International Journal of Agriculture Sciences
ISSN: 0975-3710&E-ISSN: 0975-9107, Volume 10, Issue 2, 2018, pp.-5027-5028.
Available online at http://www.bioinfopublication.org/jouarchive.php?opt=&jouid=BPJ0000217

Research Article

PARASITE SPECTRUM & OCCURRENCE OF GASTRO INTESTINAL PARASITES OF SMALL RUMINANTS IN HYDERABAD REGION

KAPLAYWAR SATHISH*[1], JYOTHI J.[2] AND SREENIVASA MURTHY G.S.[3]

[1,3]Department of Veterinary Parasitology, P.V. Narsimha Rao Telangana Veterinary University, Rajendranagar, Hyderabad, 500 030
[2]Department of Veterinary Clinical Complex, P.V. Narsimha Rao Telangana Veterinary University, Rajendranagar, Hyderabad, 500 030
*Corresponding Author: Email-drsathish0945@gmail.com

Received: January 12, 2018; Revised: January 16, 2018; Accepted: January 18, 2018; Published: January 30, 2018

Abstract- Prevalence of parasitic infection of small ruminants in & around of Hyderabad region was investigated for a period of six months from January 2017 to June 2017. A total of 684 fecal samples (sheep 483 and goat 201) were received at Teaching Veterinary complex of Hyderabad, these were analyzed to confirm the presence of gastrointestinal parasitic infection by copralogical examination. It comprising of 151 infected samples from sheep and 70 infected samples from goats and Out of 151 samples in sheep, *Fasciola gigantic* 12 (8%), *Paramphistomum* sp 15 (10%), *Moniezia* sp 12 (8%), *Strongyles* sp 43 (28 %), *Strongyloideus* sp 14 (9.3 %), *Hemonchus controtus* 26 (17 %), *Trichuris* sp 15 (10 %) and *Eimeria oocysts* 14 (9.2%). Out of 70 samples in goat, *Fasciola gigantic* 8 (11.42%), *Paramphistomum* sp 4 (5.71%), *Strongyles* sp 14 (20 %), *Strongyloideus* sp 6 (8.57 %), *Hemonchus controtus* 18 (25.71 %), *Trichuris* sp 08 (11.42 %) and *Eimeria oocysts* 12 (17.14.2%). The percent infection in sheep and goat is 35.40 & 34.82 respectively.

Keywords- Parasite spectrum, occurrence, gastrointestinal parasites, Sheep & Goats.

Citation: Kaplaywar Sathish, *et al*., (2018) Parasite Spectrum & Occurrence of Gastro Intestinal Parasites of Small Ruminants in Hyderabad Region. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 10, Issue 2, pp.-5027-5028.

Academic Editor / Reviewer: Mishra Sagarika, Dr. Binod Kumar, Dr J. B. Kathiriya

Introduction

Livestock plays a crucial role in the Indian agricultural economics and directly proportional to the farming community. Due to unhygienic conditions, drought prone environment, adverse climate and close contact with infected livestock emergence of parasitic infections and which is a substantial problem plaguing farmers across the nation. As endoparasites of small ruminants are the most important limiting factor of productivity and highly detrimental effect on the mutton industry [3]. Countries like India, small ruminants hold an prime niche for sustainable agriculture and supports socioeconomic functions worldwide [2 &9].

Among the parasitic conditions, endoparasites are of prime importance in sheep and goats. Endoparasites result in huge economic losses and the estimated losses due to lowered meat and wool production in slaughtered sheep and goats. The geo-climate condition of India is conductive for the optimum growth and proliferation of parasites, posing challenge for the veterinarians [1]. The present study in continued effort in this aspect based on prevalence data on GI parasites of sheep & goat in & around Hyderabad was generated & interferences drawn from the study are being documented herein.

Materials & Methods

The study was carried out with a total of 684 fecal samples (sheep 483 and goat 201) were received at Teaching Veterinary complex of Hyderabad, On the spot per rectal fecal samples were collected, brought to the laboratory these were analyzed to confirm the presence of gastrointestinal parasitic infection by sedimentation technique followed by coprological examination. It comprising of 151 infected samples from sheep and 70 infected samples from goats.

Results & Discussion

Table-1 *Incidence of Gastro intestinal parasites in Sheep & Goat*

Species	No. of samples collected	No. of samples positive	No. of samples negative	Percent positive
Sheep	483	151	332	35.40
Goat	201	70	131	34.82

Table-2 *Percent positives of Gastro intestinal Parasites in Sheep*

No. of Samples	Parasite	No. of samples positive	Percent Infection	Overall Infection
151 samples	Paramphistomum sp	15	10.0	35.40
	Fasciola sp.	12	8.0	
	Moniezia sp.	12	8.0	
	Strongyle sp	43	28.5	
	Strongyloides sp.	14	9.3	
	Hemonchus sp	26	17.0	
	Trichuris sp	15	10.0	
	Eimeria sp.	14	9.2	

Table-3 *Percent positives of Gastro intestinal parasites in Goat*

No. of Samples	Parasite	No. of samples positive	Percent Infection	Overall Infection
70 samples	Paramphistomum sp	4	20.0	34.82
	Fasciola sp.	8	8.57	
	Moniezia sp.	0	0.0	
	Strongyle sp	14	25.71	
	Strongyloides sp.	6	11.42	
	Hemonchus sp	18	5.71	
	Trichuris sp	8	11.42	
	Eimeria sp.	12	12	

The results of the present study are summarised in [Table-1]: a total of 684 fecal samples (sheep 483 and goat 201) were analyzed by sedimentation technique. It comprising of 151 infected samples from sheep and 70 infected samples from goats. Out of 151 samples in sheep, *Fasciola gigantic* 12 (8%), *Paramphistomum* sp 15 (10%), *Moniezia* sp 12 (8%), *Strongyles* sp 43 (28 %), *Strongyloideus* sp 14 (9.3 %), *Hemonchus controtus* 26(17%), *Trichuris* sp 15 (10%) and *Eimeria oocysts* 14 (9.2%). Out of 70 samples in goat, *Fasciola gigantic* 8 (11.42%), *Paramphistomum* sp 4(5.71%), *Strongyles* sp 14 (20%), *Strongyloideus* sp 6 (8.57 %), *Hemonchus controtus* 18 (25.71 %), *Trichuris* sp 08 (11.42 %) and *Eimeria oocysts* 12 (17.14.2%). The percent infection in sheep and goat is 35.40 & 34.82 respectively. In present study, Moniezia eggs couldn't be detected in Goat species. Reason could be goat is selective feeder and less distribution of forage mites in the present locality.

The prevalence of GI parasites depends on the immune status of the host depends on previous exposure to the infection, grazing pattern & epizootiological determinants of the region, nature & amount of biomass ingested by the host, stocking rate. Research workers [4 &7] had reported that growth of GI worms was closely related with climate and it could grow better in hot and humid areas. Infection rates were lower in cold and dry areas but in the present studies Trematode infections, amphistomes were more prevalent, lower prevalence of other fluke infection may be ascribed to absence of molluscan I.H in the surroundings & use of non contaminated deep under water for drinking water.

In subtropics, the parasitic diseases cause considerable financial losses in terms of heavy mortality in young animals & morbidity in adults due to subclinical infections. The prevailing epizootiological determinants offer the most favourable & optimum environment for faster propagation of the animals in the surroundings & in situ development, causing serious disease [8].

The overall higher incidence of nematodes infection in the present survey could be attributed to lower immunity of hosts as a result of malnutrition [6]. All the livestock in the area under investigation largely depended on grazing in deteriorated range-lands. Many of the farms different species of animals were grazing on the pasture land due to lack of fencing and restrictions for grazing. Keeping in view the above results some of the important control measure was adopted to reduce the parasitic infection at farm levels and also to reduce the worm burden and cost economics to the farmer. In this regard, it is suggested that practice of separate grazing of animals with low stocking rate may be adopted. Furthermore, during the rainy season climatic factors like temperature and humidity are favorable for the development and survival of preparasitic stages of nematodes.

Conclusion

It is suggested that anthelmimtic treatment on quarterly basis may be implemented to reduce the risk of re infection. However, resistance to these drugs has recently been observed on several occasions. In order to delay the development of drug-resistant parasite strains, anthelmintics must not be overused and drugs must be delivered at optimal times.

Acknowledgement / Funding: We thankful to Dean, P.V. Narsimha Rao Telangana Veterinary University, Rajendranagar, Hyderabad, 500 030. Also thankful to Professor & University Head, TVCC, Rajendranagar, Hyderabad for providing the facilities in the clinics and laboratory to conduct this work.

Author Contribution: All author equally contributed.

Author statement: All authors read, reviewed, agree and approved the final manuscript

Conflict Interest: None declared

Ethical Approval: This article does not contain any studies with human participants or animals performed by the any of the authors

References

[1] Bhat S.A., Mir M.R., Qadir S., Allaie I.M., Khan H.M., Husain I. and Sheikh B. A. (2012) *Vet World,* 5(11), 667-671.
[2] Gupta R.P., Yadav C.L. and Ghosh J.D. (1985) *Agril. Sci. Dig,* 5, 53-56.
[3] Kumar S., Jakhar K.K., Singh S., Potliya S., Kumar K. and Pal M. (2015) *Vet. World,* 8, 29-32.
[4] Khajuria J.K. and Kapoor P.R. (2003) *J. Vet. Parasitol,* 17, 121-126.
[5] Khatri A., Banu F. and Sharma P.N. (1999) *J. Parasitol. Appl. Anim. Biol*, 8, 107-112.
[6] Makhdoomi D.M., Shugufta N., Banday S.D. and Moulvi B. (1995) *Indian Vet. J*., 72, 898-900.
[7] Pandit B.A., Shahardar R.A., Darzi M.M., Banday M.A.A. and Bhat A.S. (2003) *Indian J. Small Rum*, 9, 39-42.
[8] Tramboo S.R., Shahardar A., Allaie M., Wani Z.A. and Bushra M.S. (2015) *Vet. World,* 8(10), 1199-1204.
[9] Tariq K.A., Chisti M.Z., Ahmad F. and Shawl A.S. (2008) *Vet Parasitol*., 158(1-2), 138-143.