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Zoonotic parasites in cats: regional prevalence and antiparasitic treatment outcomes

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Abstract

Pet animals play a crucial role in the socio-economic aspect of society. With the increasing pet population, primarily cats and dogs, the risk of transmitting zoonotic diseases is on the rise. About 40 cats from the districts of Gazipur and Tangail were chosen for investigation of the prevalence of various ectoparasitic and endoparasitic zoonotic diseases in cats as well as the effectiveness of various antiparasitic medications against them. Results showed that Gazipur had a prevalence rate of 60% for both ecto- and endoparasites. On the other hand, Tangail had a prevalence of 100% and 80% for ecto- and endoparasites, respectively. Three types of zoonotic ectoparasites were identified: *Ctenocephalides felis* (flea), *Ixodes ricinus* (tick), and *Sarcoptes scabiei* (mite), which exhibited prevalences of 75%, 18.75%, and 6.25%, respectively. Two types of zoonotic endoparasite eggs (nematodes) were identified, with *Toxocara cati, Ancylostoma spp.,* and the mixed infection of these two exhibiting prevalences of 78.57%, 14.29%, and 7.14%, respectively, in fecal sample tests. Eprinomectin, Fipronil spray, and Ivermectin injection were used to treat the ectoparasites that resulted in 93.1%, 100%, 88% efficacy against ectoparasites, respectively. Pyrantel pamoate, a combination of Praziquantel, Pyrantel pamoate, and Febentel, and Ivermectin were used to treat endoparasites in three groups which showed the efficacy to be 80%, 100%, and 70%, respectively. To summarize, the most common area for both ecto- and endoparasites was the Tangail district. *Ctenocephalides felis* (75%) and *Toxocara cati* (78.57%) were the most prevalent ectoparasite and endoparasite, respectively. Fipronil spray emerged as the most effective treatment for ectoparasites, while the combination of Praziquantel, Pyrantel pamoate, and Febentel demonstrated the highest efficacy in controlling endoparasites. The prevalence of ectoparasite and endoparasite infestations found among cats in this study highlights a troubling potential for the transmission of zoonotic parasitic infections. Additionally, this study evaluated the relative effectiveness of various drugs in controlling these parasites.

Keywords: Zoonoses, ectoparasites, endoparasites, prevalence, treatment efficacy, cat

Introduction

Pet animals play a significant aspect of human-animal contact that offers an optimal context to explore how individuals perceive the similarities and distinctions between humans and non-humans in their daily experiences. They are viewed as an extended family and treated as a unit as a whole. Although raising pets has its benefits, there are some drawbacks as well. Inadequate housing, deworming, and vaccination practices for pets kept with humans are to blame for the spread of zoonotic diseases (Moskvina and Zheleznova 2015). Among the various diseases affecting felines, parasitic diseases are mostly prevalent, posing considerably significant health challenges to cats globally (Zajac and Conboy 2012). Studies in Bangladesh show a high prevalence of parasitic diseases such as feline ascariasis, demonstrating their importance in feline health. Such diseases are an important part of veterinary care because they have a zoonotic potential that affects both animal welfare and public health (Alam and Rahman 2021).

Parasites are eukaryotic organisms that exist in nature as single-celled entities called protozoa, complex metazoans of various sizes known as helminths, or ectoparasites/ arthropods (Christaki 2020). The cat flea, *Ctenocephalides felis*, is a widespread ectoparasite of cats and is the most prevalent external parasite of companion animals (Rust and Dryden 1997). Sarcoptic mange, *Sarcoptes scabiei*, poses a threat not only for causing cat mange but also for affecting humans (Bandi and Saikumar 2013). Ticks are widespread and significant ectoparasites that can easily feed on a variety of vertebrate hosts, including house cats (Claerebout *et al.* 2013). Tick-borne disease agent

such as *Ixodes ricinus* is the most common species of hard tick that feeds on a variety of hosts and acts as a reservoir and vector for numerous zoonotic infections, including viruses, bacteria, helminths, and protozoa (Rizzoli *et al.* 2014). Intestinal parasites *Toxocara spp.* are prevalent in felines. Humans may contract the disease by accidentally ingesting contaminated food (Overgaauw and van Knapen 2013). Visceral larva migrans (VLM), ocular larva migrans (OLM), neuro toxocariasis (NT) (e.g., eosinophilic meningoencephalitis), and common/ covert toxocariasis (CT) are the four primary syndromes that arise from zoonotic Toxocara infection in humans (Rostami *et al.* 2020). As a result of their potential for zoonotic transmission *Ancylostoma tubaeforme* and *A. braziliense* are common feline endoparasites (Kalkofen 1987). Previous research found that cats were significantly infected with *A. tubaeforme*, resulting in dermatitis, anemia, lung lesions, and weight loss (Daba *et al.* 2021). The migration of *Ancylostoma spp.* larvae can cause dermatological problems such as cutaneous larva migrans, eosinophilic pneumonia, localized myositis, folliculitis, erythema multiforme, and ocular symptoms in humans (Paul *et al.* 2010).

In addition to jeopardizing the health and welfare of cats, these ectoparasitic and endoparasitic infestations also pose a zoonotic concern, particularly in the metropolitan and peri-urban areas of Bangladesh, where intimate human-animal interactions are common. Therefore, a prevalence study of various feline parasites is essential to prevent and control such zoonotic diseases.

A wide range of medications are available for the control of parasitic infestations in cats. For the control of endoparasites, certain medication such as praziquantel, pyrantel pamoate, febantel, ivermectin, milbemycin, etc. (Jacobs 1987, Pereira *et al.* 2016). For controlling ectoparasites ivermectin, fipronil, eprinomectin are widely used (Deger and Ural 2013, Shehzad *et al.* 2019, Tishyn *et al.* 2021). Furthermore, the resistance of cat parasites to commonly used antiparasitic medications underscores the urgent need to evaluate the efficacy of current therapeutic alternatives. In Bangladesh, veterinary facilities often lack modern methods tailored to regional parasite burdens and the increasing trends of treatment resistance. Comparative studies on the therapeutic efficacy of antiparasitic medications are essential for optimizing treatment protocols, enhancing animal welfare and reducing concerns about zoonotic transmission.

Given this backdrop, a thorough study on the prevalence of zoonotic ectoparasites and endoparasites in cats across two districts (Gazipur and Tangail), along with a comparative analysis of the effectiveness of antiparasitic treatments, is necessary. This research will help to bridge knowledge gaps, contribute to evidence-based veterinary practices, and advance health initiatives in Bangladesh.

Materials and methods

Sample collection and experimental procedure: The study was conducted on 40 free ranging domestic cats (20 cats from Gazipur district and 20 cats from Tangail district) at different pet clinics and hospitals. Data were collected using a pre-designed questionnaire and direct observation of the cats. The questionnaire included inquiries about the cat's age, sex, breed, and any prior history of parasitic infestations. Direct observation revealed ectoparasites on the cat's skin and fur. The study was conducted in two separate experiments:

Experiment 1: Identification of zoonotic parasites and determination of prevalence: A total of 40 cats (20 cats from Gazipur district and 20 cats from Tangail district) were examined for the presence of zoonotic ectoparasites from skin samples, and hair samples (area 2×2 inches), and zoonotic endoparasites from fecal samples were collected from the cats to identify the type of parasites and determine their prevalence.

Experiment 2: Treatment and evaluation of therapeutic efficacy: From the total of 40 domestic cats, 20 cats were selected for the therapeutic efficacy of the treatment of ectoparasitic infestations. The following drugs were administered and divided the 20 cats into 4 groups.

Group 1: Five cats were selected as the control group & no treatment was given. The sample was collected on day 01 and after 15 days.

Group 2: Five cats were selected & Eprinomectin (brand name-Navaprin pour on®, Navana Pharmaceuticals Ltd., Bangladesh) was used at 16 drops/10kg on the skin, once

on day 01. After 15 days the sample was collected from the selected cats.

Group 3: Five cats were selected & Fipronil (brand name- Frontline Spray®, Boehringer Ingelheim, Germany) was used at 6-12 pumps/kg on the skin once at day 01. Then after 15 days, the sample was collected from the cats.

Group 4: Five cats were selected & Ivermectin (brand name- Inj. Vermic®, Techno Drugs Ltd., Bangladesh) was used at 0.2 mg/kg subcutaneous injection once at day 01. Then the samples were collected from these cats on day 15.

On the other hand, for the treatment of endoparasitic infestations, another 20 cats were selected to determine the therapeutic efficacy of the following drug and divided the cats into four groups as group 5, group 6, group 7 & group 8.

Group 5: Five cats were selected in group 5 as the control group & no treatment was given. The feces samples were collected from this group on days 01 & 15.

Group 6: This group had five cats and the combination of Praziquantel, Pyrantel pamoate, and Febentel (Brand name- Tab. Helminticide-L®, General Drugs House Co. Ltd., Thailand) was used at 1tab/10kg, oral administration at days 1. The feces samples were collected on day 01 & day 15.

Group 7: Another five cats were selected & Pyrantel Pamoate (Brand name -Sus. Delentin®, Renata Limited. Bangladesh) was administrated orally at 10mg/kg, once on day 01. Then, feces samples were collected on day 01 & day 15.

Group 8: In this group, five more cats were selected and Ivermectin (Inj. Vermic®, Techno Drugs Ltd., Bangladesh) was injected subcutaneously once at 0.2mg/kg on day 01. On days 01 & 15, samples were collected from this group.

Examination of ectoparasites: Potassium hydroxide (KOH) preparation was commonly used to detect ectoparasites in clinical specimens (Kaur and Kaur 2014). KOH is a strong alkali that dissolves, breaks down, and softens tissues in a skin sample, including keratin. This made it easier to see the parasite under a microscope (Shavandi *et al.* 2017). The 10% KOH solution was first applied on a slide in two to three drops. The fur sample was then added in small amounts to the KOH solution and spread out as evenly as possible. The sample was then exposed to the Bunsen flame for three to four seconds while being shielded with a coverslip. For several minutes, the sample was held. Then, the slide was examined for ectoparasites using 4x and 10x magnifications under the microscope (Optima biological microscope G-206, Optima®, Taiwan).

Examination of endoparasites: The isolation and identification of oocysts and cysts in canine and feline excrement can be accomplished using the centrifugal flotation method with zinc sulfate [specific gravity (S.G.) 1.18] (Cobban 2024). Initially, about 2 grams of excrement were put into a single-use plastic cup with a large opening. The feces and around 4 milliliters of flotation solution were thoroughly mixed. The container was filled with four milliliters of flotation solution and stirred again. A tea strainer was used to filter the fecal suspension before it was moved to a fresh container. A test tube with a volume of 10–15 ml and support on a stand received the contents. The sample was then centrifuged at 500 g for 10 minutes. Additional flotation solution was slowly added until a positive meniscus appeared at the top of the test tube. Then coverslip was placed on top and let to stand for another 5-10 minutes. The coverslip with the fluid drop attached to the bottom was meticulously removed and placed on a microscope slide. Before positioning the coverslip, a drop of Lugol's iodine was put on the slide. Subsequently, it was examined under a light microscope at 4x and 10x to detect the specific oocysts of endoparasite and count them also.

The prevalence of ecto- and endoparasite was calculated using the following formula:

Prevalence (%) = {(Number of positive cases found in ecto- or endoparasite/ total sample size in ecto- or endoparasite) × 100}

The efficacy of the drugs was calculated using the following formula:

Efficacy (%) = {(Average no. of ectoparasites or oocytes of endoparasites before treatment- Average no. of ectoparasites or oocytes of endoparasites after treatment)/

Average no. of ectoparasites or oocytes of endoparasites before treatment} × 100

Statistical analysis: The collected data were recorded and organized in a Microsoft Excel 365 worksheet. TTEST was carried out to evaluate the level of significance and $p<0.05$ was considered as significant.

Results and discussion

Among the total 20 samples, 10 samples were taken from Gazipur and 10 samples were taken from Tangail district. From 20 samples, 16 samples were positive for ectoparasite infestations. The prevalence rate was 80% (Table 1). In Gazipur district the prevalence rate was 60%, where 6 cases were positive for ectoparasite infestation against 10 samples. On the other hand, 100% prevalence was observed in Tangail. There are no studies on prevalent ectoparasitic diseases in Gazipur and Tangail district. But in a study by Authoy *et al.* 2023, the prevalence of ectoparasites in cats in Dhaka was 76.92% (Authoy *et al.* 2023). In contrast only 27.4% prevalence was seen in Sylhet district (Nyema *et al.* 2024). In Mymensingh district the prevalence of ectoparasites in cats was 88.89% (Rahman *et al.* 2009). In Bangkok, Thailand, a similar study was conducted where the prevalence of ectoparasites in free roaming cats was 95.8% (Jittapalapong *et al*. 2008).

Three types of ectoparasites were found on the skin-scrapping tests. The species of these parasites were identified based on their morphology. The flea species was *Ctenocephalides felis.* The tick and mite species were *Ixodes ricinus* and *Sarcoptes scabiei,* respectively (Figure 1). Among these fleas was most prevalent having 75% prevalence (Table 2). The prevalence of tick and mite was 18.75% and 6.25%, respectively. In contrast, the prevalence of mites was 62.5%, fleas 8.92 and tick 3.57% in a study conducted in Dhaka (Authoy *et al.* 2023). Akucewich *et al.* 2002, showed that 92.5% of feral cats of USA had flea (*Ctenocephalides felis*) infestation whereas mites infestation was in 37% cases and the prevalence of ticks was 4.5% (Akucewich *et al.* 2002).

A total of 20 samples were collected, 10 samples were taken from Gazipur and 10 samples from Tangail district. Among these 20 samples, 14 samples were positive for endoparasite infestations where 70% of cases were prevalent (Table 1). 60% of cases in the Gazipur district tested positive for endoparasite infestations out of 10 samples. On the other side, Tangail showed an 80% prevalence. According to Mukutmoni *et al.* 2022, the prevalence of endoparasites in cats in Dhaka was 32.40% (Mukutmoni *et al.* 2022). But in another study by Mehedi et al., 2020, the prevalence of endoparasitic infestation in cats of Mymensingh district was 62.9% (Mehedi *et al.* 2020). The prevalence of endoparasites household cats in Dhaka was 43.44% (Aurin *et al.* 2020)many of which have zoonotic potential. Because domestic owned cats (pet. According to Islam *et al.* 2018the popularity of cats as a pet is increasing in Bangladesh specially in megacities where keeping large pets is difficult. However, this popular pet is being affected by various intestinal parasitism that may threaten public health by spreading zoonotic parasitic diseases. But surprisingly, no comprehensive study has been documented yet detailing the status of parasitic infections in Bangladeshi domestic cats and their public health importance. Therefore, the study was conducted to evaluate the prevalence of intestinal parasitism in household cats in Dhaka, Bangladesh to find out the associated risk factors and evaluate the perception of cat owners on the zoonotic potential of the associated diseases. Questionnaire based survey was conducted among the cat

Table 1. Prevalence of parasites in cats in Gazipur and Tangail district

Description	District	Sample size	Positive Cases	Prevalence (%)
Prevalence of ectoparasites	Gazipur	10	6	60
	Tangail	10	10	100
	Total	20	16	80
Prevalence of endoparasites	Gazipur	10	6	60
	Tangail	10	8	80
	Total	20	14	70

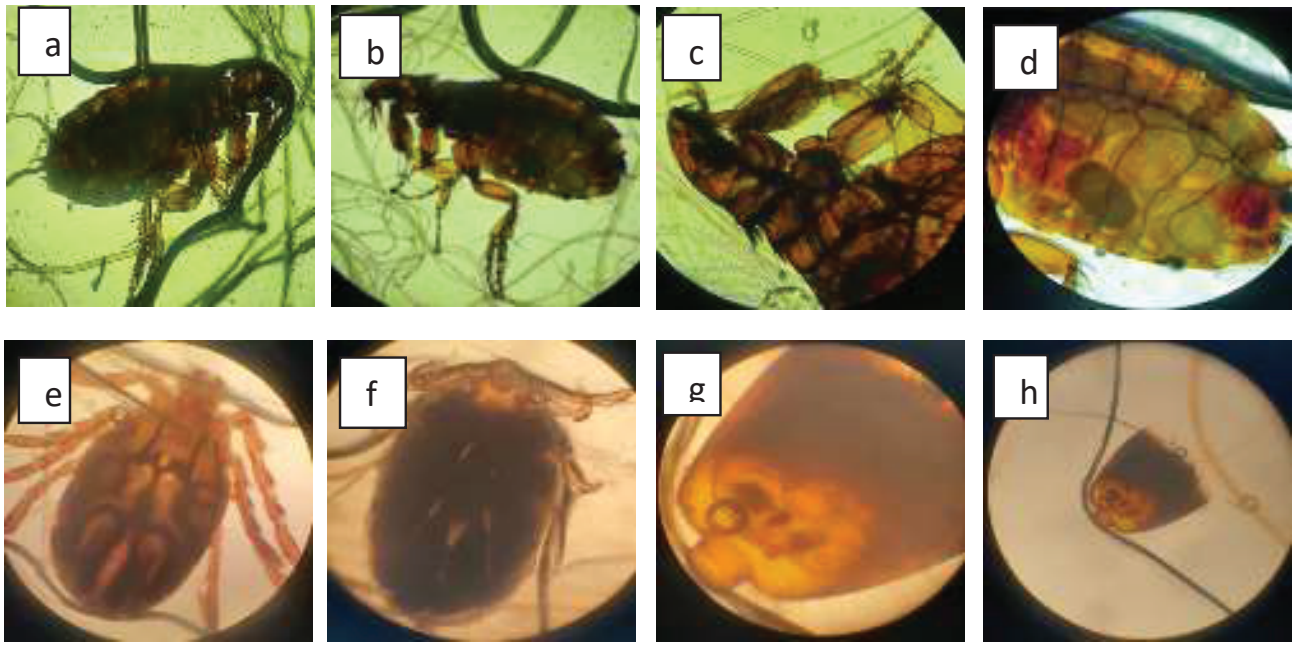


Figure 1. Different ectoparasites found in the body of the cats: (a) & (b) showed fleas (*Ctenocephalides felis)* (4x), (c) & (d) showed fleas (*Ctenocephalides felis*) (10x), (e) & (f) showed tick (*Ixodes ricinus*) (4x), (g) showed mite (*Sarcoptes scabiei*) (4x) and (h) showed mite (*Sarcoptes scabiei*) (10x).

owners to reveal their perception on parasitic diseases and potential health hazards. Besides, five hundred seventy nine (579, the prevalence rate of endoparasites in cats of Dhaka was 77.4% (Islam *et al.* 2018)the popularity of cats as a pet is increasing in Bangladesh specially in megacities where keeping large pets is difficult. However, this popular pet is being affected by various intestinal parasitism that may threaten public health by spreading zoonotic parasitic diseases. But surprisingly, no comprehensive study has been documented yet detailing the status of parasitic infections in Bangladeshi domestic cats and their public health importance. Therefore, the study was conducted to evaluate the prevalence of intestinal parasitism in household cats in Dhaka, Bangladesh to find out the associated risk factors and evaluate the perception of cat owners on the zoonotic potential of the associated diseases. Questionnaire based survey was conducted among the cat owners to reveal their perception on parasitic diseases and potential health hazards. Besides, five hundred seventy nine (579.

Table 2. Prevalence of different parasites in cats in Gazipur and Tangail district

Description	Types of parasites	No. of positive cases	Prevalence (%)
Prevalence of different ectoparasites	*Ctenocephalides felis*	12	75
	Ixodes ricinus	3	18.75
	Sarcoptes scabiei	1	6.25
	Total	16	
Prevalence of different endoparasites	*Toxocara cati*	11	78.57
	Ancylostoma spp.	2	14.29
	Mixed *(Toxocara cati & Acylostoma spp.)*	1	7.14
	Total	14	

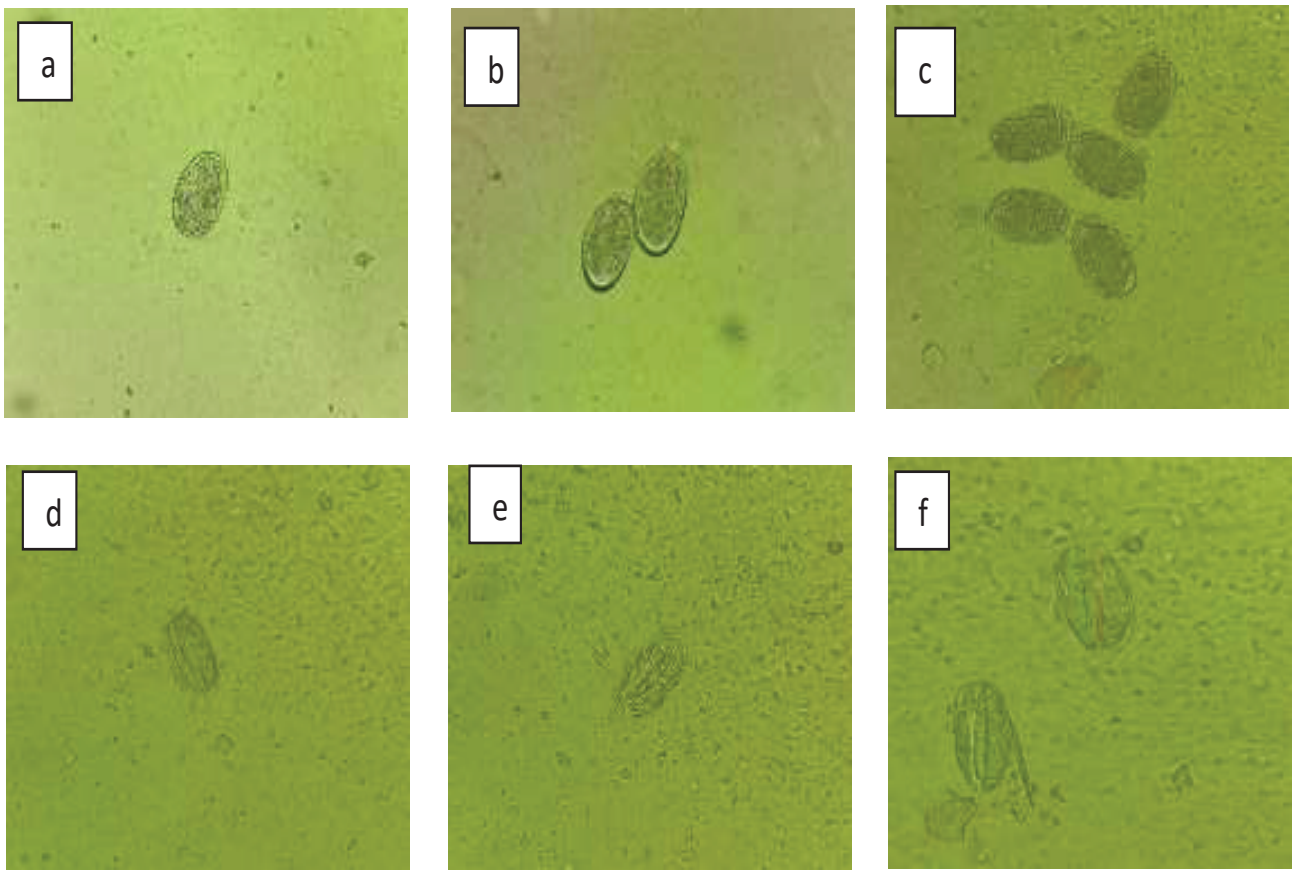


Figure 2. Different oocysts of endoparasites found in the feces of the cats: (a), (b) & (c) showed oocysts of *Toxocara cati* (10x) and (d), (e) & (f) showed oocysts of *Ancylostoma spp.* (10x).

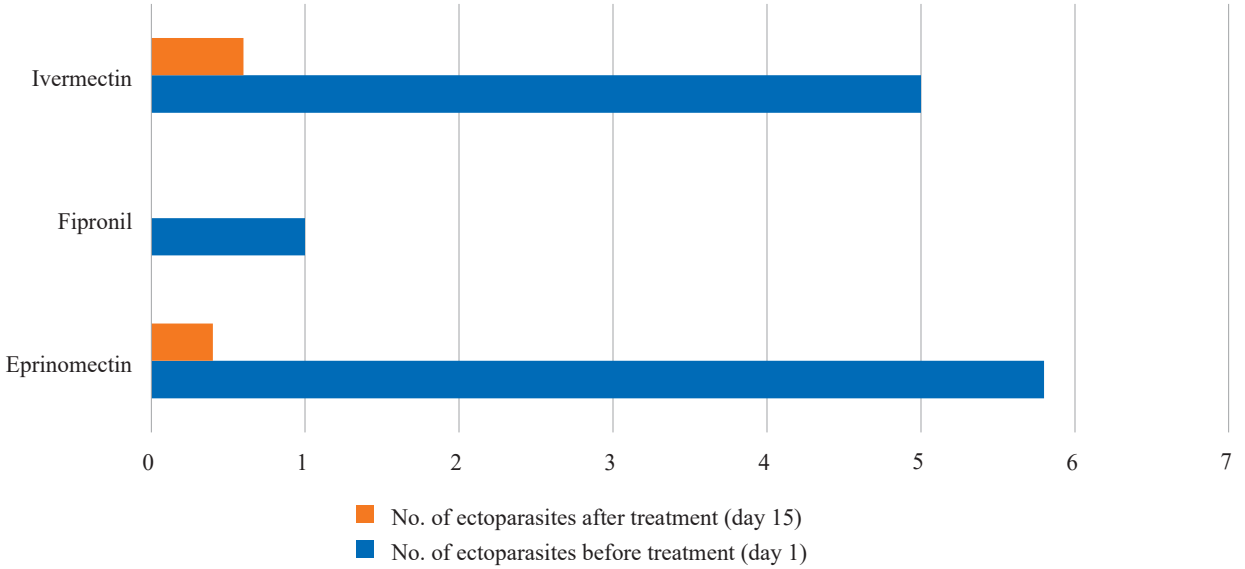


Figure 3. Therapeutic efficacy of eprinomectin, fipronil and ivermectin against ectoparasites.

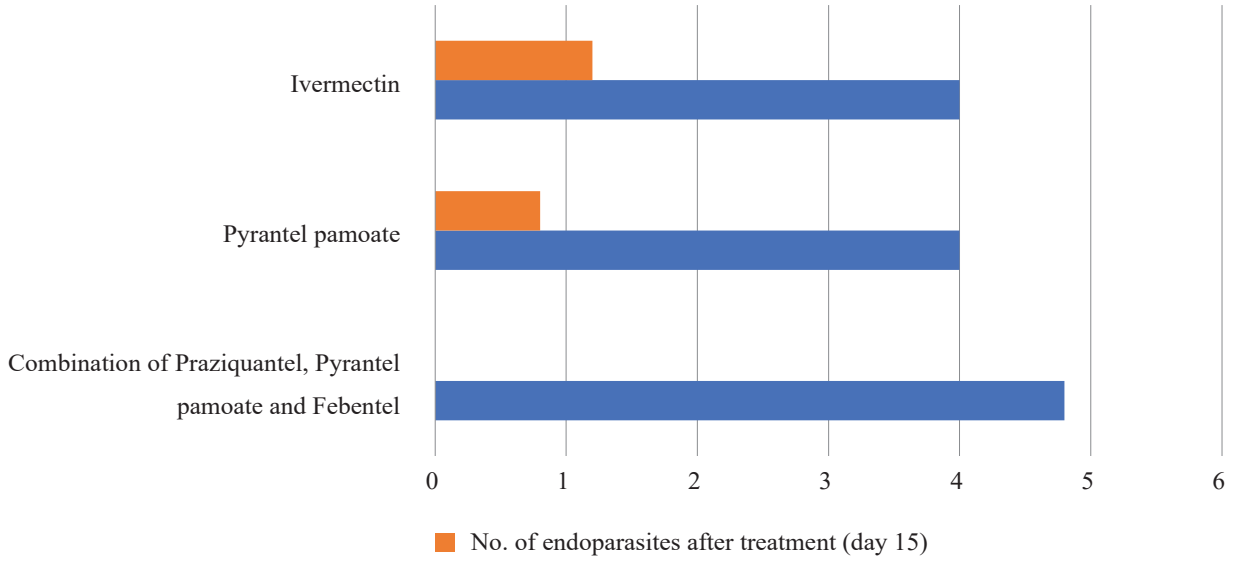


Figure 4. Therapeutic efficacy of combination of praziquantel, pyrantel pamoate, and febentel, pyrantel pamoate and ivermectin against endoparasites.

On the fecal sample test, only nematode eggs were found. The nematode eggs were classified as *Toxocara cati* and *Ancylostoma spp*. eggs. Between these two, *Toxocara cati* prevalence was 78.57% (Table 2). The prevalence of *Ancylostoma spp.* was 14.29%. Mixed infection was observed on 1 case (prevalence 7.14%) having both of the before-mentioned parasites. 73.33% prevalence was observed for *Toxocara cati* in a study conducted in the pet markets in Dhaka (Barua *et al.* 2020). Mukutmoni *et al.* 2022, found *Ancylostoma spp.* to be the most prevalent (9.26 %) helminth in cats (Mukutmoni *et al.* 2022). In another study conducted in Mymensingh district, the prevalence of *Toxocara cati* was 17.7% and for *Ancylostoma spp.* it was 6.5% (Mehedi *et al.* 2020). Islam *et al.* 2018the popularity of cats as a pet is increasing in Bangladesh specially in megacities where keeping large pets is difficult. However, this popular pet is being affected by various intestinal parasitism that may threaten public health by spreading zoonotic parasitic diseases. But surprisingly, no comprehensive study has been documented yet detailing the status of parasitic infections in Bangladeshi domestic cats and their public health importance. Therefore, the study was conducted to evaluate the prevalence of intestinal parasitism in household cats in Dhaka, Bangladesh to find out the associated risk factors and evaluate the perception of cat owners on the zoonotic potential of the associated diseases. Questionnaire based survey was conducted among the cat owners to reveal their perception on parasitic diseases and potential health hazards. Besides, five hundred seventy nine (579, found *Toxocara cati* as the most prevalent endoparasite having a prevalence rate of 71.9% and for *Ancylostoma spp., it was* 26.8% (Islam *et al.* 2018)the popularity of cats as a pet is increasing in Bangladesh specially in megacities where keeping large pets is difficult. However, this popular pet is being affected by various intestinal parasitism that may threaten public health by spreading zoonotic parasitic diseases. But surprisingly, no comprehensive study has been documented yet detailing the status of parasitic infections in Bangladeshi domestic cats and their public health importance. Therefore, the study was conducted to evaluate the prevalence of intestinal parasitism in household cats in Dhaka, Bangladesh to find out the associated risk factors and evaluate the perception of cat owners on the zoonotic potential of the associated diseases. Questionnaire based survey was conducted among the cat owners to reveal their perception on parasitic diseases and potential health hazards. Besides, five hundred seventy nine (579.

Experiment 2: Therapeutic efficacy of drugs against ectoparasites: The alterations in the number of parasites in the control group between days 1 and 15 were not statistically significant (Table 3). The number of parasites was increasing with days passing by.

Eprinomectin solution significantly reduced the number of ectoparasites in the cats. Before treatment, the average number of ectoparasites from the particular area of the cat's skin was 5.8 whereas after treatment the average number significantly reduced to 0.4. The efficacy was 93.1% (Table 4). In cats, the use of eprinomectin is commonly used with other agents like praziquantel, fipronil, etc. In a study by Tielemans *et al.* 2021, the efficacy of a combination of esafoxolaner, eprinomectin, and praziquantel against fleas in cats was 97.7% (Tielemans *et al.* 2021). Baker *et al.* 2014(S, reported the efficacy of topical combination of fipronil, (S)-methoprene, eprinomectin and praziquantel to be 94.3% after a single dose (Baker *et al.* 2014) (S. Similarly, in cattle the efficacy of eprinomectin in controlling ectoparasites was 94-99% (Shoop *et al.* 1996).

Fipronil spray was administered on the assigned cats where the average number of ectoparasites was 1. After treatment, there were no ectoparasites on these cats (Table 4). Medleau *et al.* 2002, reported the efficacy of fipronil to be 70% for the control of fleas in cats (Medleau *et al.* 2002). According to Ritzhaupt et al., 200030, 60, 90, and 120, sixteen cats (8 pairs/treatment group, the efficacy of fipronil after a single dose was 71.2% and after 44 days the efficacy was 100% (Ritzhaupt *et al.* 2000)30, 60, 90, and 120, sixteen cats (8 pairs/treatment group. Dryden *et al.* 2000, found the efficacy of fipronil to be 96.5% in controlling fleas in cats (Dryden *et al.* 2000).

Ivermectin injection also reduced the ectoparasites significantly ($p<0.05$) and the efficacy was 88%. According to Shehzad 2019, the efficacy after 15 days

Table 3. The Level of significance of different parasites in the control groups (Group 1 and group 5)

Types of Treatment	Average no. of parasites on day 1	Average no. of parasites on day 15
Control (Group 1)	5.4	6.2
Level of significance (p)	0.12	
Control (Group 5)	4.8	3.6
Level of significance (p)	0.14	

*Not significant ($p>0.05$).

Table 4. Therapeutic efficacy of antiparasitic drugs against ecto and endo parasites in cats

	Types of treatment	Average no. of ectoparasites on day 1	Average no. of ectoparasites on day 15	Efficacy (%)	Level of significance (p)
Therapeutic efficacy of antiparasitic drugs against ectoparasites	Eprinomectin	5.8	0.4	93.1	0.0098
	Fipronil	1	0	100	0.01
	Ivermectin	5	0.6	88	0.02
Therapeutic efficacy of antiparasitic drugs against endoparasites	A combination of Praziquantel, Pyrantel pamoate and Febentel	4.8	0	100	0.02
	Pyrantel Pamoate	4	0.8	80	0.03
	Ivermectin	4	1.2	70	0.04

*Significant ($p<0.05$).

of ivermectin administration was 90% (Shehzad 2019). Pagé *et al.* 2000, reported the efficacy of ivermectin in controlling ectoparasites to be 96% (Pagé *et al.* 2000).

The amount of parasites in the control group did not significantly vary between day 1 and day 15 (Table 3).

The combination of Praziquantel, Pyrantel pamoate, and Febentel considerably lowered endoparasite count in cats. Before therapy, the specific area of the cat's skin had an average of 4.8 endoparasites; however, following treatment, the average number drastically decreased to 0 which showed the efficacy to be 100%. Barr et al., 1998, reported 100% efficacy in controlling endoparasites in dogs by using this combination (Barr *et al.* 1998). Similarly, Çetin *et al.* 2022, found the efficacy of the combination of Praziquantel, Pyrantel pamoate, and Fenbendazole to be over 98% (Çetin *et al.* 2022).

The cats who were assigned were given Pyrantel Pamoate, and the average number of endoparasites was 4. These cats have 0.8 endoparasites in average after therapy. The efficacy of pyrantel pamoate in paste form was 99.3 to 99.7% in cats (Ridley *et al.* 1991). Reinemeyer & DeNovo 1990, reported the efficacy of pyrantel pamoate against *Toxocara cati* to be 78.2% (Reinemeyer and DeNovo 1990). According to Patil *et al.* 2024, the efficacy of pyrantel pamoate was 97.16% (Patil *et al.* 2024).

The endoparasites were also considerably decreased by Ivermectin injection ($p<0.05$). According to Roberson *et al.* 1992, the efficacy of ivermectin against hookworm infestation in cats was 90.7% (Roberson *et al.* 1992). Blagburn *et al.* 1987100 (n = 6, reported that single dose of SC ivermectin injection was effective in removing *Ancyclostoma spp*. and *Toxocara cati* in cats (Blagburn *et al.* 1987)100 (n = 6. The efficacy of ivermectin for the treatment of endoparasites in cats at 0.25 mg/kg body weight was 86.1% (Iqbal 2017).

Conclusion

Parasitic infestation is a common and serious health issue in cats that, if neglected, can lead to zoonotic health problems in humans. In our study, we found that Tangail had a higher prevalence of ecto- and endoparasitic infestations compared to Gazipur. *Ctenocephalides felis* was the most prevalent ectoparasite, while *Toxocara cati* was the most prevalent endoparasite among all zoonotic parasites. Eprinomectin proved to be the most effective treatment for ectoparasites, and the combination of Praziquantel, Pyrantel pamoate, and Febentel was the most effective for controlling endoparasites.

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