



## The Assessment of Common Disease and Disorders in Goats at Dunyo Veterinary Service in Benadir Region Somalia.

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### INTRODUCTION

#### BACKGROUND OF THE STUDY

Disease is a state in which normal functions are disturbed or altered at cellular, tissue, organ or whole organism level (Royal Veterinary College, 2022). In other words, the homeostatic mechanisms of the body are upset, which leads to malfunction, This can be caused by: micro-organisms - bacteria and viruses causing infectious disease, parasites: causing clinical and subclinical disease, poor management: especially related to feeding causing production diseases, alterations to the animal's genetic make-up causing changes in function at cell level that lead to or predispose to disease, toxic agents: causing cell damage and possibly clinical disease (Royal Veterinary College, 2022).

*Common diseases are those that most frequently affect the animal and are often those with which we are most familiar as defined by national institute of health and care research.*

*Goat is a domesticated ruminant mammal (Capra hircus) having backward curving horns and a beard especially in the male, raised for its wool, milk, and meat and has important, Domestic goats are used for or considered for weed control on public and private lands (Drew & Weiser, 2017).*

Disorders are the most important hindrance towards these production and livestock development (Rahman, 2012).

It has been reported that various types of disease and disorders has already been performed in various parts of the country Different types of diseases and disorders are important problems in cattle rearing (Badruzzaman ATM, 2015).

Animals should exhibit a healthy hair coat or fleece, while maintaining a body condition score appropriate to their production stage (Lynn et al., 2009). Both coat and body condition score are good indications of nutritional adequacy and overall health, Signs of an unhealthy animal include isolation from the rest of the herd/flock, abnormal eating habits, depression, scouring or diarrhea, abnormal vocalization, teeth grinding, or any other abnormal behavior (Lynn et al., 2009).

**Globally**, Infectious diseases of domestic goats are the most common, one of these diseases in domestic goats, as well as sheep, is pneumonia. Numerous pathogens have been isolated and considered to be part of the etiology of pneumonia in goats and sheep but the involvement of Mannheimia haemolytica is considered important (Drew & Weiser, 2017).

The cause of pneumonia in domestic sheep and goats is often multifactorial and difficult to pinpoint, even in the presence of pathogens (Drew & Weiser, 2017).

In Northern America goats, the number of disease and disorder were found In the study, was endoparasitism (40.8%) which were higher than that of other disease due to lack of deworming. On the contrary Non-specific diarrhea in goat (22.3%) was higher than the others due to improper management of animals (Hossain et al., 2021).

In Bangladesh, Livestock diseases and disorders are the most important hindrance towards these production and livestock development in our country. (Nahian et al., 2017)

Most of animals are weak, unhealthy, emaciated and their productive performances are not satisfactory due to various diseases and disorders. Different types of diseases and disorders are important problems in goat rearing in our country, It has been reported that various types of disease and disorders has already been performed in various parts of the country(Nahian et al., 2017).

These animals are reared under smallholder traditional management system in rural areas. The management practices of animals and geo- climatic condition of Bangladesh are favorable for the occurrence of various diseases (Munsi et al., 2018).

Goats are reared under semi-intensive system of management in Goat Research Farm in Bangladesh Livestock Research Institute (BLRI), Savar, Dhaka. Analysis of the case record gives a comprehensive idea about the disease problems at Goat Research Farm of BLRI. (Munsi et al., 2018)

**Regionally**, tropical areas In Africa, with its 160 million cattle, the major diseases, i.e. ,rinderpest, foot-and-mouth disease (FMD), contagious bovine pleura pneumonia, theileriosis, and trypanosomiasis Dermatophytosis are all infectious while camel in Africa The one-humped camel (*Camelus dromedarius*) was first introduced to German South West Africa (Namibia) for military purposes in 1889 (Coetzer, 1994).

In africa especially In Ethiopia, 5-7 million sheep and goats die each year due to disease and the overall economic loss from meat industry due to parasitic diseases is estimated at 400 million annually as conducted study that a comprehensive idea about the disease of goat in BLRI. (Theiler, 1906)

In Uganda goats are an important source of meat, milk, skins, cash, manure, savings and sociocultural values ,small ruminants form an integral and important component of the pattern of animal production in Asia (Munsi et al., 2018)

*In Somalia* livestock health problems are high due to environmental factors like high temperature, humidity, the topographical structure of sloppy areas exposed to flood, stress factors, and drought. This is common in these areas as a result of limited feed availability and low vegetation coverage with weak animal health services (Assegid, W 2000)

Study conducted in Somalia specially in Benadir region stated that the prevalence of diseases\disorder was ectoparasite(34%), Another than (20%) pneumonia, diarrhea was (20%), In (12%) of the study was lameness case, fever was showing (6%) In according to anemia study shows that anemia was (6%) (Omar et al., 2021).

As goat diseases are very much important diseases in the aspect of Somalia, it affects the production performance of animals and also affect the national economy so the present study focuses on assessment risk factor of common disease and disorders in goat at duunyo veterinary hospital of different district in Benadir region, Mogadishu-Somalia.

## **1.2 PROBLEM STATEMENT**

Animal diseases represent threats to the environment, animal welfare, public health, and the economy. Livestock diseases contribute to losses via increased mortality, reduced productivity, limited costs, loss in trade, decreased market value, and food insecurity (Munsi et al., 2018)

In Somalia, the lack of strong ground research in common disease and disorders of animals reported in across Somalia and the lack of documentation on the little that has been made, make it difficult for farmers and stakeholders to develop a national strategic control program for common disease and disorders (Munsi et al., 2018) Therefore, The main problem of this study is to assess the common disease and disorders of animals In different district Mogadishu Somali.

## **1.3 PURPOSE OF THE STUDY**

The main purpose of this study is to identify the most common diseases and disorders of goats reported in duunyo veterinary hospital Benadir region.

## **1.4 OBJECTIVEWS OF THE STUDY**

### **1.4.1 General Objectives**

The general objectives of the study **is** to determine the assessment of common disease and disorders in goats at dunyo veterinary service in benadir region Somalia.

### **1.4.2 Specific objectives**

- 1.To assess the most common nutritional and metabolic insufficiency in goats at the duunyo veterinary service.
- 2.To examine the most common obstetrical and operational difficulties of goats at Duunyo Veterinary Service encounter.

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## **RESEARCH METHODOLOGY**

### **3.1 RESEARCH DESIGN**

A cross-sectional study was conducted from July 2022 to January 2023 to determine the assessment of common disease and disorders in goats at Duunyo veterinary service in benadir region.

### **3.2 POPULATION OF THE STUDY**

This study had conducted in Duunyo veterinary hospital in different district, benadir region, Somalia and research population were mainly cases in duunyo veterinary hospital different district.

### **3.3 STUDY AREA**

The study was conducted at Duunyo veterinary hospital in different district, benadir region, Somalia during the period from July 2022 to January 2023.

### **3.4 METHODS OF EXAMINATION OF ANIMAL**

#### **3.4.1. General examination**

Body condition score (BCS), behavior, Posture, gait, superficial skin, salivation, nasal discharge, locomotion disturbances was observed by distant visual examination of the patient.

#### **3.4.2. Physical examination**

Examination of different external parts of the body of each of the animal clinically, attended at hospital were done by using various close observation techniques.

#### **3.4.3. Clinical examination**

For clinical examination the temperature, pulse and respiratory rate from each of the animal were recorded. The presented clinical findings of various diseases of goat and the owners complaint in relation to the diseases were also recorded carefully.

### **3.5. SAMPLING PROCEDURE**

Non probability sampling procedure known as judgmental or purposive sampling used in this study and respondent were select purposively. The main reason of using judgmental or purposive sampling is to get respondents who can provide the best information to achieve the objectives of your study.

### **3.6. DATA COLLECTION INSTRUMENT**

The researchers were collect primary data by using report; the selection of this instrument is guided by the time that is available to conduct the research questions and objectives of this study.

### **3.7. DATA COLLECTION PROCEDURE**

This study was being used report as main tool and instruments for collecting data

### **3.8 DATA ANALYSIS PROCEDURE**

All collected raw data of the study by letters were entered to a Microsoft word system and imported to be analyzed using SPSS Version 20. The point disease was calculated for all data by dividing positive by total number of diseased animals and multiplied by hundred.

### **3.9 INCLUSION AND EXCLUSION**

#### **3.9.1 Inclusion Criteria**

Goat admitted at duunyo veterinary hospital and fulfill the inclusion criteria.

### 3.9.2 Exclusion criteria

Goat who were not presented with duunyo veterinary hospital and those who refused in the study are excluded from this research. Animal were presented in duunyo those results was negative .

### 3.10 QUALITY CONTROL

Researchers, through research and testing on the diagnostic techniques they used prior to the actual study started, to ascertain that the instruments and diagnostic tests used were reliable, on the other hand a number of experts in area of disease were consulted to approve that the survey of report is applicable to start this research.

### 3.11 ETHICAL CONSIDERATION

In this study the researchers have in mind the ethical issues throughout the research project by keeping the privacy, confidentiality of the information of the farms. To maintain ethical issue, the researchers requested farm owners/managers to permit Sampling. the research will keep the privacy, confidentiality of any sensitive information gathered from the farms visited. The researchers of this project promised that this research will fully conduct ethically and all copyrights will be reserved.

## 4. RESULT, FINDINGS AND DISCUSION

### 4.1 BACTERIAL DISAESES

The overall common of bacterial diseases in goat were 37% among these the highest common of bacterial diseases (9.28%) were found by mastitis followed by CCPP (7%), pink eye goats (5.28%)and the lowest tetanus (1%) as shown in (Table 1).

**Table 1. Common bacterial diseases in goat.**

Disorder	No. of Examined	No. of Positive	Percentage	% by category
Mastitis	700	65	9.28	
Caseous lymphadenitis	700	24	3.42	
CCPP	700	49	7	
Abcess	700	10	1.42	
Dermatophytosis	700	12	1.71	
Lumpy jaw	700	8	1.14	
Tetanus	700	7	1	37%
Enterotoxemia	700	18	2.57	
Pink Eye	700	37	5.28	
Foot rot	700	8	1.14	
Pneumonia	700	9	1.28	
Brucellosis	700	12	1.71	

### 4.2. COMMON VIRAL DISEASES IN GOAT

The overall common of viral diseases in goat were 5.8%. Among viral diseases the highest common (3.85%), were found in ORF followed by goat box disease (1.28%), whereas the lowest common (0.71%) were documented in PPR as shown in (Table 2).

**Table 2. common viral diseases goat.**

Disorders	N. of examined	No. of positive	percentage %	percentage	by category
PPR	700	5	0.71		
Goat ORF	700	27	3.85	5.8%	
Goat box	700	9	1.28		

### 4.3. COMMON PARASITIC DISEASE IN GOAT.

The overall common of parasitic diseases in goat were 14.8%. Parasitic diseases was further subdivided in to protozoa, external parasite and internal parasite. Under protozoa diseases the highest common (2.85%) was found in trypanosomiasis while the lowest (0.42%) was found in Babesiosis. Again, under internal parasite diseases the highest common (7.14 %) was internal parasite is the lower common (3.57%) was external parasite. as shown in (Table 3).

**Table 3** common parasitic disease in goat.

Disorders	N. of examined	No. of positive	percentage %	percentage by category	
protozoa	Babesiosis	700	3	0.42	
	trypanosomiasis	700	20	2.85	
	coccidiosis	700	6	0.85	14.8%
Internal parasite		700	50	7.14	
External Parasite		700	25	3.57	

#### 4.4 COMMON METABOLIC AND VENEREAL DISEASES OF GOAT

The overall common of metabolic and venereal diseases in goat were 6%. The highest common of metabolic and venereal diseases (4.28%) was observed from metabolic disease while the lowest (2.14%) was found in Venereal disease as shown in (Table 4).

**Table 4** common metabolic and venereal diseases.

Disorders	N. of examined	No. of positive	percentage %	percentage by category
Metabolic disease	700	30	4.28	
Venereal disease	700	15	2.14	6%

#### 4.5 COMMON SUPPLEMENT DEFICIENCY OF GOAT

The overall common of supplement deficiency in goat were 15%. The highest common of nutritional deficiency (3.57%) was observed vitamin A deficiency while the lowest (1.71%) was found in vitamin D deficiency. Again mineral deficiency The highest common of mineral deficiency (3.85%) was observed Ca deficiency while the lowest (3.71%) was found in Zn deficiency as shown in (Table 5).

**Table 5** common supplement deficiency of goats.

Disorders	N. of examined	No. of positive	percentage %	percentage by category	
Nutritional deficiency	VIT. A	700	25	3.57	
	VIT. B	700	15	2.14	15%
	VIT. D	700	12	1.71	
Mineral deficiency	Zn	700	26	3.71	
	Ca	700	27	3.85	

#### 4.6

#### OPERATIONAL SURGERY OF GOAT

The overall common operational surgery in goat were 8.4%. The highest common of operation surgery goat (1.42) was observed from teat laceration while the lowest (0.71%) was found in orcheitomy as shown in (Table 6).

**Table 6** Operational surgery of goats

Disorders	No. of examined	No. of positive	Percentage	%by Category
Ruminantomy	700	7	1	
C-section	700	7	1	
Orcheitomy	700	5	0.71	
Fracture	700	9	1.28	
Dehorning	700	7	1	8.4%
Hernia	700	6	0.85	
Teat Laceration	700	10	1.42	
Dog bite	700	8	1.14	

#### 4.7 OBSTETRIC CASES OF GOAT

The overall common operational surgery in goat were 13.8%. The highest common of Obstetric case goat (5.71 %) was observed from abortion while the lowest (0.71%) was found in rectal prolapsed as shown in (Table 7).

**Table 7** obstetric cases of goat

Disorders category	To. N. of examined	No. of positive	percentage %	percentage by
Dystocia	700	30	4.28	
Retained placenta	700	8	1.14	13.85%
Vaginal prolapsed	700	8	1.14	
Rectal prolapsed	700	5	0.71	
metritis	700	6	0.85	
Abortion	700	40	5.71	

#### 4.8 DISCUSSION

**As shown in table 1** The overall common of bacterial diseases in goat were 37% among these the highest common of bacterial diseases(9.28%) were found by mastitis followed by CCPP (7%), pink eye goats (5.28%)and the lowest tetanus (1%) This agree by study conducted in Bangladesh by three years study period mastitis was highest common bacterial disease in goat 10 (3.5 %) out of 1024(Munsi et al., 2018).

**As shown in table 2** the overall common of viral diseases in goat were 5.8%. Among viral diseases the highest common (3.85%), were found in ORF followed by goat box disease (1.28%), whereas the lowest common (0.71%) were documented in PPR, According to study conducted in Bangladesh suggested that most common viral disease in goat was ORF 57(8.6%) out of 661 where the lowest common was PPR 46( 6.9%)(Hossain et al., 2021).

**As shown in table 3** the overall common of parasitic diseases in goat were 14.8%. Parasitic diseases were further subdivided in to protozoa, external parasite and internal parasite. Under protozoa diseases the highest common (2.85%) was found in trypanosomiasis while the lowest (0.42%) was found in Babesiosis. Again, under internal parasite diseases the highest common (7.14%) was internal parasite is the lower common (3.57%) was external parasite. According to the study in Bangladesh (Hossain et al., 2021) most common parasitic infections was internal and protozoal parasite 172(26%)out of 661, while lowest parasitic infection was external parasite(Hossain et al., 2021).

**As shown in table 4** the overall common of metabolic and venereal diseases in goat were 6%. The highest common of metabolic and venereal diseases (4.28%) was observed from metabolic disease while the lowest (2.14%) was found in Venereal disease. This is in line with

The study conducted in Bangladesh that metabolic disease was higher 868(7.61% ) out of 11402,while lowest common metabolic & venereal was venereal disease (Mohammed et al., 2018).

**As shown in table 5** The overall common of supplement deficiency in goat were 15 %. The highest common of nutritional deficiency (3.57%) was observed vitamin A deficiency while the lowest (1.71%)was found in vitamin D deficiency .Again mineral deficiency The highest common of mineral deficiency (3.85%) was observed Ca deficiency while the lowest (3.71%) was found in Zn deficiency , According to the study conducted in Bangladesh the average incidence of malnutrition of goats irrespective of age, breed and season was 87 (8.47 %) out of 661and Vitamin A and Mg deficiency was common supplement deficiency(Hossain et al., 2021).

**As shown in table 6** the overall common operational surgery in goat were 8.4%. The highest common of operation surgery goat (1.42) was observed from rumenotomy while the lowest (0.71%) was found in Ear hematoma According to the study conducted in Sudan the highest operational surgery case goat was rumenotomy 128(44.4%) out of 228(Hayder et al., 2006).

**As shown in table 7**, The overall common obstetric cases in goat were 13.8%. The highest common of Obstetric case goat (5.71 %) was observed from abortion while the lowest (0.71%) was found in rectal prolapsed,according to the study conducted in bangladesh the highest obstetric case goat was dystocia 15(1.47%) out of 1024, and rectal prolapse was so close to dystocia 13 (1.26%) (Munsi et al., 2018)

## 5. CONCLUSION AND RECOMMENDATION

The study investigates the assessment of common disease and disorders in goats at duunyo veterinary service in benedir region.

### 5.1 CONCLUSION

The result of the current study showed common disease of goat is the most common encountered and important disease affecting goat production in benadir region with an overall common of bacterial diseases in goat were 37%.while The prevalence of The overall common of supplement deficiency in goat were 15%. While The overall common of parasitic diseases in goat were 14.85%. while the overall common operational surgery in goat were 8%. while The overall common of metabolic and venereal diseases in goat were 6% and The overall common of viral diseases in goat were 5.85%.. The study confirmed the presence of significance association between assessment of the most common disease and disorders of goat, common bacterial diseases in goat are high.where as common viral diseases in goat are low . common parasitic disease in goat , common metabolic and venereal diseases of goat , common supplement deficiency deficiency of goat and operational surgery of goat during the study period.

**Table 8,** 5.1 prevalence of common disease and risk factors of goat Categories

No. examined Common disease	No. positive total	Prevalence (%) percent
Bacteria	700	37%.
Viral	700	5.8%
Parasitic	700	14.8%
Metabolic and venereal	700	6%
supplement deficiency	700	15%
Operational surgery	700	8.4%
Obstetric	700	13.8%

In general, the results from the above table indicate that common disease of goat has a clear significance for the dunyo veterinary hospital in Benadir region and Somalia as whole and need a serious control and preventive issue. In light of the above conclusion it is important to control and tackle this disease in the study area.

### 5.2 RECOMMENDATION.

- ❖ The ministry of livestock should inform farmers more about the disorders that affect goats.
- ❖ The ministry of livestock should supply the goats the proper care and immunizations in accordance with the circumstances.
- ❖ Farmers should provide shelter or housing system that protects any hazards comes from the environment include: climate change, predators, spreading of disease.
- ❖ Small holders should be aware of their goats' health and contact a veterinarian clinic if necessary.
- ❖ Since the study is higher prevalence in bacterial disease goat, its necessary to maintain good hygiene and sanitation. The following points should be considered to maintain good hygiene and sanitation:-
  - Farmers have to prevent overcrowding, leaky water troughs, and feces deposits.
  - Farmers should separate the infected goat from healthy ones.
- ❖ Although our study was survey-based, further epidemiological research on common goat disorders is needed to better comprehend the impact of other risk factors such season and fecal consistency as well as to identify the most prevalent species of diseases that affect goats.

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