultural Research Center-Janakpur during month January 2019 to June 2019 were analyzed the importance of existing diseases. The recorded clinical cases were classified into Eight major diagnostic groups, of which highest prevalence was recorded with Digestive disorders (33.14%), followed by parasitic infestation (31.73%), Respiratory disorder (8.22%) Infectious diseases (7.65%), Ectoparasitic infestation (7.65%), Metabolic disorder (6.23%), Surgical affection (4.82%), and Gyanecological and others (0.56%). Though the each of all the diagnostic groups of diseases is significant but the digestive disorder, parasitic, ecto-parasitic infections and respiratory diseases were the most pressing constraint for improvement of cattle in the janakpur area.

Keywords - *Prevalence, diseases and disorder*

INTRODUCTION

Nepal is an agricultural based country. About 66 percent of its population is involved in agriculture, which accounts for 35 percent of the gross domestic product or GDP [1].The livestock subsector of agriculture contributes 24 percent of the total agricultural GDP[2], and also plays important roles in human food and nutritional security, livelihood, regional balance, gender mainstreaming, and rural poverty alleviation [3]. Around 73 million cattle reared in Nepal [2, 4] Janakpur is an integral part of agri-production system, which plays a vital role in national economy in which the Janakpur which is considered as a production area of milk in Nepal.

Cattle are very important component of the mixed farming system practiced in most of terai region including Janakpurdham from long time. Janakpur is a temporary capital of Province no.02 as well as it is in Dhanusha district of Nepal. In province no.02 total cattle population is 1,100,900 is among which in Dhanusha district, the population of cattle is 139854 [5].

Feed, housing, prevalence of diseases, its prevention and control plays the crucial role for their better performance. But the presence of infectious and non-infectious diseases in the livestock can have direct impact on the health of animal, animal stake holders as well as on the economy. Livestock is a vital component of rural economy and is performing multifarious functions such as provisions of food, draft power and transport. Prevalence of several diseases in cattle carried out in **Shree Bajrang Veterinary & Agricultural Research Center Janakpurdham-08.** Which provide veterinary services at the sub-metropolitan and also village level in Dhanusha district, we deliver animal health service, counseling, training and extension services to the livestock farmers? Prevalence of a number of infectious and parasitic diseases in livestock population is the major constraints affecting production and productivity of the livestock resulting into substantial economic loss of farmers of Janakpur. A tentative diagnosis of the diseases can be done on the basis of clinical signs, species affected, epidemiological pattern, post-mortem lesions and laboratory confirmation.

MATERIAL and METHOD

Records of 353 clinical cases of cattle (193 dairy cows, 42 bulls and 118 calves) treated at the **Shree Bajrang Veterinary & Agricultural Research Center Janakpurdham-08.** To determine the general clinical prevalence of clinical diseases and disorders in cattle during the six-month study period from month January 2019 to June 2019. All diseased cattle were treated to the **Research Center** or **during**

visited the farms of Farmers and the entry of them in the registered book. The results were analyzed into seven major diagnostic groups in cows, bulls and calves. The age of each animal was determined by asking the patient 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) Digestive disorders (2) Ectoparasitic infection, (3) Infectious diseases, (4) Parasitic diseases, (5) Respiratory disorders, (6) Metabolic diseases (7) Surgical affection and (8) Gynecological and others. The age and sex influence on the occurrence of diseases were analyzed.

General examination

Physical condition, behavior, posture, gait, prolapsed of the uterus, superficial skin wound, and vagina, nasal discharge, ocular discharge, salivation, distension of the abdomen, lameness etc. were observed by visual examination of the patient.

Physical examination

Examination of different parts and system of the body of each of the sick animals were examined by using procedure of palpation, percussion, auscultation, needle puncture, visual inspection and locomotion of the animals.

Fever

Fever was diagnosed on the basis of recorded rectal temperature [6].

Anorexia

Anorexia syndrome were diagnosed on the basis owner's complaint with the history of partial and complete absence of appetite with varying decreased food intake and following the procedure of [7].

Digestive disorders (diarrhea)

Faecal samples of the diarrheic selected animals were examined in the laboratory and those samples found negative on parasitological examination were diagnosed as diarrhea and also by taking history whether of regular anthelmintics treatment of this animals were practiced or not.

Respiratory disorders (pneumonia)

This disorder was diagnosed on the basis of owner's complaint and recording abnormal function respiratory system like polypnoea, dyspnoea, coughing, sneezing, nasal discharging, thoraco-abdominal breathing etc and by examining the entire respiratory tract as described by [6].

Skin diseases

Different type discrete and diffuse skin lesions were diagnosed clinically by visual examination.

Clinical examination

The temperature, pulse, and respiratory rate from each of these sick animals were recorded. Clinical examinations of all sick animals were conducted on the basis of diseases history, owner complaint, symptoms, to diagnose the following diseases and disorders. History of each case (Present and past) was carefully taken which gave a guideline for examination of the animals. According the merit of the individual case, general clinical examination were conducted on the basis of disease history and owners complaint, symptoms and techniques such as microscopic examination, laboratory common techniques used by Rosenberger and samad[8,9]

The groups of infectious diseases are HS, BQ, FMD, Papillomatosis, Babesiosis 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 [6]. 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.

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 was examined for any swelling, wound or hernial ring. 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 collected data were analyzed by using the statistical program of computer, Microsoft word, Microsoft Excel etc.

RESULT AND DISCUSSION

The prevalence of major infectious diseases 7.65% comparing to total clinical cases are presented in Table 1. The occurrence of infectious diseases in cows 58.33%, in bulls 16.67% and in calves 25% was found (Table 2). It might be due to lack of vaccination program and contagious nature of disease.

Table 1 Clinical case in Research centre, Janakpurdham

Clinical cases	NO. of Cases	Prevalence
Digestive disorder	117	33.14
Parasitic infection	112	31.73
Respiratory disorder	29	8.22
Ectoparasitic infection	27	7.65
Infectious diseases	27	7.65
Metabolic disorder	22	6.23
Surgical affection	17	4.82
Others(Gyanecological)	02	0.56
Total	353	100

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

SL NO.	Clinical cases	Occurrence %(no)		
		Cows	Bulls	Calves
1	Digestive disorder	41.67(62)	35.41(12)	22.92(43)
2	Ectoparasitic infection	52.94(09)	17.64(07)	29.41(11)
3	Infectious diseases	58.33(14)	16.67(04)	25(09)
4	Metabolic disorder	88.89(16)	00(00)	11.11(6)
5	Parasitic infection	61.75(63)	10.79(14)	27.45(35)
6	Respiratory disorder	55.17(16)	13.79(04)	31.26(09)
7	Surgical affection	68.75(11)	12.5(01)	25(05)
8	Others(Gyanecological)	100(02)	00(00)	00(00)

A total of 353 clinical cases were diagnoses and diseases were categories among which the prevalence of Digestive disorder is 33.14% and parasitic disease 31.73% were significantly higher our result are arrangent [10].

According to our study, major diseases of cattle in Janakpur include digestive disorder, parasitic disease, respiratory disease, infectious disease, surgical affection and metabolic disease of which digestive disorders and parasitic diseases are predominantly prevalent diseases. Female cattle (cows) are highly susceptible to most of the diseases. Our large set of

data on cattle disease prevalence in Janakpur provides valuable insight to design and implement priority based research on specific disease and to take efficient control strategies against the diseases.

CONCLUSION

Occurrence of diseases was recorded during clinical examination of sick cattle at Bajrang veterinary and agricultural research center, Janakpur. This study was conducted to detect the present situation of occurrence of clinical diseases and disorders in the study area. From the study, it was observed that cattle were most susceptible to Digestive disorder and parasitic infestation respectively. Parasitic infestation causes huge economic losses to smallholder farmers. So, routinely anthelmintics treatment should be given to control the parasitic diseases. The district has border area with India as a result infectious diseases like FMD were frequently outbreaks in cattle. So restriction of movement and frontier vaccination program must be undertaken in border area to control infectious disease. Other challenge in study area is prevention and control of mastitis due to insufficient knowledge of hygienic measure.

So, extension and training program to the small holder cattle rearing farmer's should be given further research should be required to determine the accurate prevalence of disease and disorders in cattle. Proper disease control strategy,planning and program should be undertaken to prevent and control diseases and disorders of cattle in the study area.

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