Prevalence of strongylosis in non-descript Goats in and around Bidar

Department of Veterinary Medicine, Karnataka Veterinary Animal and Fisheries Sciences University, Bidar-585401, Karnataka, INDIA
1Department of Veterinary Pharmacology and Toxicology

Abstract

The present study was carried out to study the prevalence of strongylosis in and around Bidar. For retrospective study, goats presented to the Out Patient ward, Teaching Veterinary Clinical Complex, Veterinary College and City hospital, APMC yard, Bidar were utilized. Among 1145 goats presented during the period of April 2016 to March 2017, overall clinical prevalence of strongylosis was 6.64 per cent. A point prevalence of 34.54 per cent of strongylosis was recorded among the clinical cases of goats with gastroenteritis. Month-wise prevalence of strongylosis was highest in June (18.29%) followed by July (10.30%), September (10.00%) and November (08.90%). Under farm study, a total of 200 faecal samples were collected from local goats of organised and unorganised farms in and around Bidar, where in, a prevalence of 48.00 per cent (96/200) was recorded. Of which 10.00 per cent was in organised farms and 86.00 per cent in unorganised farms.

Keywords: Prevalence, Strongylosis, Goats

Goat is important livestock species and especially in tropical and subtropical regions. Goat farming is one of the major farming in many parts of rural areas of India in which many poor people earn their livelihood with low investment and is called as poor man’s cow. Parasitic nematodes of gastrointestinal tract (GIT) are the main constraints to goat production and are a significant health issue in areas with poor sanitation and management (Bandyopadhyay et al., 2011). The most commonly observed clinical signs in gastrointestinal nematodiasis in goats are low productivity, decreased weight gain, unthriftness, delay in puberty, impaired digestive efficiency, organ condemnation, poor reproductive performance and death in severely infected animals (Tembely et al., 1997). Prevalence of GIT nematodes vary in diverse geographical conditions and influenced by climate, management, vegetation and livestock density. The present study was undertaken to assess the overall prevalence of the gastrointestinal nematodes affecting the goat population in and around Bidar.

Materials and Methods

The study was conducted at Department of Veterinary Medicine, Veterinary College Bidar for a period from April 2016 to March 2017. The retrospective study was carried out by obtaining the records of clinical cases from Teaching Veterinary Clinical Complex, Veterinary College and City hospital, APMC yard Bidar from April 2016 to March 2017. For prospective study, prevalence of gastro-intestinal nematodiasis was evaluated by analyzing a total of 200 faecal samples collected from the local goats of organised and unorganised farms in and around Bidar. Faecal samples were collected directly from the rectum of goats and examined by direct smear technique. Eggs per gram (EPG) of faecal samples were calculated by Modified Gordon and Whitlock technique using McMaster slide (Coles et al., 1992).

Statistical analysis of data was carried out by employing ONE and TWO WAY ANOVA, as per Snedecor and Cochran (1994). Statistically significant difference was considered at 5 per cent level.

Results and Discussion

Retrospective study analysis of hospital records from April 2016 to March 2017 revealed, overall clinical prevalence of strongylosis was about 6.64 per cent among the total number of clinical cases of goats (1145/76) as shown in Table- 1. A point prevalence of 34.54 per cent (76/220) of strongylosis was recorded among the clinical cases of goats with gastro-enteritis presented to the Out Patient Ward, Teaching Veterinary Clinical Complex, Veterinary College and City hospital, APMC yard Bidar depicted in Table-2 which was suggestive that more than 1/3rd cases of gastroenteritis were due to strongylosis. Month-wise
prevalence of strongylosis was found to be highest in June (18.29%) followed by July (10.30%), September (10.00%) and November (8.90%) as shown in Table-1 which is in agreement with earlier reports of Rehman and Ali (2001) and Barua et al. (2015). Singh et al. (2015) reported that availability of nematode larvae on pasture is at its maximum during monsoon season (July-September). Rainfall and high relative humidity in monsoon not only lowers the host immunity but also favours ecdysis and larval dispersion which increases the chance of infestation (Soulsby, 1966).

Similarly, an attempt was made to know the prevalence of strongylosis among the goat farms, where in a total of 200 faecal samples were collected from local goats of organised and unorganised farms in and around Bidar, a prevalence of 48.00 per cent (96/200) was recorded under farm study which was 10.00 per cent (10/100) in organised farms and 86.00 per cent (86/100) in unorganised farms as depicted in Table -1. Higher prevalence of strongylosis in goats of unorganised sector in present investigation suggested lack of technical input and environmental hygiene favouring harbouring of infective stages of the parasites. Under dosing, frequent use of similar class of anthelmintic and inability to move the flock to clean and safe pasture had been inculcated for frequent gastrointestinal parasitism (Dhanalakshmi, 2000) which supports the observation of present study.

Age-wise prevalence of strongylosis

The age-wise prevalence of strongylosis in goats under clinical study is shown in Table-3. It was revealed that the prevalence of strongylosis was highest in the goats aged between 1-3 year (51.32 %) followed by goats less than 1 year (31.58%) and the least prevalence was recorded in goats more than 3 years (17.11%) of age. Whereas prevalence of strongylosis was highest in the goats aged less than 1 year (42.71%) followed by goats aged between 1-3 years (38.54%), with lowest prevalence in goats more than 3 years (18.75%) of age in farm study (Table-4).

Analysis of data in clinical study revealed that prevalence of strongylosis was highest in the goats of 1-3 years of age, which is in agreement with earlier reports of Hassan et al. (2011); Das et al, (2016). Age-wise prevalence of strongylosis in goats of organised and unorganised farms indicated that prevalence was highest in goats aged less than 1 year which is in agreement with the findings of Bashir et al. (2012); Mir et al. (2013); and Nabi et al. (2014).

Table 1. Overall prevalence of strongylosis in goats in and around Bidar for a period one year (April 2016- March 2017)

<table>
<thead>
<tr>
<th>Month</th>
<th>Total number of goats presented</th>
<th>Number of goats positive for strongylosis</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>78</td>
<td>02</td>
<td>02.56</td>
</tr>
<tr>
<td>May</td>
<td>75</td>
<td>05</td>
<td>06.67</td>
</tr>
<tr>
<td>June</td>
<td>82</td>
<td>15</td>
<td>18.29</td>
</tr>
<tr>
<td>July</td>
<td>97</td>
<td>10</td>
<td>10.30</td>
</tr>
<tr>
<td>August</td>
<td>130</td>
<td>09</td>
<td>06.92</td>
</tr>
<tr>
<td>September</td>
<td>100</td>
<td>10</td>
<td>10.00</td>
</tr>
<tr>
<td>October</td>
<td>126</td>
<td>06</td>
<td>04.76</td>
</tr>
<tr>
<td>November</td>
<td>101</td>
<td>09</td>
<td>08.91</td>
</tr>
<tr>
<td>December</td>
<td>98</td>
<td>04</td>
<td>04.08</td>
</tr>
<tr>
<td>January</td>
<td>103</td>
<td>02</td>
<td>01.94</td>
</tr>
<tr>
<td>February</td>
<td>81</td>
<td>02</td>
<td>02.46</td>
</tr>
<tr>
<td>March</td>
<td>74</td>
<td>02</td>
<td>02.70</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1145</td>
<td>76</td>
<td>06.64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FARM STUDY</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Organised</td>
<td>100</td>
<td>10</td>
<td>10.00</td>
</tr>
<tr>
<td>Unorganised</td>
<td>100</td>
<td>86</td>
<td>86.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>200</td>
<td>96</td>
<td>48.00</td>
</tr>
</tbody>
</table>
The high level of infection observed in less than one year age group might be attributed to the delay in the development of significant immunity, which is initially low but increases with intensity and duration of exposure of infection (Sabir and Bandyopadhyay, 2016). However, lower prevalence in adults has been attributed to acquired immunity to the parasite through frequent exposure (Shah-Fischer and Say, 1989).

**Sex-wise prevalence of strongylosis**

Sexwise prevalence of strongylosis was higher in females (85.53%) when compared to males (14.47%) under clinical study as depicted in Table-3. Similarly, under farm study (organised and unorganised farms), the sex-wise prevalence of strongylosis was higher in females (83.33%) than males (16.67%) as shown in Table-4.

It was revealed that, prevalence of strongylosis was higher in female goats than males, both in clinical study and farm study, which is in agreement with that of Kuchai *et al.* (2011); Khajuria *et al.* (2013); and Das *et al.* (2016). The physiological peculiarities of the female animals, which usually constitute stress factors thus reducing their immunity to infections, and for being lactating mothers, females happen to be weak and malnourished, as a result of which they are more...
susceptible to the infection (Radostits et al., 2007). Skewed representation of sex-wise prevalence could also be due to a definite bias in the population under study advocating more female per male (10:1) as per the standard goat husbandry practice (Bais et al., 2012).

**Acknowledgements**

The authors humbly thank the authorities of KVAFSU for providing funds and facilities in carrying out the research work.

**References**


Received : 19.07.2019
Accepted : 10.09.2019