Seasonal Occurrence of Gastrointestinal Parasites in Sheep of Kashmir Division

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Abstract

The study was carried out through the period from April 2010 to April 2012 in both organised and unorganised sector of Kashmir valley. The aim of the study was to compare seasonal prevalence of Helminthes of gastrointestinal tract in Sheep. A total of 5836 faecal samples were randomly collected from organised and unorganised sectors of sheep, revealed overall prevalence of 51.21%. The most common prevalent nematodes were Strongyle group of worms. Among cestodes, Moneizia and Avitellina were reported. Among trematodes, Fasciola, Dicrocoelium, Amphistomes and, Paramphistomum were most prevalent. The highest prevalence of helminth parasites was recorded during spring season (60.34%) and lowest in winter (42.86%). The study indicates the prevalence of gastrointestinal helminthic infections varies in different seasons.

Key words: Helminthes of gastrointestinal tract, Sheep, Prevalence

Introduction

Sheep is unique to the economy of the Kashmir for its wool, mutton, hides and manure. The typical extensive and trans-human (migratory) managerial system of domestic animals in Kashmir, especially sheep, gives it a specific significance to be studied in depth regarding animal adaptability to the extremes of the environment Gupta (1994). About 14 lac people mainly comprising of Gujjar, Bakerwals, Chopans and Marginal farmers are involved in rearing of sheep and goats in the state.


In Kashmir Valley, parasitism is one of the major threats for livestock, especially causing obstacles to the development of a profitable sheep industry. The Valley of Kashmir has typical agro-climatic conditions, having a vast exposure of natural meadows and highland pastures. Our typical agro climatic conditions provide a conducive environment for many pathogenic parasites to grow and pose the greatest challenge to the economic rearing of livestock.

Materials and Methods

A survey of the prevalence of gastro-intestinal tract (GIT) parasites in 5836 sheep was conducted in different area of Kashmir valley during the period of April 2010 to April 2012. A total of 5836 sheep including both males and females maintained under intensive and semi-intensive system of management were screened using Direct, Sedimentation, Floatation and Stoll’s egg counting technique Soulsby (1982). Larval culture and standard identification on the basis of morphological characteristics was not needed for individual study of nematodes as the present study that fundamentally aimed at knowing mere presence of particular class of parasites (based primarily on parasitic eggs) especially with relation to different seasons rather than detailed quantitative parameters.

Results and Discussion

Out of 5836 samples examined, 2989 were found positive for Helminth infection with an overall prevalence of 51.21 per cent. The most common prevalent nematodes were Strongyle worms. Among Cestodes, Moneizia, and Avitellina were reported. Among trematodes, Fasciola, Dicrocoelium, Amphistomes and Paramphistomum were most prevalent. The highest prevalence of helminth parasites was recorded during spring season followed by summer and lowest in winter (Table 1). The present finding is in agreement with that of Nwosu et al (2007) and Bhat et al (2012). The various species of parasites recorded in the present study coincides with the earlier reports of Kanyari et al (2009), Gadahi et al (2009) and Tasawar et al (2010). In the present study the prevalence in summer month may be increasing due to favourable environmental conditions like humidity and temperature, while as highest in spring season may due to overcoming of hypobiosis after winter and access to low land pastures .and lowest in winter months may be due to hypobiosis and less chance of picking up infection from dried hay instead of pastures. Post-parturient rise of parasitic load as lambing occurs during late winter and early spring may also explain the findings.

The rate of helminths infection in sheep varies in different parts of the world. A variety of factors like
grazing habits, level of education and economic capacity of the farmers, standard of management and anthelmintic used can influence the prevalence of helminths. Prevailing agro-climatic conditions like overstocking of animals, grazing of young and adult animals together with poorly drained land provide an ideal condition for the transmission of endoparasites to build up clinical infestation of the host Gadahi, et al (2009).

Table 1: Season-wise prevalence of Helminthes parasites of Kashmir Valley region

<table>
<thead>
<tr>
<th>Season</th>
<th>No. of samples examined</th>
<th>No. of samples Positive</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>2116</td>
<td>1277</td>
<td>60.34</td>
</tr>
<tr>
<td>Summer</td>
<td>1122</td>
<td>524</td>
<td>46.70</td>
</tr>
<tr>
<td>Autumn</td>
<td>1070</td>
<td>533</td>
<td>49.81</td>
</tr>
<tr>
<td>Winter</td>
<td>1528</td>
<td>655</td>
<td>42.86</td>
</tr>
<tr>
<td>Total</td>
<td>5836</td>
<td>2989</td>
<td>51.21</td>
</tr>
</tbody>
</table>

From the above findings and discussion the following recommendations are forwarded to get clear epidemiological picture of GIT parasitic helminth, comprehensive study should be launched in the area where sheep are abundant and practically participating in cash incomes, sources of food, skin and manure to farming communities and play significant role in this sector. Strategic treatment is appropriate, effective and broad spectrum anthelmintic should be practice at the beginning and after the end of the winter and rainy season. Such treatment regime is strategic to get rid of the parasites burden of the animals and minimize pasture contamination by dropping faecal egg count. Additionally, the field veterinarians and stockowners should be aware of the importance and burden of GIT helminthosis in sheep.

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References


