



Cross Sectional Study on Prevalence of Gastrointestinal Parasitic Infections in Cats of Coastal Region of Andhra Pradesh, India

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Received: 23 March, 2026

Revised: 29 April, 2026

Accepted: 05 May, 2026

ABSTRACT

The present research was carried out in various urban and rural areas across all 12 coastal districts of Andhra Pradesh from March 2025 to February 2026. Gastrointestinal parasites were identified through detailed microscopic examination of faecal samples. Out of 560 cat faecal samples examined, 316 cats were found positive for one or more gastrointestinal parasites, resulting in an overall prevalence of 56.42%. Out of which, trematode were 1.96%, cestodes were 16.80%, nematodes were 22.32% and protozoan parasites were 15.35% ($\chi^2 = 103.37$; $df = 3$; $p < 0.001$). 64 cats were found to harbour mixed parasitic infections, representing an overall prevalence of 11.42%. The spatial variation in parasitic infections between districts; between rural and urban areas. Rural areas had a higher prevalence (61.07%) than urban areas (51.78%), indicating greater exposure of rural cats to infective stages of parasites. Prevalence of gastrointestinal parasites were 47.50% in Srikakulam, 42.50% in Vizianagaram, 62.50% in Visakhapatnam, 42.50% in Anakapalli, 60.00% in Kakinada, 55.00% in Dr. B.R. Ambedkar Konaseema, 57.50% in West Godavari, 60.83% in Krishna, 45.00% in Bapatla, 50.00% in Prakasam, 75.00% in Sri Potti Sriramulu Nellore and 70.00% in Tirupati of Andhra Pradesh. Overall prevalence was highest in adult cats aged 1–6 years (72.12%), cats up to 1 year (65.17%), 7–10 years (24.27%) and above 10 years old age (22.64%) ($\chi^2 = 106.52$; $df = 3$; $p < 0.001$). Overall prevalence rates of 59.17% in males and 52.86% in females. It was 79.44% in Indian shorthair cats, 51.67% in mixed-breed cats and 50.00% in Persian cats. Shorthair cats had 55.11% and longhair cats had 57.98%. The overall prevalence of gastrointestinal parasites was markedly higher in pregnant cats (75.76%) than in non-pregnant cats (49.29%). Prevalence was 37.62% in indoor cats, 62.46% in indoor-outdoor cats and 84.93% in outdoor/free-ranging cats. Highest prevalence recorded during the post-monsoon (66.07%) followed by monsoon (64.28%), summer (27.52%) and winter (59.13%).

HIGHLIGHTS

- Overall GI parasite prevalence was 56.42%, with predominant nematodes.
- Infection was higher in rural, adult, pregnant, and free-ranging cats.
- The highest prevalence was recorded during the post-monsoon season.

Keywords: Gastro-intestinal parasites, Cat, Andhra Pradesh, Prevalence

The bond between cats and humans extends back thousands of years. Cats have traditionally been valued primarily for their efficacy in pest management. They are essential to the nation's agricultural economies and food storage facilities since they regulate rodent populations, hence minimizing

How to cite this article: Revathi, G., Sivajothi, S., Kondaiah, P.M., Satheesh, K. and Reddy, B.S. (2026). Cross Sectional Study on Prevalence of Gastrointestinal Parasitic Infections in Cats of Coastal Region of Andhra Pradesh, India. *J. Anim. Res.*, **16**(03): 109-118.

Source of Support: None; **Conflict of Interest:** None



contamination and loss of grain reserves. The status of cats in urban and semi-urban regions has undergone significant transformation in recent years. The cat is transitioning from a “street dweller” to a “household companion” due to rapid urbanization and changing lifestyles. Gastrointestinal parasite infections continue to be prevalent health issues impacting cats globally, particularly in India. Infections caused by trematodes, cestodes, nematodes, and protozoa significantly contributed to feline morbidity. (Patil *et al.*, 2024). The effects of these parasites are often subtle, leading to long-term impairment that weakens the immune system and makes the animal more susceptible to subsequent infections. Many zoonotic parasites, such as *Toxocara cati* (which causes visceral and ocular larva migrans), *Ancylostoma* spp. (which causes cutaneous larva migrans), *Dipylidium caninum* and *Giardia duodenalis* were exclusively found in cats. There exists a significant danger of disease transmission to humans, especially to children and immunocompromised individuals, due to intimate physical interaction between cats and their owners, alongside environmental contamination by infectious eggs, oocysts, or larvae. Environmental factors markedly affect the heterogeneous epidemiology of these parasites. The coastal areas of Andhra Pradesh have a distinctive biological environment characterized by a tropical climate, elevated humidity, and substantial monsoonal precipitation. Research on gastrointestinal parasites in felines has been undertaken throughout India (Vincy and Tresamol, 2023; Vishrutaet *al.*, 2024), but no study has examined the cat population in the coastal region of Andhra Pradesh. A contemporary, cross-sectional investigation is urgently required to bridge this knowledge gap. Notwithstanding these advantageous ecological and environmental settings, epidemiological data regarding feline gastrointestinal parasites in this region is significantly deficient. An urgent requirement exists for information to formulate evidence-based deworming protocols, create a baseline for future surveillance, and mitigate the danger of zoonotic transmission in the region (Sivajothi *et al.*, 2025).

MATERIALS AND METHODS

The study area encompasses coastal districts in Andhra Pradesh, India. The coastal region stretches approximately 1053 km along the Bay of Bengal, making it the third-longest coastal region in India, situated roughly

between 13°24'N and 19°54'N latitudes and 80°02'E and 86°46'E longitudes. The coastal districts of Andhra Pradesh in the present study include Srikakulam, Vizianagaram, Visakhapatnam, Anakapalli, Kakinada, Dr B.R. Ambedkar Konaseema, West Godavari, Krishna, Bapatla, Prakasam, Sri Potti Sriramulu Nellore and Tirupati. (G.O. Rt. No. 173, Revenue (Lands- IV), 02.04.2022 of The Andhra Pradesh Gazette Published by authority). Temperature in this region range from 20°C to 44°C, making it hot and muggy. The southwest monsoon brings heavy rains, while the northeast monsoon brings substantial rainfall and summers are hot. This region is a major contributor to India's seafood exports, produces a large portion of the state's rice and is considered vital for agriculture, aquaculture and maritime trade. The coastline is vulnerable to erosion and approximately one-third of the land is more prone to regular serious issues. It is frequently hit by cyclones and floods, which, combined with high population density and poor sanitation in some areas, create a high-risk environment for disease outbreaks.

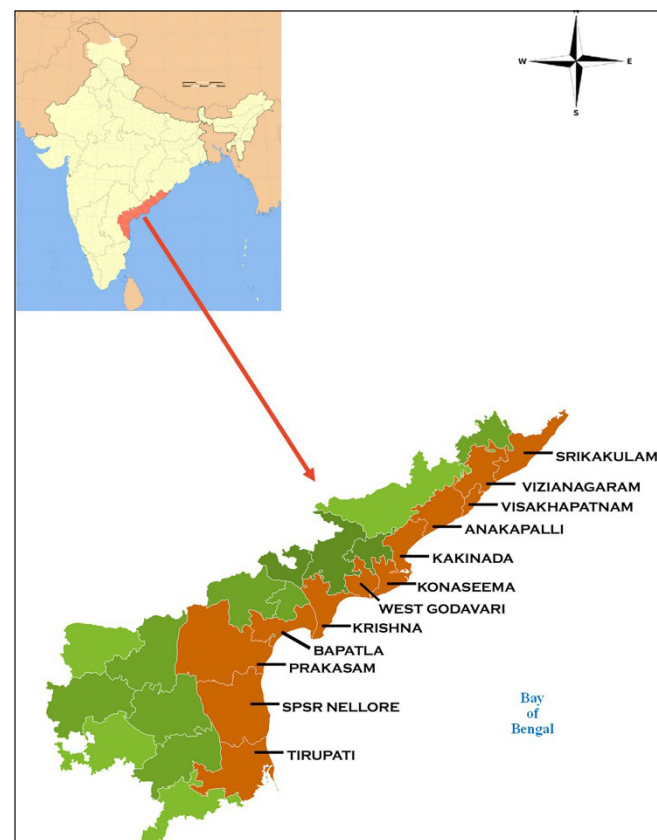


Fig. 1: Overall prevalence of gastrointestinal parasites in cats

Cats belonging to the Indian shorthair (*desi*) breed, Persian breed, mixed breed and those with different clinical signs were included in the present study (Fig. 2). Faecal samples were collected from cats presented to the various Veterinary Hospitals and from cats in individual houses across all the coastal districts of Andhra Pradesh (Fig. 1). Using a random sampling method, faecal samples were collected from various urban and rural areas across all 12 coastal districts of Andhra Pradesh. In the present study, a total of 560 samples were collected from March 2025 to February 2026.

Data collection was undertaken using a well-defined questionnaire to record the prevalence of gastrointestinal parasitic infections. Cats were divided into age wise as below 1 year, 1 to 6 years, 7 to 10 years, above 10 years age; gender wise; breed wise as Indian shorthair, Persian and mixed breed (Apoorva *et al.*, 2026); based on the pattern of hair i.e. shorthair breed and longhair breed; pregnant or non-pregnant; housing pattern style i.e. indoor, indoor and outdoor and outdoor/free- ranging, based on the season wise summer, monsoon, post monsoon and winter (Dhanamjayan *et al.*, 2025).

Faecal samples were collected directly from the litter box of the owned cats. Using a scoop, about 3–5 grams of excrement were collected into the designated container. Faecal samples were collected directly from the rectum of cats presented to Veterinary Hospitals. Rectal faecal samples were collected using a sterile cotton swab or faecal loop inserted approximately 1–2 cm into the rectum. The loop was gently rotated along the rectal mucosa to ensure adequate sample collection, then withdrawn. The faecal material obtained was transferred aseptically into labelled sterile containers using a spatula. Faecal samples were screened by macroscopic examination, direct smear, concentration techniques and special staining techniques (Csokai *et al.*, 2025; Sivajothi and Reddy, 2019).

The frequency and prevalence of overall infections, single-species infections, mixed infections and different patterns of mixed parasitic infections were calculated using standard epidemiological methods. Statistical analysis was performed using SPSS Statistics version 22.0, and statistical significance was considered at $p < 0.05$. Results were expressed as Odds Ratios (ORs) with 95% Confidence Intervals (CIs) to identify significant predictors and quantify the magnitude of risk. $OR < 1 \rightarrow$ Protective

effect (reduced risk); $OR > 1 \rightarrow$ Increased risk; p value $< 0.05 \rightarrow$ statistically significant association.

RESULTS

Gastrointestinal parasites were identified through detailed microscopic examination of faecal samples, with differentiation based on characteristic morphological features of parasitic ova/cysts/oocysts/larvae and adult worms. The overall prevalence of single gastrointestinal parasites detected in cats examined during the present study was summarized in Table 1, Fig. 3.

Table 1: Overall prevalence of gastrointestinal parasites in cats

Sl. No.	Name of the parasites	Number of positives	Prevalence (%)	95% CI (%)
Trematodes				
1	<i>Amphimerus</i> spp.	11	1.96	0.08-3.12
Cestodes				
2	<i>Taenia</i> spp.	22	3.93	2.34-5.52
3	<i>Diphyllbothrium latum</i>	21	3.75	2.17-5.33
4	<i>Dipylidium caninum</i>	19	3.39	1.89-4.90
5	<i>Hymenolepis nana</i>	17	3.03	1.61-4.46
6	<i>Spirometra</i> spp.	15	2.68	1.34-4.02
	Total	94	16.80	
Nematodes				
7	<i>Ancylostoma</i> spp.	51	9.10	6.72-11.50
8	<i>Toxocara cati</i>	42	7.50	5.31-9.69
9	<i>Capillaria</i> spp.	15	2.68	1.34-4.02
10	<i>Toxascaris leonina</i>	14	2.50	1.20-3.80
11	<i>Physaloptera</i> spp.	3	0.53	0.002-1.14
	Total	125	22.32	
Protozoa				
12	<i>Toxoplasma gondii</i>	26	4.64	2.89-6.39
13	<i>Cystoisospora felis</i>	20	3.57	2.05-5.09
14	<i>Cryptosporidium</i> spp.	16	2.85	1.47-4.24
15	<i>Cystoisospora rivolta</i>	13	2.32	1.06-3.58
16	<i>Entamoeba</i> spp.	7	1.25	0.033-2.17
17	<i>Giardia</i> spp.	4	0.71	0.01-1.41
	Total	86	15.35	
	Grand Total	316	56.42	



Out of 560 cat faecal samples examined, 316 cats were found positive for one or more gastrointestinal parasites, resulting in an overall prevalence of 56.42 percent, indicating that more than half of the studied feline population harboured gastrointestinal parasitic infections. Out of which, trematode were 1.96 percent, cestodes were 16.80 percent, nematodes were 22.32 percent and protozoan parasites were 15.35 percent. The single species of trematode prevalent was *Amphimerus* spp. (1.96%). Among cestodes, various parasites such as *Taenia* spp. (3.93%), *Diphylobothrium latum* (3.75%), *Dipylidium caninum* (3.39%), *Hymenolepis nana* (3.03%) and *Spirometra* spp. (2.68%) were recorded. The most prevalent nematodes were *Ancylostoma* spp. (9.10%), *Toxocara cati* (7.50%), *Capillaria* spp. (2.68%), *Toxascaris leonina* (2.50%) and *Physaloptera* spp. (0.53%). The prevalence of the protozoan parasites was *Toxoplasma gondii* (4.64%), *Cystoisospora felis* (3.57%) and *Cryptosporidium* spp. (2.85%), *Cystoisospora rivolta* (2.32 %), *Entamoeba* spp. (1.25 %) and *Giardia* spp. (0.71%). There was a highly significant difference in prevalence among parasite groups ($\chi^2 = 103.37$; $df = 3$; $p < 0.001$). Nematodes showed the highest infection rate, followed by cestodes, protozoa and trematodes. No significant difference in prevalence was observed among the cestode species ($\chi^2 = 1.81$; $df = 4$; $p = 0.772$).

The prevalence of mixed gastrointestinal parasitic infections observed in cats was presented in Table 2. Mixed infections refer to the simultaneous occurrence of two or more parasitic species in a single host. Of the 560 cats examined, 64 were found to harbour mixed parasitic infections, representing an overall prevalence of 11.42 percent and indicating that a considerable

proportion of cats were exposed to multiple sources of infection. Out of which, 3.21 percent mixed infection of *Toxocara cati* and *Toxascaris leonina*; 1.61 percent prevalence due to coinfections of *Diphylobothrium latum* and *Cystoisosporaspp.* Polyparasitism of *Toxocara cati*, *Taenia* spp., *Diphylobothrium latum* was noticed in 2.68 percent; concurrent infections of *Toxocara cati*, *Capillaria* spp., *Ancylostoma* spp. were noticed in 1.96 percent; combination of *Toxocara cati*, *Ancylostoma* spp., *Cystoisospora* spp. and *Entamoeba* spp. were noticed in 1.43 percent; combination of *Ancylostoma* spp., *Amphimerus* spp. and *Cystoisospora* spp. were noticed in 0.53 percent of cats.

The district-wise prevalence of gastrointestinal parasites in cats across the different coastal districts of Andhra Pradesh was presented in Table 3 and Fig. 4, 5 and 6. The findings revealed considerable spatial variation in parasitic infections between districts; between rural and urban areas. Of the 560 cats examined, 316 tested positive, resulting in an overall prevalence of 56.42 percent. When categorised by locality, rural areas had a higher prevalence (61.07%) than urban areas (51.78%), indicating greater exposure of rural cats to infective stages of parasites. Prevalence of gastrointestinal parasites were 60.00; 35.00; 47.50 percent in Srikakulam, 50.00; 35.00; 42.50 percent in Vizianagaram, 60.00; 65.00; 62.50 percent in Visakhapatnam, 55.00; 30.00; 42.50 percent in Anakapalli, 65.00; 55.00; 60.00 percent in Kakinada, 60.00; 50.00; 55.00 percent in Dr. B.R. Ambedkar Konaseema, 60.00; 55.00; 57.50 percent in West Godavari, 66.67; 55.00; 60.83 percent in Krishna, 45.00; 45.00; 45.00 percent in Bapatla, 55.00; 45.00; 50.00 percent in Prakasam, 70.00; 80.00; 75.00 percent in Sri Potti Sriramulu Nellore and

Table 2: Prevalence of mixed gastrointestinal parasites in cats

Sl. No.	Name of the parasites	Number of positives	Prevalence (%)
1	<i>Toxocara cati</i> + <i>Toxascaris leonina</i>	18	3.21
2	<i>Toxocara cati</i> + <i>Taenia</i> spp. + <i>Diphylobothrium latum</i>	15	2.68
3	<i>Toxocara cati</i> + <i>Capillaria</i> spp. + <i>Ancylostoma</i> spp.	11	1.96
4	<i>Diphylobothrium latum</i> + <i>Cystoisospora</i> spp.	9	1.61
5	<i>Toxocara cati</i> + <i>Ancylostoma</i> spp. + <i>Cystoisospora</i> spp. + <i>Entamoeba</i> spp.	8	1.43
6	<i>Ancylostoma</i> spp. + <i>Amphimerus</i> spp. + <i>Cystoisospora</i> spp.	3	0.53
	Total	64	11.42

Table 3: District wise prevalence of gastrointestinal parasites in cats of coastal districts of Andhra Pradesh

Sl. No.	Name of the districts	Rural		Urban		Total		OR
		N	%	N	%	N	%	
1	Srikakulam (40)	12	60.00	7	35.00	19	47.50	2.79
2	Vizianagaram (40)	10	50.00	7	35.00	17	42.50	1.86
3	Visakhapatnam (40)	12	60.00	13	65.00	25	62.50	0.81
4	Anakapalli (40)	11	55.00	6	30.00	17	42.50	2.85
5	Kakinada (40)	13	65.00	11	55.00	24	60.00	1.52
6	Dr. B.R. Ambedkar Konaseema (40)	12	60.00	10	50.00	22	55.00	1.50
7	West Godavari (40)	12	60.00	11	55.00	23	57.50	1.23
8	Krishna (120)	40	66.67	33	55.00	73	60.83	1.64
9	Bapatla (40)	9	45.00	9	45.00	18	45.00	1
10	Prakasam (40)	11	55.00	9	45.00	20	50.00	1.49
11	Sri Potti Sriramulu Nellore (40)	14	70.00	16	80.00	30	75.00	0.58
12	Tirupati (40)	15	75.00	13	65.00	28	70.00	1.62
Total		171	61.07	145	51.78	316	56.42	

OR >1 = Higher odds in rural; OR < 1 = Higher odds in urban.

**Fig. 2:** Cat breeds under the study (Indian Short hair; Longhair and Persian)

75.00; 65.00; 70.00 percent in Tirupati in rural, urban and total respectively in different coastal districts of Andhra Pradesh.

There was no statistically significant association between district and area (rural vs. urban) with parasite positivity ($\chi^2 = 9.87$; $p = 0.540$). Rural vs urban positivity does not differ significantly across districts. District-wise comparison of infections between rural and urban areas revealed considerable variation in risk. The odds of infection were markedly higher in rural cats in the Srikakulam (OR = 2.79) and Anakapalli (OR = 2.85) districts, indicating

that rural cats in these regions were nearly three times as likely to be infected as urban cats. A moderate increase in rural risk was also observed in Vizianagaram (OR = 1.86), Kakinada (OR = 1.52), Dr B.R. Ambedkar Konaseema (OR = 1.50), West Godavari (OR = 1.23), Krishna (OR = 1.64), Prakasam (OR = 1.49) and Tirupati (OR = 1.62). In Bapatla district, the odds were identical in rural and urban areas (OR = 1.00), indicating no difference in the likelihood of infection. In contrast, urban cats showed higher odds of infection in Visakhapatnam (OR = 0.81) and Sri Potti Sriramulu Nellore (OR = 0.58), suggesting

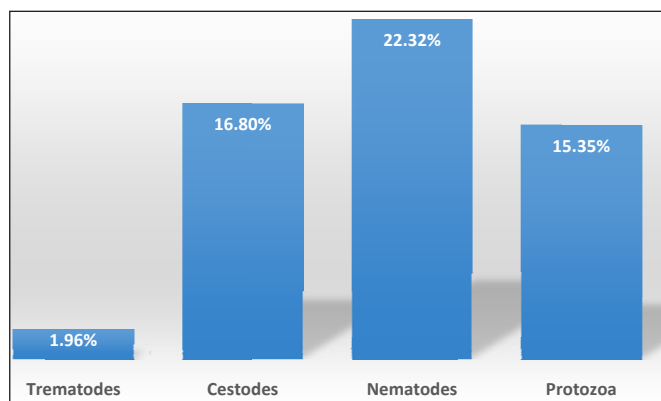


Fig. 3: Overall prevalence of gastrointestinal parasites in cats

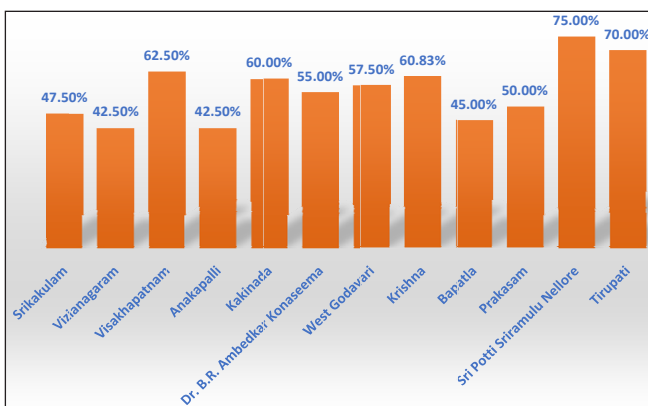


Fig. 4: District wise prevalence of gastrointestinal parasites in cats of coastal districts of Andhra Pradesh

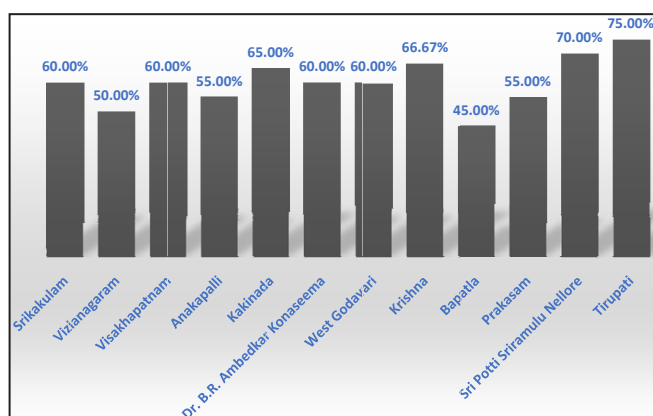


Fig. 5: District wise prevalence of gastrointestinal parasites in cats of coastal districts of Andhra Pradesh (Rural)

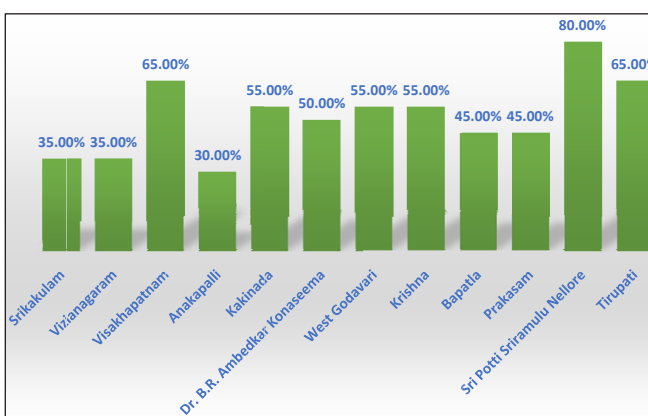


Fig. 6: District wise prevalence of gastrointestinal parasites in cats of coastal districts of Andhra Pradesh (Urban)

a greater risk in urban settings in these districts. Overall, most districts exhibited higher rural risk, although some showed the opposite trend, highlighting the influence of local environmental and management practices on infection dynamics.

The age-wise prevalence of gastrointestinal parasites in cats was demonstrates a clear relationship between age and susceptibility to parasitic infections. The examined cats were categorised into four age groups: up to 1 year ($n = 178$), 1–6 years ($n = 226$), 7–10 years ($n = 103$) and above 10 years ($n = 53$). Overall prevalence was highest in adult cats aged 1–6 years (72.12%), followed by young cats up to 1 year (65.17%), whereas markedly lower prevalence was observed in older age cats of 7–10 years (24.27%) and above 10 years old age (22.64%). A significant association was found between age group and gastrointestinal parasite

positivity ($\chi^2 = 106.52$; $df = 3$; $p < 0.001$). Cats in the 1–6 year (72.12%) and under 1 year (65.17%) categories exhibited the highest infection prevalence, whereas senior cats (>10 years) showed the lowest prevalence (22.64%). This indicates that younger cats are at a markedly higher risk of parasitic infection than older cats. A significant association was observed between age group and the occurrence of several gastrointestinal parasites in cats.

A total of 560 cats were examined, comprising 316 males and 244 females. Among them, 187 male cats and 129 female cats tested positive for one or more gastrointestinal parasites, yielding overall prevalence rates of 59.17 percent in males and 52.86 percent in females. The findings indicate a slightly higher susceptibility of male cats to gastrointestinal parasitic infections than females.

The study population consists of Indian shorthair cats ($n = 107$), Persian cats ($n = 184$) and mixed-breed cats ($n = 269$). Overall, the highest prevalence of gastrointestinal parasites was recorded in Indian shorthair cats (79.44%), followed by mixed-breed cats (51.67%), while Persian cats showed comparatively lower prevalence (50.00%). The higher infection rate was observed in Indian shorthair cats may be attributed to their predominantly free-roaming nature, frequent outdoor exposure, hunting habits, and limited routine veterinary care compared to pedigree breeds.

The study population included shorthair cats ($n = 303$) and longhair cats ($n = 257$). Among them, 167 shorthair cats and 149 longhair cats tested positive for one or more gastrointestinal parasites, resulting in overall prevalence rates of 55.11 percent and 57.98 percent respectively. The findings indicate a slightly higher prevalence of gastrointestinal parasitic infections in longhair breeds than in shorthair breeds.

The prevalence of gastrointestinal parasites in cats was analysed by pregnancy status to evaluate whether gestation influences susceptibility to parasitic infections. A total of 33 pregnant and 211 non-pregnant cats were examined. The overall prevalence of gastrointestinal parasites was markedly higher in pregnant cats (75.76%) than in non-pregnant cats (49.29%), suggesting that pregnancy may be an important physiological risk factor predisposing cats to parasitic infections. The results indicated that most parasites were not statistically significantly associated with pregnancy status ($p > 0.05$).

The study population consists of cats maintained in indoor housing ($n = 202$), indoor-and outdoor housing ($n = 285$) and outdoor/free-ranging housing ($n = 73$). Among these groups, 76 indoor cats (37.62%), 178 indoor-outdoor cats (62.46%) and 62 outdoor/free-ranging cats (84.93%) were found positive for one or more gastrointestinal parasites. The results clearly demonstrate a progressive increase in parasite prevalence with increasing environmental exposure, indicating that the housing system is one of the most significant epidemiological determinants of gastrointestinal parasitic infections in cats. The prevalence of gastrointestinal parasites showed a strong association with housing system, with infection rates increasing progressively from indoor to indoor-outdoor and outdoor/free-ranging cats.

The seasonal distribution of gastrointestinal parasites in cats revealed the highest prevalence recorded during the post-monsoon (66.07%) followed by monsoon (64.28%), summer (27.52%) and winter (59.13%). A total of 109 cats were examined in summer, 224 in monsoon, 112 in post-monsoon, and 115 in winter, indicating that environmental factors associated with rainfall and humidity likely influence parasite transmission. sanitation, seasonally specific prevention measures and increased owner awareness to effectively reduce parasitic infestations. Enhancing public education, providing reliable veterinary support and implementing community-driven control efforts are vital for protecting animal health and minimizing zoonotic risks for cats in these coastal regions.

DISCUSSION

The prevalence of gastrointestinal parasites in Bengaluru cats was investigated by Gautham *et al.* (2018). Using Sheather's floatation method, they analyzed 144 fecal samples and discovered two with *Toxoplasma gondii*-like oocysts; however, no direct smears revealed any such oocysts. Sheikh *et al.* (2020) investigated the presence of gastrointestinal helminths in stray cats in the Indian Kashmir Valley over a one-year period. Sedimentation and flotation tests on 887 fecal samples revealed 349 positive results, resulting in an overall prevalence of 39.43%. Four helminth species were found in the samples, according to the study. 6.31% of cats had one helminth, 19.16% had two, 13.30% had three, and 0.5% had four. In Kerala, India, Vincy and Tresamol (2023) documented gastrointestinal infections in domestic cats. A total of 19% of the 122 cats that were tested for gastrointestinal parasites had an infection. *Ancylostoma* spp. were the most common parasite (61%), followed by *Toxocara cati* (13.04%), *Isosporaspp.* (8.7%), *Diphyllbothrium latum* (4.35%), and mixed infections (13%). The frequency of gastrointestinal parasites and the efficacy of common anthelmintics for cats in Mumbai were documented by Patil *et al.* (2024). To ascertain the prevalence of parasites, they used sedimentation and flotation techniques to examine 360 fecal samples. Compared to domestic cats, stray cats had a higher infection rate of 53.06%.

Iturbe Cossio *et al.* (2021) investigated risk factors associated with feline parasites at a Mexican veterinary clinic. *Giardia* spp. had the highest prevalence (21.97%)

among 528 cats tested, followed by *Toxocara cati* (6.45%), *Cryptosporidium* spp. (7%), *Cystoisospora* spp. (5.11%) and *Dipylidium caninum* (0.76%). Of these, 121 cats (55.50%) had one parasite, 80 cats (36.69%) had two, and 17 cats (14.04%) had three. Adhikari et al. (2023) collected fecal samples from Central Nepal in order to assess the diversity and prevalence of GI parasites in both domestic and feral cats. Of the 107 fresh fecal samples they examined, 95.3% of the animals (11 species) had helminthic infections, and 55.1% had protozoan parasites (7 species). *Toxocara cati* and *Toxascaris leonina* were the most common dual infections, according to Abbas et al. (2022). Lower prevalence rates were found for other parasites, including hookworms (8.4%), Taeniids (4.2%), *Strongyloides* spp. (2.1%), *Physaloptera* spp. (2.1%), *Dipylidium caninum* (0.7%) and *Alaria* spp. (1.4%). *Cystoisospora* spp. were the most common protozoan, occurring in 9.1% of samples. *Cystoisospora rivolta* and *Cystoisospora felis* were found in 4.9% and 4.2% of these, respectively. A co-infection with both species was seen in one sample. According to a study conducted in a city in northeastern Brazil by Filho et al. (2022), the frequency of endoparasites in domestic cats was 23.81 percent. Helminths were found to contain *Ancylostoma* and *Toxocara* spp. Protozoa were found to contain *Cystoisospora* and *Entamoeba* spp. Twenty-eight percent of cats with positive results had co-infections. Silva et al. (2023) investigated the prevalence of gastrointestinal parasites in 237 domestic cats, of which 93 (39.2%) tested positive. The identified parasites included *Ancylostoma* spp. (17.3%), *Giardia intestinalis* (12.2%), *Platynosomum milliciens* (8.0%), *Cystoisospora* spp. (6.3%), *Toxoplasma gondii*/Hammondiahammondi (3.4%), *Diphyllbothriidae* (2.1%), *Toxocara* spp. (1.7%), *Dipylidium caninum* (1.3%) and *Mesocostoides* spp. (0.8%).

Adhikari et al. (2023) observed the overall prevalence of gastrointestinal parasites was 95.3%, with 94.4% (85/90) in household cats and 100% (17/17) in feral cats. Helminths had a significantly higher prevalence (92.5%) than protozoa (55.1%). Additionally, three morphotypes of *strongyle* eggs, two of *Strongyloides* and four of *Sarcocystis* spp. oocysts were identified. The first study on parasites in cats from Chapala, Mexico, was carried out by Gonzalez et al. (2024). After analyzing 113 fecal samples, they discovered that the prevalence of gastrointestinal

parasites was 52.21% (59 positive, 54 negative). Two parasite species, such as *Dipylidium caninum*, *Ancylostoma* spp., *Taenia* spp., *Cystoisospora* spp., *Giardia* spp., *Toxocara* spp. and *Hammondia* spp., were found in 27.11% of the positive samples. In Jabodetabek, Indonesia, Sawitriet al. (2024) investigated the prevalence and risk factors of zoonotic gastrointestinal helminths spread by cats. Roundworm (*Toxocara* spp.) at 37.9% (134/354), hookworm (*Uncinaria* spp. and *Ancylostoma* spp.) at 25.4% (90/354), and other helminths at 22.6% (80/354) were the most prevalent helminth infections in the cats under examination. Teixeira et al. (2024) examined faecal samples from 115 cats on the islands of São Miguel and Terceira in the Azores archipelago (Portugal) using the Willis flotation technique and a modified Baermann method. The study identified *Toxocara cati* (31.3%), *Ancylostomatidae* (30.43%), *Cystoisospora* spp. (14.78%) and *Trichuris* spp. (0.87%) with an overall prevalence of 53%. Sawitriet al. (2024) found that among the examined cats, 37.9% (134/354) were infected with *Toxocara* spp., 22.6% (80/354) had *Ancylostoma* spp., 25.4% (90/354) had *Uncinaria* spp., 3.1% (11/354) had *Strongyloides* spp., 2% (7/354) had *Diphyllbothrium* spp. and 0.6% (2/354) had *Dipylidium* spp. eggs. Lider et al. (2025) carried out a cross-sectional multicity study in Kazakhstan to examine the prevalence, risk factors, and zoonotic risks of gastrointestinal parasites in urban cats. From 1,301 fecal samples, 17.7% (230) tested positive for at least one parasite. The results indicated that 17.6% of the cats tested positive for gastrointestinal parasites. Female cats exhibited a higher infection rate (12.7%) compared to males (4.9%). The prevalence was 6.9% among adult cats and 10.7% among kittens. Zhang et al. (2025) investigated gastrointestinal protozoa in pet cats. The detection rate varied by age; cats under 6 months had a rate of 4.1% (5/123), which was not statistically significant ($p=0.16$). Gender did not significantly influence detection ($p>0.05$). Çelik et al. (2026) examined 100 cats and found a 62% prevalence of gastrointestinal parasites. Among these, helminths included *Toxocara* spp. (20%), *Joyeuxiella* spp. (1%) and *Fasciola* spp. (1%). Protozoa comprised *Giardia* spp. (47%) and *Cystoisospora* spp. (10%). Most infected cats (77%) had a single infection, while 20% had two and 3% had three co-infections. Riley et al. (2026) studied the occurrence of gastrointestinal parasites in cats at shelters in Northern Mississippi. Parasites were found in 48% of

the cats sampled. The average age was 16 months, with ages ranging from 6 weeks to 12 years.

The present study demonstrated that gastrointestinal parasitic infections are highly prevalent among cats in the coastal districts of Andhra Pradesh, with an overall prevalence of 56.42 percent, indicating that more than half of the examined feline population harboured one or more gastrointestinal parasites. Nematodes constituted the predominant group of parasites, followed by cestodes, protozoa and trematodes, with a highly significant variation observed among parasite groups. Among individual parasites, *Ancylostoma* spp. and *Toxocara cati* were the most frequently encountered nematodes, while *Toxoplasma gondii* and *Cystoisospora* spp. represented the major protozoan infections. The occurrence of zoonotically important parasites highlights the public health significance of feline gastrointestinal parasitism in the study region. Mixed parasitic infections were also common, affecting 11.42 percent of cats, indicating frequent exposure to multiple infective sources and favourable environmental conditions for transmission. Polyparasitism involving nematodes, cestodes and protozoa suggests complex infection dynamics and increased health risks in affected animals. Spatial analysis revealed considerable district-wise variation in prevalence, although no statistically significant association was observed between district and rural–urban distribution of infection. In general, rural cats exhibited higher infection rates than urban cats, likely due to greater environmental contamination, free-roaming behaviour, hunting practices and reduced access to regular veterinary care. Odds ratio analysis further demonstrated that rural cats in several districts were at substantially greater risk of infection than their urban counterparts. Age was identified as a major epidemiological determinant, with the highest prevalence recorded in cats aged 1–6 years and in kittens below one year of age, while older cats showed comparatively lower infection rates. Male cats exhibited slightly higher prevalence than females. Breed-wise analysis revealed that Indian shorthair cats were the most affected, probably because of their outdoor lifestyle and minimal preventive healthcare. Longhair cats showed marginally higher prevalence than shorthair cats, possibly due to greater contamination and retention of infective stages within the coat. Pregnancy appeared to increase susceptibility to parasitic infections, as pregnant cats exhibited markedly higher prevalence compared with

non-pregnant cats, although most individual parasites were not significantly associated with pregnancy status. Housing system emerged as one of the most important risk factors, with infection prevalence increasing progressively from indoor cats to indoor–outdoor and outdoor/free-ranging cats. This finding confirms the critical role of environmental exposure in parasite transmission. Seasonal variation showed the highest prevalence during the post-monsoon and monsoon periods, suggesting that warm temperatures, increased humidity and favourable environmental conditions enhance the survival and transmission of infective stages of parasites.

CONCLUSION

Overall, the study emphasizes that gastrointestinal parasitism remains a major health concern among cats in coastal Andhra Pradesh. The findings underscore the necessity for regular deworming programmes, improved sanitation and hygiene, routine faecal screening, proper housing management and increased owner awareness regarding preventive healthcare.

GENERATIVE AI DECLARATION

The author(s) confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript, and no images were manipulated using AI. The authors developed and verified all scientific content, data analysis, interpretation of results, and conclusions. The authors take full responsibility for the accuracy, integrity, and originality of the work presented, and no AI tool was listed as an author.

ACKNOWLEDGEMENTS

Authors are thankful to the authorities of Sri Venkateswara Veterinary University, Tirupati for providing the facilities.

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