**CHAPTER-IV**

**RESULTS**

**4.1 Prevalence of gastro intestinal parasitic infections**

***4.1.1 Overall prevalence of gastro intestinal parasitic infections***

During the current investigation, an approach was taken to determine the status of gastro intestinal parasitic infections in crossbred cattle. It was revealed that, 2 Protozoa and 8 helminthes species as 1 Cestodes, 1 Trematodes and 6 species of Nematodes are present in cattle population in the study area. In this present study highest prevalence was recorded for *Balantidium coli* (cyst) infection (28%); followed by *Moneizia spp* (22%); *Balantidium coli* Trophozoite (20%); *Toxocara spp* (19%); *Eimeria spp* (17%); *Paramphistomum spp* (17%); *Strongyloides spp* (15%); *Bunostomum spp* (10%); *Trichuris spp* (14%); *Haemonchus spp* (8%) and *Trychostrongylus spp* (5%); The overall prevalence of gastrointestinal parasitic infections (some samples had more than one parasitic infections) was recorded as 85%

**Figure 1:** prevalence of different parasites in the study population (some samples had more

 than one parasitic infections)

**4.1.2 Sex-specific prevalence of gastro intestinal parasitic infections**

In the current study, it was revealed that **(table 1)** the prevalence of different parasitic infections were varied between male and female; *Eimeria spp* (18% in male and 16% in female), *Moneizia spp* (26% in male and 16% in female) , *Strongyloides spp* (20% in male and 8% in female), and *Bunostomum spp* (9% in male and12% in female). However, there were no significant difference in prevalence (p- value > 0.05) between male and female calves for most of the species of parasites, A statistically significant difference (p- value < 0.05) in prevalence was observed for *Toxocara spp* (29% in male and 4% in male) and *Trichuris spp* (6% in male and 24% in female).

**Table 1: association between prevalence of different common and economically important**

**parasites with different categorical variables (sex and deworming)**

|  |  |  |
| --- | --- | --- |
| Variable | level | Prevalence of different parasitesN (%) |
| Eimeria | Toxocara | Moneizia | Strongyloides | Trichuris | Bunostomum |
| Sex | Male | 6 (18) | *10 (29)* | 9 (26) | 7 (20) | *2 (6)* | 3 (9) |
| Female | 4 (16) | *1 (4)* | 4 (16) | 2 (8) | *6 (24)* | 3 (12) |
|  |  |  |  |  |  |  |  |
| Deworming | No | 5 (17) | 6 (20) | 6 (19) | 6 (19) | *7 (23)* | 4 (13) |
|  | Yes | 5 (17) | 5 (18) | 7 (24) | 3 (10) | *1 (4)* | 2 (7) |

Bold and italic numbers in shaded box: statistically significant (p-value <0.05) associations measured with *X*² test

**4.1.3 Prevalence of gastrointestinal parasitic infection according to Deworming**

In the current study, it was revealed that **( table 1)** the prevalence of *Eimeria spp* (17% in both groups; dewormed and non dewormed), *Toxocara spp* (20% in non dewormed and 18% in dewormed), *Moneizia spp* (19% in non dewormed and 24% in dewormed), *Strongyloides spp* (19% in non dewormed and 10% in dewormed), *Bunostomum spp* (13% in non dewormed and 7% in dewormed) were not significantly differ (p- value > 0.05) between non dewormed and dewormed calves, except for Trichuris spp (23% in non dewormed and 4% in dewormed, p-value <0.05).

**4.1.2 Age specific prevalence of gastrointestinal parasitic infections**

In this study, it was revealed that **(From Table 2)** the mean age of calves of Eimeria positive group was 2.6$\pm 0.4$ (95% CI:1.69-3.50) and the mean age of calves of Eimeria negative group was 3.11$\pm 0.19$ (95% CI: 2.72-3.49). According to t-test there was no significant age difference between these groups. The mean age of calves of *Toxocara spp, Moneizia spp , Strongyloides spp, Trichuris spp,Bunostomum spp* positive groups were 3.18$\pm 0.58$ (95% CI:1.88-4.47); 3.46$\pm 0.43$ (95% CI:2.51-4.41); 3.0$\pm 0.67$ (95% CI:1.45-4.45); 3.62$\pm 0.59$ (95% CI:2.21-5.03); 2.83$\pm 0.54$ (95% CI:1.43-4.22), respectively. The mean age of calves of *Toxocara spp, Moneizia spp, Strongyloides spp, Trichuris spp, Bunostomum spp* negative group were 2.98$\pm 0.17$ (95% CI:2.63-3.34); 2.96$\pm 0.19$ (95% CI:2.58-3.35); 3.08$\pm 0.17$ (95% CI:2.73-3.44); 3.0$\pm 0.18$ (95% CI:2.63-3.38); 3.10$\pm 0.18$ (95% CI:2.72-3.47), respectively. None of the significance test (t-test) was statistically significant, therefore the null hypothesis of ‘no difference in mean age between positive and negative groups’ cannot be rejected.

**Table 2: results from t-test shows the differences in mean age between infected and uninfected groups of animals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parasites | Infection status | Mean | Standard error | 95% Confidence interval |
| Eimeria | Positive | 2.6 | 0.4 | 1.69-3.50 |
| Negative | 3.11 | 0.19 | 2.72-3.49 |
| Toxocara | Positive | 3.18 | 0.58 | 1.88-4.47 |
| Negative | 2.98 | 0.17 | 2.63-3.34 |
| Moneizia | Positive | 3.46 | 0.43 | 2.51-4.41 |
| Negative | 2.96 | 0.19 | 2.58-3.35 |
| Strongyloides | Positive | 3.0 | 0.67 | 1.45-4.54 |
| Negative | 3.08 | 0.17 | 2.73-3.44 |
| Trichuris | Positive | 3.62 | 0.59 | 2.21-5.03 |
| Negative | 3.0 | 0.18 | 2.63-3.38 |
| Bunostomum | Positive | 2.83 | 0.54 | 1.43-4.22 |
| Negative | 3.10 | 0.18 | 2.72-3.47 |