

*Research article*

## **Prevalence of the diseases of pet animals at Savar upazila, Dhaka district, Bangladesh: A cross-sectional study**

*Shawon Chandra Sill<sup>1</sup>, Abu Sayed<sup>1\*</sup> and Md Ahsanur Reza<sup>2</sup>*

<sup>1</sup>Faculty of Animal Science and Veterinary Medicine, Patuakhali Science and Technology University

<sup>2</sup>Department of Physiology and Pharmacology, Faculty of Animal Science and Veterinary Medicine, Patuakhali Science and Technology University

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\*Corresponding author:

Cell: +880 1718386759

+8801711407554

E-mail:

a.sayedpstu@gmail.com

reza@pstu.ac.bd

### ABSTRACT

A cross-sectional study was conducted to determine the prevalence of diseases in pet animals at Upazila Livestock Office and Veterinary Hospital, Savar, Dhaka, Bangladesh. A total of 55 cases of different clinical diseases in pet animals were recorded during the study period from 8th August, 2022 to 6th October, 2022. Among 55 pet animals, dog, cat and rabbit were 28 (50.91%), 22 (40%) and 5 (9.09%) respectively. Skin diseases were the most prevalent among other diseases in pet animal. The prevalence of skin diseases in dogs was 32.14% followed by dog biting was 14.28%, canine distemper (CD) was 10.71% and infectious canine hepatitis (ICH) was 7.14%. In total the percentage is 64.27 but it should be 100. The occurrence of skin disease in cats was noted to be 31.82%, whereas conjunctivitis was 18.18%, and salmonellosis was 13.64%. In case of cat percentage total is 63.64 then where is rest 36.36. In rabbits, the prevalence was recorded for skin diseases (60%), and conjunctivitis (20%) in rabbit total in percentage is 80 and where is rest 20%. The outcomes of this study can contribute to the comprehension of prevalent diseases in pet animals, potentially facilitating preventative and control measures in underdeveloped countries including Bangladesh.

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## **1. INTRODUCTION**

In Bangladesh, rearing pets is not a widespread practice among the population. However, in contemporary times, urbanization has escalated significantly, thus leading to an increment in the practice of keeping pets mostly in urban areas. Pet animals have been observed to have a positive impact on the physical, social, and cognitive well-being of both children and their owners. (Dohoo et al., 1998; Robertson et al., 2000). Besides the positive impacts, pets are also responsible for transmitting a diverse range of diseases including parasitic, bacterial, fungal and viral to humans which are posing both animal and public health in danger (Plant et al.,

1996; Kornblatt and Schantz, 1980). Whole paragraph seems irrelevant as it is mentioning dog bite to human but in this study record was dog biting to another dog not human. If dog bites human then it human will go to human hospital to veterinary hospital.

A study conducted by Biswas et al. (1996) has identified dog biting Infectious Canine Hepatitis (ICH) and Canine Distemper (CD) infections as prevalent viral diseases in the Indian sub-continent including Bangladesh. Additionally, Rabies has been recognized as the most significant zoonotic disease globally, also in Bangladesh, according to a study conducted by Biswas et al. (1996). Dog bites account for

approximately 90% of human rabies cases. The majority of human deaths resulting from rabies occur in Asia and Africa, with an estimated 55,000 fatalities globally. Samad et al. (2011) documented approximately 31,000 and 24,000 deaths in Asia and Africa, respectively, due to rabies yearly.

Propagation of these diseases are dependent on various factors including the management, assessment of the pet owners regarding the zoonotic and animal diseases and so on. In Bangladesh, majority pet owners lack adequate knowledge regarding pet animal diseases and zoonotic diseases which pose both animal and public health in danger. The transmission of such diseases is contingent upon a range of factors, encompassing the management, assessment of the individual pet owners regarding the zoonotic and animal diseases, and others. In Bangladesh, a significant number of animal owners lack appropriate cognizance regarding pet animal and zoonotic diseases, thereby posing a threat to both animal and public health. Different studies had been conducted to investigate the prevalence of infectious diseases and conditions in domestic animals and birds in various regions of Bangladesh (Tarafder and Samad, 2010; Mahmud et al., 2014). Nonetheless, there has been a dearth of investigations carried out on the prevalence of clinical diseases and disorders in pet animals (Parvez et al., 2014).

Therefore, the present study was designed to investigate the prevalence of diseases in pet animals at Upazila Livestock Office (Savar), Dhaka, Bangladesh.

## 2. MATERIALS AND METHODS

### Study location

The study was carried out at Upazilla Livestock Office and Veterinary Hospital, Savar, Bangladesh. Pet animals were brought to the hospital from different places of the Savar upazila for treatments.

### Study design

The study was carried out with a cross-sectional study design.

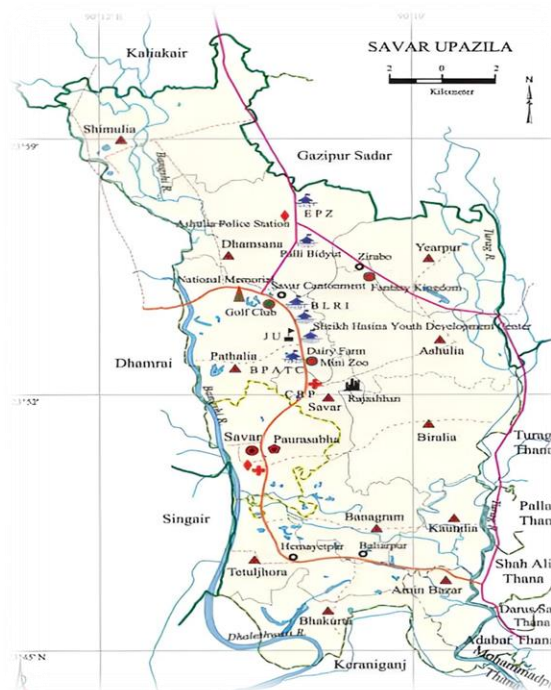


Figure 1. Map of Savar upazila in Bangladesh

### Study duration

The research was conducted from 07 August 2022 to 06 October 2022 (a period of 2 months) to detect the prevalence of pet animal diseases.

### Data collection

A total of 55 pet animals (dog, cat and rabbit) were admitted in the hospital during this period. Both general and clinical data were recorded in the hospital's register book.

### Clinical examination and diagnosis

In the hospital, the patients were examined and treated, with initial diagnoses based on clinical assessments. The diagnostic process considered owner complaints, patient histories, clinical observations, and presenting symptoms.

### Data analysis

The data were derived from the hospital's register book, imported, and then analyzed using Microsoft Excel (MS Excel, 2010).

## 3. RESULTS AND DISCUSSION

Table 1 represents the prevalence of different diseases in pet dogs. The overall prevalence rate for skin diseases was 32.14% followed by Dog

biting (14.28%), CD (10.71%), and ICH (7.14%). The prevalence rates for various diseases were also observed across different age ranges and sex. The study revealed that the highest prevalence rate for skin diseases was observed in young dogs (0-6months) and adult dogs (>12 months). No ICH cases were found in younger pet dogs during our study period. According to the sex wise prevalence, males were overall found to be more susceptible than the females. The findings of the current study were supported by earlier studies conducted in various regions of Bangladesh (Rahman et al., 1988; Freeman et al., 2006; Meler et al., 2008). Table 2 presents a comprehensive overview of the prevalence rate of various diseases in pet cats, including skin diseases (31.82%), conjunctivitis (18.18%), and salmonellosis

(13.64%). Likewise the pet dogs, skin ailments were found to be more prevalent among pet cats of all ages. Previous studies conducted in various regions of Bangladesh regarding the prevalence of these diseases are in consistent with our current findings (Parvez et al., 2014; Chaudhari and Atsanda et al., 2002; Sultana et al., 2016).

Table 3 represents the prevalence of different diseases in pet rabbits including skin diseases (60.00%), and conjunctivitis (20.00%). Sultana et al. (2016) reported pyoderma, hairballs, skin diseases, and conjunctivitis as prevalent diseases of the pet rabbits in Dhaka city, Bangladesh. However, no clinical cases of pyoderma, and hairball were recorded during our study period.

Table 1. Prevalence of diseases in pet dogs and their distribution with relation to age and sex

Name of diseases	Prevalence % (n=28)	Age			Sex	
		0-6 months (n=9)	7-12 months (n=7)	>12 months (n=12)	Male (n=16)	Female (n=12)
Skin diseases	32.14 (9)	50 (4)	14.28 (1)	33.33 (4)	36.36 (6)	25 (3)
Dog biting	14.28 (4)	11.11 (1)	14.28 (1)	16.67 (2)	12.5 (2)	16.67 (2)
CD	10.71 (3)	11.11 (1)	14.28 (1)	8.33(1)	12.5(2)	8.33(1)
ICH	7.14 (2)	0	14.28 (1)	8.33(1)	6.25(1)	8.33 (1)
Total	64.28(18)	66.66(6)	57.12 (4)	66.66(8)	68.75 (11)	58.33.33 (10)

CD= Canine Distemper, ICH= Infectious Canine Hepatitis

Table 2. Prevalence of diseases in cats and their distribution with relation to age and sex

Name of diseases	Prevalence % (n=22)	Age			Sex	
		0-6 months (n=6)	7-12 months (n=7)	>12 months (n=9)	Male (n=10)	Female (n=12)
Skin diseases	31.82 (7)	33.33 (2)	28.57 (2)	33.33 (3)	30(3)	33.33 (4)
Conjunctivitis	18.18 (4)	16.67 (1)	14.28 (1)	22.22 (2)	20 (2)	16.67 (2)
Salmonellosis	13.64 (3)	16.67	14.28 (1)	11.11 (1)	10 (1)	16.67(2)
Total	63.64(14)	66.67 (4)	57.13 (4)	66.66 (6)	60 (6)	63.64(8)

Table 3. Prevalence of diseases in rabbits and their distribution with relation to age and sex

Name of diseases	Prevalence % (n=5)	Age			Sex	
		0-6 months n=2	7-12 months n=1	>12 months n=2	Male n=3	Female n=2
Skin diseases	60 (3)	50(1)	100 (1)	50 (1)	66.67 (2)	50 (1)
Conjunctivitis	20 (1)	0 (0)	0 (0)	50 (1)	0 (0)	50 (1)
Total	80.00 (4)	50 (1)	100 (1)	100 (2)	66.67 (2)	100 (2)

#### 4. CONCLUSION

This research was carried out with the aim of determining the occurrence of different diseases in pets at Savar upazilla, Bangladesh. The most common diseases recorded in pet animals at Savar upazila Livestock Office & Veterinary Hospital were skin diseases, CD, dog biting, ICH, conjunctivitis etc. Skin diseases have been found to have a significant impact on the well-being of domesticated animals in the savar upazilla, Bangladesh, where a lack of awareness among owners and the absence of control measures have contributed to their widespread prevalence. In order to mitigate and manage such diseases in pets, it is crucial to enhance the awareness of their owners through targeted campaigns, appropriate therapeutic interventions, and timely vaccination of these animals.

#### ACKNOWLEDGEMENTS

#### REFERENCES

- Biswas, H. R., Hoque, M. M., Samad, M. A. and Rahman, A. 1996. Prevalence of inapparent rabies infection in street dogs. *Bangladesh Veterinarian* 13: 29-31.
- Chaudhari, A. W. S. U. R. and Atsanda, N. N. 2002. Prevalence of some disease of dogs and cats at the state government veterinary clinic in Maidugury (Nigeria). *Pakistan Veterinary Journal* 22: 2.
- Dohoo, I. R., McDonell, W. N., Rhodes, C. S. and Elazhary, Y. L. 1998. Veterinary research and human health. *Canadian Veterinary Journal*, 39 (9): 548-556.
- Freeman, L. M., Abood, S. K., Fascetti, A. J., Fleeman, L. M., Michel, K. E., Laflamme, D. P., Bauer, C., Kemp, B. L. E., van Doren, J. R. and Willoughby, K. N. 2006. Disease prevalence among dogs and cats in the United States and Australia and proportions of dogs and cats that receive therapeutic diets or dietary supplements. *Journal of the American Veterinary Medical Association*, 229 (4): 531-534.
- Geffray, L. 1999. Infections associated with pets. *De Revue Medecine Interne* 20: 888 -901.
- Hazlett, M. J., Maxie, M. G., Allen, D. G., Wilcock, B. P. 1983. A retrospective study of heart disease in doberman pinscher dogs. *Canadian Veterinary Journal*, 24 (7): 205-210.
- Hossain, S. S. M. R. and Kayesh, 2014. Common diseases of pet animals in Dhaka city and their zoonotic importance. *International Journal of Natural and Social Sciences* 1: 81-84.
- Kornblatt, A. N. and Schantz, P. M. 1980. Veterinary and public health considerations in canine roundworm control: a survey of practicing veterinarians. *Journal of American Veterinary Medical Association*, 177(12):1212-1215.
- Mahmud, M. A. A., Belal, S. M. S. H. and Uddin, F. M. J. 2014. Prevalence of protozoan diseases in pet dogs at district veterinary hospital, Sirajganj, Bangladesh. *Bangladesh Journal of Veterinary Medicine* 12: 191-196.
- Meler, E., Dunn, M. and Lecuyer, M. 2008. A retrospective study of canine persistent nasal disease: 80 cases (1998- 2003). *Canadian Veterinary Journal*, 49 (1): 71-76.
- Molyneux, D. H. 2004. Neglected diseases but unrecognized successes- challenges and opportunities for infectious disease control. *Lancet*, 364 (9431): 380 -383.
- O. I. E., 2012. Manual of diagnostic tests and vaccines for terrestrial animals. 7th edition. Volume-1 & 2.
- Parvez, M. A., Prodhan, M. A. M., Das, B. C. and Khatun, R. 2014. Prevalence of clinical conditions in dogs and cats at teaching veterinary hospital (TVH) in Chittagong Veterinary and Animal Sciences University, Bangladesh. *Research Journal for Veterinary Practitioners*, 2(6): 99-104.
- Plant, M., Zimmerman, E. M. and Goldstein, R. A., 1996. Health hazards to humans associated with domestic pets. *Annual Review of Public Health* 17: 221 - 245.
- Rahman, N., 1988. A survey on the diseases of dogs diagnosed at Central Veterinary Hospital, Dhaka. M. Sc. Thesis, Department of Medicine, Faculty of Veterinary Science, Bangladesh Agricultural University, Mymensingh.
- Robertson, I. D., Irwin, P. J., Lymbery, A. J. and Thompson, R. C., 2000. The role of companion animals in the emergence of parasitic zoonoses. *International Journal of Parasitology*, 30 (12-13): 1369-1377.

- Samad, M. A. 2011. Public health threat caused by zoonotic diseases in Bangladesh. *Bangladesh Journal of Veterinary Medicine* 9: 95-120.
- Sarker, M. S., Ahaduzzman, M., Kabir, M. N., Rahman, M. K., HossianFarhana, Nath, S. K. and Bupasha, Z. B. 2015. Prevalence of Clinical Conditions in Dogs and Cats at Central Veterinary Hospital (CVH) in Dhaka, Bangladesh. *Bangladesh Veterinary Journal* 26: 101-105.
- Singh, S. K., Islam, M. K., and Hasan, M. T. 2014. The Prevalence of Clinical Diseases in Dogs of Sylhet Sadar, Bangladesh. *International Journal of Pure and Applied Sciences and Technology* 5: 41.
- Sultana, R. N., Uddin, A. S., Asmaul, H., Yesmin, R. N. and Sabina Y. 2016. Prevalence of diseases in pet animals at Dhaka city of Bangladesh. *Annals of Veterinary and Animal Science*.3(3): 88-91.
- Tarafder, M., and Samad, M. A. 2010. Prevalence of clinical diseases of pet dogs and risks perception of zoonotic infection by dog owners in Bangladesh. *Bangladesh Journal of Veterinary Medicine* 82: 163-174.
- William, A., Chaudhari, S. U. R. and Atsandac, N. N. 2002. Prevalence of some diseases of dogs and cats at the state government veterinary clinic in Maiduguri (Nigeria). *Pakistan Veterinary Journal*, 22(2): 56-58.