**CHAPTER – II**

**MATERIALS & METHODS**

**2.1. Selection of study area:**

Internship placement of Thana Veterinary Hospital,Panchlaish, Chittagong.

**2.2. Duration of study :**

A two months long (January-March, 2015) internship activities were performed at TVH, Panchlaish, Chittagong.

**2.3. Clinical cases and epidemiological data:**

### Domesticated ruminants (cattle & goats) under Panchlaish Thana, Chittagong were considered to be reference population. In study periods about 268 animals (cattle = 177, goats= 91) were treated in Thana Veterinary Hospital due to different diseased condition in this two months. Among them total skin disease affected animals were 58, where cattle 36 & goat 22 in number.

### The necessary information for the diagnosis of skin diseases was collected directly from the owner of the animal through questionnaire. The questionnaire includes following information such as: Demographic information (age, sex, body weight, breed, color, and species), socio-economic status of the farmer (farmers occupation, monthly income), patient data (duration of illness, history of previous treatment, number of infected animal, body condition), management system (feeding, housing, vaccination, hygienic measurement), and owner complain.

### The skin diseases were diagnosed by physical examination,clinical findings of diseases condition and laboratory diagnosis.

### 2.4 Diagnosis

### 2.4.1 Physical Examination:

### The animals were examined individually using dermatological examination techniques of taking history, close inspection, palpation,parting of hair coats and itch reflex (Kral and Schwartzman, 1964). The signs, number, location and physical characteristics of lesions viz, size shape, color were recorded.

**2.4.2 Working case definition** :Case of skin diseases ruminants were considered in the present study when the animal registered with following:

**Present clinical sign:**

* The animal having rough hair coat
* Severe pruritis.
* Alopecia
* Inappitance.
* Thickened and corrugated skin.
* Grayish-black, scaly
* Some lesions consists of firm, raised, oval nodules, creamy pus was expelled from most of the nodules on squeezing.
* The lesions were observed in the ventral abdomen, thigh, neck, shoulder, poll, costal area, face, gluteal region, back, tail, and ear, hind legs, fore legs, eyelid, and inguinal region.

### 2.4.3 Laboratory Examination:

### Examination of skin scraping for isolation and identification of arthropod parasites on morphological basis was following conventional technique of Veterinary Entomology (Rahman and Akteruzzaman, 2001). Diagnosis of the skin diseases was made on the basis of interpretation of epidemiological features, history, findings of clinical examination of the specimen like recovery of mites from skin scrapings digested with 10% KOH solution and examined under microscope.

### Examination of skin scraping and hair for isolation and identification of dermatophytes was made by following procedure described by (Nooruddin and Sing, 1987).

### 2.4.3.1 Procedure

### A) Direct KOH Method:

### At first skin scraping was taken from the suspected case

### Then placed on glass slide

1 drop of 10% KOH was added

Specimen was allowed to stain for few minutes with gentle warming

Microscopic examination was revealed hyphae and

Spores (*Trichophyton spp*) in the infected materials.

**B) Sedimentation Method:**

Skin scraping was taking from suspected case

Then the skin scraping was placed in glass test tube

Treated with 10% KOH

The treated materials were heated(not boiling) gently till the skin debris is digested.

The digested material was centrifuged at 3000RPM for 5 minutes

The sediment was spreaded over the glass slide and examined under low power of microscope.

**2.5 Treatment**

**Table: Treatment schedule used for different kinds of skin diseases at UVH**:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name of diseases condition** | **Generic name of the drug** | **Trade name and Name of the company** | **Dose** | **Route of administration** | **Duration** |
| Lice infestation (Pediculosis) | Ivermectin1% | Inj. Amectin  Acmi drug | 0.2mg/kg b.wt | S/C | SD |
| Mite infestation (Mange) | Ivermectin1% | Inj. Ivermec | 0.2mg/kg | S/C | SD |
| Humpsore (Stephanofilariasis) | Ivermectin1%  Levamisol Hcl: 600mg. | Inj. Amectin  Bol. Technomysol | 0.2mg/kg  7.5mg./kg | S/C  Orally | SD  5 days |
| Alopecia | Antihistami-nic Drug  Promethazine Hcl 50mg/ml  Zincsulph-ate 20% Iodine .25% | Inj.Astavet  D-zinc | 0.2mg/kg  5 to 10 gm/day | IM  orally | 5 days |
| Dermatophytosis (Ringworm) | Salicylic acid 3%,  Benzoic acid 6% and Vaseline | Whitfield ointment | 3% Solution  6% Solution | Topically | 7 days |
| Papillomatosis | Lithium antimony  Thiomalate  Autohaemotherapy | Inj. Antheomalin | 15-20 ml/cow.  10-15  ml/cow | I/M  I/M | 5 days intervel at 5 days |
| Myiasis | Oil of turpentine  OTC-100mg/ml | Inj.Renamycin | 10mg/kg | Dressing | Daily |
| Contagious ecthyma | Potash  Borax +honey  OTC | 10% Solution | Adlibitum  1ml/10kg | Topically  I/M | Until recovery  5 days |
| Yoke gall | Antibiotic  OTC | Inj.Tetravet 10ml | 1% ointment  1ml/10kg | Topically  IM | Until recovery  5days |
| Bur n | .1%Acriflavin  Antihistaminic drug  PromithazineHcl  Antibiotic  OTC | Inj.Astavet  Inj.Tetravet | .1%solution  2mg/kg  1ml/10kg | Topically  IM  IM | 5days  7days |

SD = Single Dose

IM = Intramuscularly

SC = Subcutaneously

Inj. = Injection

**2.6 Data Analysis**

Data were entered into Microsoft office excel-2007,USA and then exported to STATA version -13(STATA Corporation, College Station, Texus, USA) for statistical analysis. Descriptive analysis was performed on the data of skin diseases in relation to different factors. Results are presented as frequency and percentage of skin diseases against each category of factor.