The Prevalence of Cattle Diseases
(Study in Janamora Wereda Veterinary Clinic)

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Abstract: A study was conducted from October 2018 to February 2019 on cattles presented to Janamora veterinary clinic for any health problems with the aims of identifying common cattle disease in the study area. The overall prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease is 123/384 (32.03%), 91/384 (23.70%), 87/384 (22.66%), 45/384 (11.72%) 27 (7.03%) and 11/384 (2.86%) respectively. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in male animals are 51 (41.46%), 39 (42.86%), 38 (43.68%), 35 (77.78%), 2 (7.4%), and 6 (54.55%) respectively. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in female animals are 72 (58.54%), 52 (57.14%), 49 (56.32%), 10 (22.22%), 25 (92.6%) and 5 (45.45%) respectively. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in young animals are 78 (63.41%), 64 (70.33%), 48 (55.17%), 16 (35.56%), 18 (66.67%), 4 (36.36%) and 45 (57.47%), 34 (75.56%), 27 (29.67%), 39 (44.83%), 29 (64.44%), 9 (33.33%), 7 (63.64%) respectively. Higher prevalence has been observed of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency in poor body conditioned animals 57 (46.34%), 47 (51.65%), 39 (48.83%), 21 (46.67%), and 24 (88.89%) respectively. In this study higher prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency has been observed in extensive management system 89 (72.36%), 53 (58.24%), 50 (57.47%), 34 (75.56%), and 19 (70.37%) respectively.

Keywords: Cattle, Janamora, Veterinary Clinic, Bacterial infection, Mekane Birhan & Deresgie.

1. INTRODUCTION
Ethiopia has the largest number of livestock in Africa, approximately 53.99 million cattle, 25.5 million sheep and 24.06 million goats, 1.91 million horses, 6.75 million donkeys, 0.35 million mules, 0.92 million camels, 50.38 million poultry and 5.21 million bee hives [1]. The proportion of total population in agricultural sector is 82.4% [2]. Among livestock, cattle play a significant role in the socio-economic aspects of the life of the people of Ethiopia. In addition to the products like meat and milk, cattle provide
draught power for cultivation of the agricultural lands of many peasants. Skins and hides are also important components of the livestock sector in generating foreign export earnings [3].

A complex of problems related to ticks and tick-borne diseases of cattle created a demand for methods to control ticks and reduce losses of cattle production and productivity [4]. Control of tick infestations and the transmission of tick-borne diseases remain a challenge for the cattle industry in tropical and subtropical areas of the world. Tick control is a priority for many countries in tropical and subtropical regions [5]. Among the animal diseases that hinder the animal health, parasitic infections have a great economic impact, especially in developing countries. Out of these parasitic problems of farm animals, internal parasite is a major disease, which imposes direct and indirect economic impact on livestock production, particularly of sheep and cattle [6, 7].

Though Ethiopia has huge livestock resources in Africa, it is the untapped resource. The reasons of under-utilization are multi-factorial. These include wide spread infectious and parasitic diseases, poor management system and unimproved genetic makeup coupled with poor nutrition and malnutrition and absence of well developed market infrastructure [8].

There is no study conducted in the current study area to identify common health problems in cattle. Therefore the objective of this paper is;

a. To asses common cattle diseases in Janamora Wereda veterinary clinic.
b. To identify the risk factors for the occurrence of the most common disease.
c. To know the severity of disease in the study area.

2. MATERIALS AND METHODS

2.1. Study area

Janamora Wereda is located in North Janamora Zone of Amhara region, at the latitude and longitude of 12°59’N 38°07’E at a distance of about 180km from Janamora town. Janamora Wereda is well-known with Semien mountain National Park, Ras Dashen i.e the highest point in Ethiopia and it is a home to a number of endangered species including the Ethiopian Wolf, waliya ibex, and a wild goat which no found in elsewhere in the world. The area has an altitude range of 2900 meters above sea level. The region is marked by numerous mountains, hilly, and sloppy areas, plateaus, rivers, and many streams. Livestock population of the area comprises 100,386 cattle, 32,975 sheep, 131,041 goats, 2,540 horses, 634 mules, 7758 donkeys, 119,347 poultry. The farming system of the study area is characterized by a mixed crop-livestock production system. Transhumance, from the highlands to western lowlands, is practiced as an important strategy to secure grazing resources for the highland livestock during the dry season of the year. In the case of the lowlands, crop farming is not as intensive as high and mid-highland areas and livestock has larger contributions to the farmer’s livelihoods [9].

2.2. Study Design

Cattles are presented to the veterinary clinic for any health problems during the study period was thoroughly examined for disease condition(s) according to Kelly [10]. Personal interview, observation of disease records (case record book of the Janamora veterinary clinic), clinical examination and detailed examination performed by taking the sample into Gondar University Veterinary Medicine department laboratories was identified the disease. Different kinds of samples have been taken from the diseased cattle that have been brought to veterinary clinic. Those samples are blood, nasal discharge, skin scrape, fecal sample, tick and lice. Different risk factors that may have influence on the occurrence of the most common disease, pneumonia, GIT parasites, ectoparasites, wounds, bloat, actinobacillosis, abcess, payogenic bacteria, food toxins, dstocia, nutritional difficiency,uterine prolapsed and other factors such as sex, age, body condition scores, feed type, sudden feed change and origin of the animals were also assessed through clinical examination interviews of the owners and reading the case book. Finally, the different disease can be grouped under bacterial infections, internal parasites, ectoparasites, skin lesion, nutritional deficiency and miscellaneous disease.
2.3. Study population

The study subjects were cattle of different breed, age, origin and sexes. The origins of these animals were from Enchet Kab, Weyna, Denkoako, Liga, Sabra, Asenga, Serebar, Rob Gebeya, Dorona, Gasha Jagrie, Deresgie, Mekane Birhan, and Sakba, kebeles. A total of 384 animals (local and cross breed) were randomly selected and examined. The age, sex, breeds and body condition scores of each animal were also recorded. Categorizing system of cattle were categorized into two age groups young and adult, management system divided as extensice and semi intensive and the body condition score divide as poor, medium and good [11].

2.4 Sample size determination

The sample size required for this study was determined according to Thrusfield [12]. Since there was no previous work done in this study area, 50% prevalence has been taken as expected prevalence for sample size determination. The other determinants considered in sample size determination have been 95% confidence interval and 5% desired absolute precision. Hence the sample size is estimated as

\[ N = \frac{1.96^2 \cdot p_{\text{exp}} \cdot (1 - p_{\text{exp}})}{d^2} \]

Where, 
- \( N \) = required sample size
- \( p_{\text{exp}} \) = expected prevalence
- \( d^2 \) = desired absolute precision

\[ n = (1.96)^2 \cdot 0.5(1-0.5) = 384 \]

From the confidence interval \( d = 5\% = 0.5 \)
Using the above formula, the minimum sample size will be about 384.

2.5. Data management and analysis

The data obtained from history, clinical examination, case record book, samples that has been sent to Gondar University veterinary medicine department laboratory and observations was entered to Microsoft worksheet excels. Then descriptive statistics was used to analyze the data using statistical package for social sciences (SPSS) software version 20. Chi-Square test \( \chi^2 \) with computed p-value of less than 0.05 was used to determine the statistical significance association of disease prevalence rate with sex, ages, management system, body condition score and origin.

3. RESULTS

3.1. Prevalence

In this study, 384 animals were examined. Among these 171 animals were males and 213 were females. The overall prevalence was calculated by dividing the number of positive samples by the total sample size and multiplied by 100. Then the overall prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease is 123/384 (32.03%), 91/384 (23.70%), 87/384 (22.66%), 45/384 (11.72%) 27 (7.03%) and 11/384 (2.86%) respectively. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in male animals are 78 (63.41%), 64 (70.33%), 48 (55.17%), 27 (29.67%), 39 (44.83%), 29 (64.44%), 9 (33.33%), 7 (63.64%) and 6 (36.36%) respectively. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in female animals are 45 (36.59%), 27 (29.67%), 39 (44.83%), 29 (64.44%), 9 (33.33%), 7 (63.64%) and 5 (45.45%) respectively see table 2. The prevalence of bacterial infection, internal parasite, ectoparasite, skin disease, nutritional deficiency and miscellaneous disease in young and adult animals are 78 (63.41%), 64 (70.33%), 48 (55.17%), 16 (35.56%), 18 (66.67%), 4 (36.36%) and 45 (36.59%), 27 (29.67%), 39 (44.83%), 29 (64.44%), 9 (33.33%), 7 (63.64%) respectively see table 3. Higher prevalence has been observed of bacterial infection, internal parasite, ectoparasite, skin
disease, nutritional deficiency in poor body conditioned animals 57 (46.34%), 47 (51.65%), 39 (48.83%),
21 (46.67%), and 24 (88.89%) respectively see table 4. In this study higher prevalence of bacterial
infection, internal parasite, ectoparasite, skin disease, nutritional deficiency has been observed in extensive
management system 89 (72.36%), 53 (58.24%), 50 (57.47%), 34 (75.56%), and 19 (70.37%) respectively
see table 5. In this study higher prevalence of bacterial infection, internal parasite and ectoparasite, has
been observed in Deresgie kebele 41(33.33%), 32(35.16, and 29(33.33) respectively when we compared to
Weyna, Liga, Enchet Kab, Sabra, Serebar, Asenga, Denkolako and Rob Gebeya Kebeles see in table 6.

Table 1 prevalence of the disease in Janamora Wereda veterinary clinic

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>32.03%</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>23.70%</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>22.66%</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>11.72%</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>7.03%</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>2.86%</td>
</tr>
<tr>
<td>Total</td>
<td>384</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the above table 1 we see that ecto parasite is the leading disease with the prevalence of 22.66% next
to bacterial infection and internal parasite with the prevalence of 32.03% and 23.70% respectively.

Table 2 prevalence of the cattle disease with relation to sex

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>51 (41.46%)</td>
<td>72 (58.54%)</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>39 (42.86%)</td>
<td>52 (57.14%)</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>38 (43.68%)</td>
<td>49 (56.32%)</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>35 (77.78%)</td>
<td>10 (22.22%)</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>2 (7.4%)</td>
<td>25 (92.6%)</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>6 (54.55%)</td>
<td>5 (45.45%)</td>
</tr>
</tbody>
</table>

P-value= 0.224, X²= 0.42

From the above table we see that female animals have higher prevalence of Bacterial Infection, Internal
parasites, Ectoparasites and Nutritional Deficiency respectively 72 (58.54%), 52 (57.14%), and 49
(56.32%), 25 (92.6%). But skin lesion is more affect male animals with the prevalence of 35 (77.78%).

Table 3 prevalence of the cattle disease with relation to age

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Young</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>78 (63.41%)</td>
<td>45 (36.59%)</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>64 (70.33%)</td>
<td>27 (29.67%)</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>39 (44.83%)</td>
<td>48 (55.17%)</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>16 (35.56%)</td>
<td>29 (64.44%)</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>18 (66.67%)</td>
<td>9 (33.33%)</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>4 (36.36%)</td>
<td>7 (63.64%)</td>
</tr>
</tbody>
</table>

P-value= 0.224, X²= 30.00

Higher prevalence of young animals has Bacterial Infection, Internal parasites, Ectoparasites and
Nutritional Deficiency respectively 78 (63.41%), 64 (70.33%), 48 (55.17%) and 18 (66.67%). The study
shows that adult cattle have higher prevalence of skin lesion 18 (66.67%) than young animals with the
prevalence of 9 (33.33%).
Table 4: Prevalence of the cattle disease with relation to body condition score

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Poor</th>
<th>Medium</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>57 (46.34%)</td>
<td>35 (28.46%)</td>
<td>31 (25.2%)</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>47 (51.65%)</td>
<td>28 (30.77%)</td>
<td>16 (17.58%)</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>39 (48.83%)</td>
<td>26 (29.89%)</td>
<td>22 (25.29%)</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>21 (46.67%)</td>
<td>14 (31.11%)</td>
<td>10 (22.22%)</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>24 (88.89%)</td>
<td>2 (7.41%)</td>
<td>1 (3.70%)</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>5 (45.45%)</td>
<td>4 (36.36%)</td>
<td>2 (18.18%)</td>
</tr>
</tbody>
</table>

P-value= 0.963, \(X^2= 30\)

Higher prevalence of poor body conditioned animals has Bacterial Infection, Internal parasites, Ectoparasites, skin disease and Nutritional Deficiency respectively 57 (46.34%), 47 (51.65%), 39 (48.83%), 21 (46.67%) and 24 (88.89%).

Table 5: Prevalence of the cattle disease with relation to management system

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Extensive System</th>
<th>Semi- intensive system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>89 (72.36%)</td>
<td>34 (27.64%)</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>53 (58.24%)</td>
<td>38 (41.76%)</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>50 (57.47%)</td>
<td>37 (42.53%)</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>34 (75.56%)</td>
<td>11 (24.44%)</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>19 (70.37%)</td>
<td>8 (29.63%)</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>8 (72.73%)</td>
<td>3 (27.27%)</td>
</tr>
</tbody>
</table>

Higher prevalence of extensive managed animals has Bacterial Infection, Internal parasites, ectoparasites, skin disease and Nutritional Deficiency respectively 89 (72.36%), 53 (58.24%), 50 (57.47%), 34 (75.56%) and 19 (70.37%).

Table 6: Prevalence of the cattle disease with relation to origin

<table>
<thead>
<tr>
<th>Disease type</th>
<th>Number of positive cattles</th>
<th>Weyna</th>
<th>Liga</th>
<th>Deresgie</th>
<th>Enchet Kab</th>
<th>Sabra</th>
<th>Serebar</th>
<th>Asenga</th>
<th>Denkolako</th>
<th>Rob Gebea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Infection</td>
<td>123</td>
<td>3 (2.44%)</td>
<td>4 (3.25%)</td>
<td>41 (33.33%)</td>
<td>17 (13.82%)</td>
<td>8 (6.50%)</td>
<td>7 (5.69%)</td>
<td>6 (4.88%)</td>
<td>19 (15.45%)</td>
<td>18 (14.63%)</td>
</tr>
<tr>
<td>Internal parasites</td>
<td>91</td>
<td>6 (6.59%)</td>
<td>6 (6.59%)</td>
<td>7 (7.69%)</td>
<td>32 (35.16%)</td>
<td>11 (12.11)</td>
<td>3 (3.30)</td>
<td>4 (4.40%)</td>
<td>5 (5.49%)</td>
<td>14 (15.38%)</td>
</tr>
<tr>
<td>Ectoparasites</td>
<td>87</td>
<td>7 (8.05%)</td>
<td>8 (9.09%)</td>
<td>5 (5.75%)</td>
<td>29 (33.33%)</td>
<td>12 (13.82)</td>
<td>1 (1.15)</td>
<td>8 (9.2%)</td>
<td>2 (2.30%)</td>
<td>15 (17.24%)</td>
</tr>
<tr>
<td>Skin Lesion</td>
<td>45</td>
<td>5 (11.11)</td>
<td>2 (4.44)</td>
<td>4 (8.89%)</td>
<td>2 (4.44)</td>
<td>12 (26.73)</td>
<td>7 (15.56)</td>
<td>4 (8.89%)</td>
<td>3 (6.67%)</td>
<td>6 (13.33)</td>
</tr>
<tr>
<td>Nutritional Deficiency</td>
<td>27</td>
<td>2 (7.41%)</td>
<td>8 (29.63)</td>
<td>0 (0%)</td>
<td>2 (7.41)%</td>
<td>4 (14.8)</td>
<td>5 (18.52)</td>
<td>1 (7.0%)</td>
<td>2 (7.41%)</td>
<td>3 (11.11)</td>
</tr>
<tr>
<td>Miscellaneous disease</td>
<td>11</td>
<td>1 (9.09%)</td>
<td>0 (0%)</td>
<td>3 (27.27%)</td>
<td>1 (9.09%)</td>
<td>0 (0%)</td>
<td>1 (9.09%)</td>
<td>0 (0%)</td>
<td>2 (18.18%)</td>
<td>3 (27.27%)</td>
</tr>
</tbody>
</table>

In the above study shows that Deresgie kebele has the highest prevalence in Bacterial Infection, Internal parasites and Ectoparasites with the prevalence of 41 (33.33%), 32 (35.16%) and 29 (33.33) in respectively.
4. Discussion

In this study, 384 animals were examined. Among these animals 171 were males and 213 were females. The higher prevalence of bacterial infection is observed in male animals 72 (56.54%). This result is occurred due to male animals will plough by traveling long distance and will also return back in to the land during harvesting for threshing. During this time the immunity system will decrease by working and traveling a long distance and most bacteria like pastuerulosis will affect them easily. This finding is agreed with Jergefa [13]. In relation to sex the higher prevalence of internal parasite infestation was observed in female animals 52 (57.14%). This result is greater than the finding of Mekonen and Yemisrach [14] and Tigre and Tolosa who reported as 28.6% and 46.58% respectively. But this result is slightly similar to the result of Abebe [16] who reported a prevalence of 53.68% on post mortem examination of livers from Agaro municipal abattoirs. The reason for this variation was on the prevalence of internal parasites might be due to the difference in temperature, moisture, humidity, soil that might favorable to multiplication of intermediate host, snails, the different parasitological technique used in this study, differences in the origin of the sample and geographical differences. With regard to the two sex groups of male and female the prevalence of ecto parasites were 38 (43.68%) and 49 (56.32%) in cattle respectively. This supports the general perceptions that female animals are more affected by non sex related disease [17]. This result is in line with the other author in Benchi maji by Tesfaheyewot and Simon [18] and the study Mathes and Bukva [19] who reported 32% in female and 1.22% in male animals. But it disagreed with the previous works in Assosa by Bossena and Abdu [20]. Skin lesion contains any wound, biting, piercing, and scratching of any damaging conditions on the skin surface. The higher prevalence of skin lesion from two sex male is 35 (77.78%) and female is 10 (22.22%). This result is due to male animals extensively released into the forest for grazing purpose and mechanical damage is found majorly in male animals. Female animals intensively stay at home for milking purposes.

With regard to age, generally, the highest prevalence (64 (70.33%)) was observed in young animals while the lowest prevalence 27 (29.67%) was observed in adult animals. This finding is however, do not agree with Gebreyohannes [21] in Mekedella woreda who reported higher prevalence (33.7%) in young and lowest prevalence (24.4%) in adult animals. This difference in prevalence of internal parasite infection might be associated with methods in which researchers’ grouped animals according to age as well as methods of determining age. The probable reason attributed for such difference could be the stage of the parasites during faecal sampling. For example, in the prepatent and postpatent phases it is impossible to detect the parasite larvae by faecal examination [22]. Thus, according to Fraser [22] this low prevalence might be due to the prepatent phase of the parasites in animals <6 months of age.

The prevalence of internal parasite infection in this study was higher in poor body conditioned 47 (51.65%) than those of medium body conditioned 28 (30.77%) and good body conditioned 16 (17.58%) animals. This agrees the prevalence studied by Kassa and Abdu [23] around Bahir Dar, who reported prevalence of 24%,19.8% and 19.6% in poor, medium and good body conditioned animals respectively. Animals of good body condition are more able to resist lungworm infection than others. The reason for this could be due to the fact that poorly nourished animals appear to be less competent in getting ride off infection although it is unusual for well fed animals to succumb to the disease provided that the right environmental conditions are made available [24].

In the study, the prevalence rate of internal parasite infection in extensive and semi intensive management system was 53 (58.24%) and 38 (41.76%) respectively. This study was in line with Mekonnen [25] who reported prevalence of 34.40% and 30.90% in extensive and semi-intensive management systems respectively. But it disagrees with the result of Dawit and Abdu [26] who reported low prevalence (26.0%) in extensive management system than in semi-intensive (28.6%) management systems. The reason for high prevalence of internal parasite infection in extensive farming system could be due to the fact that the degree of pasture contamination in the extensive system of production increases the degree of exposure that could result in high prevalence [27]. Furthermore, the reason for this could be management practice such as provision of ample nutrition increases the resistance of the host under the semi-intensive system, contrary to this mal-nutrition which reduces the host-parasite response and favors
the fecundity of the parasites that allows the animals for continuous larvae exposure under extensive system [28].

Age of animals was also another point which appears as a risk factor for the occurrence and different prevalent rates recorded on animals. Based on the present finding, the prevalence of ectoparasites was 39 (44.83%) and 48 (55.17%) for young and old age cattle respectively. This finding is agreed with the reports of Kasa and Yalew [29] and Tesfaheyewot and Simon [18]. The prevalence of ectoparasites in all the researchers indicated that very young animals were affected less than adult animals. This could be due to the less exposure to field grazing with other animals in the field and adults are exposed due to the communal grazing habits.

Management system plays a great role for the variation of ectoparasite infestation in cattle. This study reveals that higher prevalence in cattle managed under extensive 50 (57.47%) than semi intensive 37 (42.53%). This finding was lower than the result reported by Yakob, Nesanet and Dinka [30] which accounts 23.7% and 76.2% for semi intensive and extensive systems respectively. This difference might be due to the variation in climatic conditions, management and feed accessibility between the two study areas.

The prevalence of ectoparasites in poor, medium and good body condition scores is 39 (48.83%), 26 (29.89%) and 22 (25.29%) respectively. Similar finding was indicated in Bosena and Abdu [20] and it was lined with the study made by Gedilu [31] study in Bahir Dar. This result disagreed with the statement given by Kassa and Yalew [29] and Tesfaheyewot and Simon [18]. This could be related to the management system were animals are allowed to raze together in communal fields in the mixed farming system to the study area.

From the age categories the present findings has showed that 16 (35.56%) that of skin lesion in young and 29 (64.44%) of in adults. Similar scenarios were reported by Biffa and Woldemeskel [32]. This may be due to the fact that adults were involved in a wide array of activities in the ploughing, treshing and other farm activities, lack of regular feeding and health care provision were not practiced regularly.

According to body condition score poor, medium and good body conditioned animals has the prevalence of 21 (46.67%), 14 (31.11%) and 10 (22.22%) respectively. This study is in line with the reports by Mekuria [33] and Pearson [34] indicated that poor physical condition due to mainly to malnutritions. In the above study shows that Deresgie kebele has the highest prevalence in Bacterial Infection, Internal parasites and Ectoparasites with the prevalence of 41(33.33%), 32(35.16%) and 29(33.33) in respectively.

In conclusion I recommended for Janamora wereda veterinary clinic the following points:
  a. Effective and regular deworming strategy should follow to eliminate the parasites.
  b. Sufficient drug should fulfill to the clinic.
  c. Disinfectant materials such as alcohol, savelone, iodine puncture should fulfill.
  d. Regular Vaccination should perform to prevent disease before the occurrence of disease.
  e. The clinic medication material like needle, sringe, scissor and other material should be keeping within a clean condition.
  f. Professional protective clothes like gown, glove should be kept clearly.
  g. Good veterinarian Service should implement in the area.
  h. Strategic treatment of animals with insecticides should be practiced in the study area to minimize the impact of mange mite on the health of animals.

5. REFERENCES

17. Craig, T.M., 1998. Epidemiology of internal parasites, effect of climate and host on reproductive cycle on parasite survival: Small ruminant for the mixed animal practitioner; Western Veterinary Conference. Las Vegas, Nevada.


