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## Incidence of gastrointestinal helminthosis in goats in and around Parbhani district of Maharashtra

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### Abstract

The present research was undertaken to study the incidence of gastrointestinal helminthosis in goats in and around Parbhani district of Maharashtra during December 2020 to April 2021. Overall incidence of gastro-intestinal helminthosis in goats was 56.19 percent. Incidence in male (66.67%) was higher than female goats (49.32%). Incidence in Osmanabadi goats was higher (60.65%) than non-descript goats (51.60%). Study of age wise incidence has shown that 28.93% (35) kids upto 4 month of age, 37.19% (45) young once with age between 4 month to 1 year and 33.88% (41) adults with age of 1 year or more were positive for helmenthosis. Sex wise incidence has shwon that 66.67% male and 49.32% female goats suffered helminthosis. Incidence according to different helminth parasites was: Strongyles - 42.64%, Trichuris -17.64%, Strongyloides -17.64%, Fasciola - 8.82% and Moniezia -13.23 per cent.

**Keywords:** incidence, goat, gastrointestinal helminth, helminthosis

### Introduction

Small ruminants such as sheep and goats in developing countries occupy an important economic and ecological role in the agricultural system (Devendra, 2005) [4]. Goats play an important role in food and nutritional security of rural poor, especially in rain-fed regions where crop production is uncertain and where acute scarcity of feed and fodder restricts the rearing of large ruminants. Due to its lower initial expenditure, low input demand, greater prolificacy, early sexual maturity and ease of marketing, goat rearing has distinct economic and managerial advantages over other livestock. In unfavourable conditions, goats can effectively live on available shrubs and trees. In Indian rural society goats are held as a source of additional income and as protection against income shocks from crop failure. Moreover, goats are the best substitute source of supplementary income and milk for those who can't afford to keep a cow or a buffalo.

Gastrointestinal nematode-induced parasitic gastroenteritis poses a significant threat to health and impairs the productivity of goats due to the associated morbidity and mortality (Nwosu *et al.*, 2007; Bandyopadhyay *et al.*, 2010) [11, 1]. Infestation with parasitic nematodes in the gastrointestinal tract remains one of the key constraints on milk production, especially goat production (Rinaldi *et al.*, 2007) [15]. In addition, goats are more likely than sheep to be infested with gastrointestinal nematodes (Jallow *et al.*, 1994) [7]

In particular, parasitic infestations with gastrointestinal nematode and trematode hamper livestock production due to the related morbidity, mortality, treatment costs and control measures (Nwosu *et al.*, 2007; Raza *et al.*, 2010) [11, 14]. The prevalence of small ruminant helminths contributes to low productivity due to stunted growth, poor weight gain and poor use of feed (Pedreira *et al.*, 2006) [12]. Helminthiasis has a harmful impact on ruminants, contributing to haematological and biochemical disorders (Ijaz *et al.*, 2009) [6], anorexia, weight loss, poor reproductive output and even lamb death (Hussain and Usmani, 2006) [5].

Incidence of gastrointestinal parasite infection in livestock varies according to the existing climatic condition and managemental practices (Kumar *et al.*, 2016) [10]. The environmental factors like temperature, rainfall and humidity play an important role in the development and survival of pre-parasitic stages. The current study was undertaken to record the incidence of gastro-intestinal parasites in goats in and around parbhani.

### Materials and Methods

The incidence of gastrointestinal helminthosis in goats was studied by screening the goat

population of Parbhani city and surrounding villages like Raipur, Asola, Takali, Dharmapuri and goats presented to veterinary clinical complex of college of veterinary and animal sciences, Parbhani during December 2020 to April 2021. Goats presented with complaints of rough dull coat, weakness, diarrhea, loss of appetite, weight loss and

EPG>250 were selected. The fecal samples from these goats were processed in the laboratory by flotation and sedimentation techniques (Soulsby, 1982) <sup>[16]</sup> to detect the parasitic eggs.

## Results and Discussion

**Table 1:** Overall incidence of helminthosis in goats

Total no of faecal samples examined	No of faecal samples positive for helminth infection	Overall incidence (%)
121	68	56.19

In the present study a total no of 121 goats were screened for gastro intestinal helminth, of which 68 were positive, indicating overall incidence of gastrointestinal helminthosis as

56.19 percent (Table 1) Similar observations of incidence have been recorded by Dappawar *et al.*, (2018) <sup>[3]</sup> who found an overall incidence of 51.89 percent.

**Table 2:** Age wise incidence of helminthosis in goats

Age	No of goats examined	No of goats positive for GI helminthosis	Percent positive (%)
Kid ( 0-4 months)	35	15	42.86
Young (4 months- 1 year)	45	21	46.67
Adult (above 1 year )	41	32	78.04
Total	121	68	56.19

Out of total 121 goats screened 35 (28.93%) were kids upto 4 month of age, 45 (37.19%) were young once having age between 4 months to 1 year and 41 (33.88%) were adults with age of 1 year or more. Out of 35 kids 15 (42.86%), out of 45 young goats 21 (46.67%) and out of 41 adult goats 32 (78.04%) were found to be affected with helminth infection.

(Table 2) Similar observations of incidence have been recorded by Dappawar *et al.*, (2018) <sup>[3]</sup> who found an overall incidence of 51.89% with 45% incidence in kids and 54.52% in adults. Dabasa *et al.*, (2017) <sup>[2]</sup> observed 81.1% incidence of helminthosis in adult goats.

**Table 3:** Sex wise incidence of helminthosis in goats.

Age	No. of goats examined	No.of animals positive for GI helminthosis	Percent positive (%)
Female	73	36	49.32
Male	48	32	66.67
Total	121	68	56.19

Out of 73 female goats examined 36 were positive for helminthosis, indicating incidence rate in female goats as 49.32 percent. Among 48 male goats 32 were positive for helminthosis with an incidence rate 66.67 percent (Table 3) Similar findings have been recorded by Dappawar *et al.*,

(2018) <sup>[3]</sup> who observed 64.66% incidence in male and 49.09% incidence in female goats respectively, whereas Raza *et al.*, (2012) <sup>[13]</sup> found 56% incidence in male and 49% in female goats.

**Table 4:** Breed wise incidence of helminthosis in goats.

Age	No of goats examined	No of animals positive for GI helminthosis	Percent positive (%)
Osmanabadi	61	37	60.65
ND	60	31	51.66
Total	121	68	56.19

Data regarding breed wise incidence has been presented in Table 4. It was observed that out of 61 Osmanabadi goats 37 (60.65%) and out of 60 nondescript goats 31 (51.66%) were

positive for helminthosis. Dappawar *et al.*, (2018) <sup>[3]</sup> found helminthosis in 52.89% Osmanabadi and 48.93% nondescript goats.

**Table 5:** Incidence of different helminth parasites in goats.

Helminthes parasites	Genera	No. of positive goats	Percentage %
Nematodes	Strongyle	29	42.64
	Trichuris	12	17.64
	Strongyloides	12	17.64
Trematodes	Fasciola	6	8.82
Cestodes	Moniezia	9	13.23
Total		68	

Data regarding helminth wise incidence is presented in Table No 5. Out of 68 positive cases 53 (77.94%) were positive for nematodes, 6 (8.82%) for trematodes and 9 for (13.23%) cestodes. Out of 68 positive goats, 29 (42.64%) were positive

for Strongyles and 12 (17.64%) each for Trichuris and Strongyloides. Among trematodes 6 (8.82%) cases were positive for *Fasciola spp.* and among cestodes 9 (13.23%) were positive for *Moniezia spp.* Similar observations have

been made by Kelemework *et al.*, (2016)<sup>[8]</sup> who found 39.88% Strongyles, 16.31% Trichuris, 12.08% Strongyloides, 6.04% *Fasciola spp.* and 10.57% *Moniezia spp.* The findings of Khan *et al.*, (2010)<sup>[9]</sup> are somewhat different from findings of present study. They recorded an incidence of 24.55% for *Haemonchus contortus*, 7.58% for *Fasciola spp.*, 8.94% for *Moniezia spp.* and 5.76% for *Trichuris spp.* respectively.

## References

1. Bandyopadhyay S, Devi P, Bera A, Bandyopadhyay S, Bhattacharya D. Prevalence of gastrointestinal parasite in goats in Shillong, Meghalaya, India. Webmed Central: Parasitology 2010;1(9):WMC00777.
2. Dabasa G, Shanko T, Zewdei W, Jilo K, Gurmesa G, Abdela N. Prevalence of small ruminants gastrointestinal parasites infections and associated risk factors in selected districts of Bale Zone, south eastern Ethiopia. Journal of Parasitology and vector Biology 2017, 82-88.
3. Dappawar MK, Khillare BS, Narladkar BW, Gangale GN. Prevalence of gastrointestinal parasites in small ruminants in Udgir area of Marathwada. Journal of Entomology and Zoology Studies 2018;6(4):672-676.
4. Devendra C. Small ruminants in Asia: Contribution to food security, poverty alleviation and opportunities for productivity enhancement. In: Ledin, I. (Ed), Proceeding of international workshop on small ruminant production and development in South East Asia. Mekarn. Nong Lam, HCMC, Vietnam 2005,19-32.
5. Hussain HU, Usmani RH. Livestock of Pakistan. 1st Ed., Livestock Foundation, Islamabad 2006.
6. Ijaz M, Khan MS, Avais M, Ashraf K, Ali MM, Khan MZU. Infection rate and chemotherapy of various helminths in diarrhoeic sheep in and around Lahore. The Journal of Animal & Plant Sciences 2009;19(1):13-16.
7. Jallow OA, McGregor BA, Anderson N, Holmes JHG. Intake of trichostrongylid larvae by goats and sheep grazing together. Australian Veterinary Journal 1994;71(11):361-364.
8. Kelemework S, Tilahun A, Benalfew E, Getachew A. A study on prevalence of gastrointestinal helminthiasis of sheep and goats in and around Dire Dawa, Eastern Ethiopia. Journal of parasitology vector Biology 2016;8(10):107-113.
9. Khan MN, Sajid MS, Khan MK, Iqbal Z, Hussain A. Gastrointestinal helminthiasis prevalence and associated determinants in domestic ruminants of district Toba Tek Singh, Panjab, Pakistan. Parasitol Res 2010;107:787-794.
10. Kumar B, Maharana BR, Praswd A, Joseph PJ, Patel B, Patel JS. Seasonal incidence of parasitic diseases in bovines of south western Gujrat, India. Journal of Parasitic Diseases 2016;40(4):1342-1346
11. Nwosu CO, Madu PP, Richards WS. Prevalence and seasonal changes in the population of gastrointestinal nematodes of small ruminants in the semi-arid zone of northeastern Nigeria. Veterinary Parasitology 2007;144(1, 2):118-124.
12. Pedreira J, Silva AP, Andrade RS, Suarez JL, Arias M, Lomba C, *et al.* Prevalence of gastrointestinal parasites in sheep and parasite control practices in North-West Spain. Prev. Vet. Med 2006;75:56-62.
13. Raza MA, Arshad HM, Ayaz MM, Murtaza S, Bachaya HA, Basit A. Gastrointestinal helminthiasis in goats at the localities of Jatoi, Punjab, Pakistan. Science International (Lahore) 2012;24(2):171-175.
14. Raza MA, Murtaza S, Bachaya HA, Qayyum A, Zaman MA. Point prevalence of *Toxocara vitulorum* in large ruminants slaughtered at Multan abattoir. Pak Vet J, 2010;30:242- 244.
15. Rinaldi L, Veneziano V, Cringoli G. Dairy goat production and importance of gastrointestinal strongyle parasitism. Transactions of the Royal Society of Tropical Medicine and Hygiene 2007;101(8):745-746.
16. Soulsby E.J.L. Helminth, Arthropoda and Protozoa of Domesticated Animals. 7<sup>th</sup> ed. Elsevier, New Delhi 1982.