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Case Report

Prevalence of Different Diseases of Dogs Recorded at Central Veterinary Hospital, Dhaka, Bangladesh

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Abstract | The study was conducted to ascertain the prevalence of different diseases of dog attended at central veterinary hospital for treatment at Dhaka during the period from May 2018 to March 2019. The study examines the prevalence of dog diseases according to breed, age, sex and season. A total of 15 types of diseases and conditions in 5 categories were recorded in these pet dogs. The highest prevalence was found in parasitic infestation (27.41%) followed by viral diseases (25.37%) miscellaneous diseases including (23.35%), fungal diseases (12.69%) and bacterial diseases (11.17%). The highest prevalence was found dogs aged 7 to 36 months (39.09%), followed by above 36 months (30.96%) and lowest in puppies aged up to 6 months (29.95%). According to breed, the highest prevalence was observed in Cross breed (27.41%), followed by Doberman breed (25.38%), Local breed (23.35%), German shepherd breed (14.21%) and Labrador breed (9.64%). The highest season-wise prevalence of diseases in dog was in summer season (35.53%); followed by winter season (35.03%) and rainy season (29.44%).The sex-wise prevalence of diseases in dog was observed in female (51.27%) and male (48.73%).

Keywords | Prevalence, Diseases, German Shepherd, Season, Infestation

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INTRODUCTION

Pet keeping is usually associated with certain responsibilities like proper housing facilities, disease management (William et al., 2002). Dogs may be the most frequent household pet around the world (Chomel, 1992). The close bond between dogs and humans remain a major threat to public health, with dogs harboring a bewildering number of infective disease causative agents transmissible to man and other domestic animals (Robertson et al., 2000; Molyneux, 2004). Although dogs and man have lived together generally to their mutual benefit for thousands of years, since dogs share the same environment with humans, they constitute an important reservoir of zoonotic diseases (Kornblat and Schantz, 1980). Household pets have been found to play a direct role in transmitting zoonosis (Dada et al, 1979). Several species of dog (e.g. German shepherd, Doberman, Labrador etc) have been imported from abroad and are selling at Kataban Market at Dhaka city of Bangladesh. Rearing of pet animals is becoming popular in urban cities of Bangladesh day by day. But pet owners are not aware of the diseases of pet animals, their medication, vaccination etc. In Bangladesh there are very few studies about diseases of dogs. The present studies was designed to investigate the prevalence of diseases in pet dogs came for treatment at central veterinary hospital, Dhaka.

Objectives

To determine the clinical prevalence of different diseases in dog came at central veterinary hospital for treatment.

Table 1: Age-wise prevalence (%) of the diseases in dog

Name of diseases	Up to 6 months No. (%)	7-36 months No. (%)	>36 months No. (%)	Total No. (%)
Bacterial disease	03(1.53)	09(4.57)	10(5.08)	22(11.17)
Leptospirosis	02(1.02)	-	-	02(1.02)
Kerato-conjunctivitis	-	03(1.52)	06(3.05)	09(4.57)
Pyoderma	01(0.51)	06(3.05)	04(2.03)	11(5.59)
Viral diseases	22(11.16)	17(8.63)	11(5.59)	50(25.38)
Canine distemper	11(5.58)	04(2.03)	-	15(7.61)
Canine parvovirus enteritis	04(2.03)	03(1.52)	-	07(3.55)
Rabies	-	06(3.05)	02(1.02)	08(4.07)
Viral fever	07(3.55)	04(2.03)	09(4.57)	20(10.15)
Fungal diseases	05(2.54)	13(6.06)	07(3.55)	25(12.69)
Dermatomycosis(Ringworm)	05(2.54)	13(6.06	07(3.55)	25(12.15)
Parasitic diseases	13(6.61)	24(12.18)	17(8.63)	54(27.41)
Mite infestation	-	04(2.03)	09(4.57)	13(6.60)
Lice infestation	02(1.02)	07(3.55)	03(1.52)	12(6.09)
Toxocariasis	09(4.57)	05(2.54)	02(1.02)	16(8.12)
Ancylostomiasis	02(1.02)	08(4.06)	03(1.52)	13(6.60)
Miscellaneous diseases	16(8.12)	14(7.10)	16(8.12)	46(23.35)
Malnutrition	09(4.57)	11(5.58)	05(2.54)	25(12.69)
Nonspecific diarrhoea	05(2.54)	03(1.52)	07(3.55)	15(7.61)
Gastritis	02(1.02)	-	04(2.03)	06(3.05)
Overall	59(29.95)	77(39.09)	61(30.96)	197(100)

Table 2: Breed-wise prevalence (%) of the diseases in dog

Name of diseases	German Shepherd No (%)	Doberman No (%)	Labrador No (%)	Cross No (%)	Local No (%)	Total No (%)
Bacterial disease	03(1.52)	08(4.46)	01(0.51)	08(4.06)	02(1.02)	22(11.17)
Leptospirosis	01(0.51)	-	-	01(0.51)	-	02(1.02)
Kerato-conjunctivitis	-	03(1.52)	-	04(2.03)	02(1.02)	09(4.57)
Pyoderma	02(1.02)	05(2.54)	01(0.51)	03(1.52)	-	11(5.58)
Viral diseases	09(4.57)	05(2.54)	02(1.02)	15(7.61)	19(9.64)	50(25.38)
Canine distemper	03(1.52)	-	-	07(3.55)	05(2.54)	15(7.61)
Canine parvovirus enteritis	-	03(1.52)	02(1.02)	-	02(1.02)	07(3.55)
Rabies	01(0.51)	01(0.51)	-	03(1.52)	03(1.52)	08(4.06)
Viral fever	05(2.54)	01(0.51)	-	05(2.54)	09(4.57)	20(10.15)
Fungal diseases	03(1.52)	11(5.58)	02(1.02)	03(1.52)	02(1.02)	25(12.69)
Dermatomycosis(Ringworm)	03(1.52	11(5.58)	02(1.02)	03(1.52)	02(1.02)	25(12.69)
Parasitic diseases	08(4.06)	15(7.61)	09(4.57)	09(4.57)	13(6.60)	54(27.41)
Mite infestation	-	04(2.03)	05(2.54)	-	04(2.03)	13(6.60)
Lice infestation	-	07(3.55)	-	02(1.02)	03(1.52)	12(6.09)
Toxocariasis	07(3.55)	02(1.02)	-	05(2.54)	02(1.02)	16(8.12)
Ancylostomiasis	01(0.51)	02(1.02)	04(2.03)	02(1.02)	04(2.03)	13(6.60)
Miscellaneous diseases	05(2.54)	11(5.58)	05(2.54)	15(7.61)	10(5.08)	46(23.35)
Malnutrition	03(1.52)	09(4.57)	-	11(5.58)	02(1.02)	25(12.69)
Nonspecific diarrhoea	02(1.02)	02(1.02)	03(1.52)	03(1.52)	05(2.54)	15(7.61)

Gastritis	-	-	02(1.02)	01(0.51)	03(1.52)	06(3.05)
Overall	28(14.21)	50(25.38)	19(9.64)	54(27.41)	46(23.35)	197(100)

Table 3: Season-wise prevalence (%) of the diseases in dog

Name of diseases	Winter season (November-February) No (%)	Summer season (March-June) No (%)	Rainy season (July-October) No (%)	Total No (%)
Bacterial disease	07(3.55)	09(4.57)	06(3.05)	22(11.17)
Leptospirosis	01(0.51)	01(0.51)	-	02(1.02)
Kerato-conjunctivitis	04(2.03)	03(1.52)	02(1.02)	09(4.57)
Pyoderma	02(1.02)	05(2.54)	04(2.03)	11(5.58)
Viral diseases	22(11.17)	17(8.63)	11(5.58)	50(25.38)
Canine distemper	07(3.55)	05(2.54)	03(1.52)	15(7.61)
Canine parvovirus enteritis	02(1.02)	01(0.51)	04(2.03)	07(3.55)
Rabies	02(1.02)	05(2.54)	01(0.51)	08(4.06)
Viral fever	11(5.58)	06(3.05)	03(1.52)	20(10.15)
Fungal diseases	08(4.06)	11(5.58)	06(3.05)	25(12.69)
Dermatomycosis(Ringworm)	08(4.06)	11(5.58)	06(3.05)	25(12.69)
Parasitic diseases	18(9.18)	02(1.52)	21(10.66)	54(27.41)
Mite infestation	03(1.52)	03(1.52)	07(3.55)	13(6.60)
Lice infestation	04(2.03)	05(2.54)	03(1.52)	12(6.09)
Toxocariasis	07(9.18)	04(2.03)	05(2.54)	16(8.12)
Ancylostomiasis	04(2.03)	03(1.52)	06(3.05)	13(6.60)
Miscellaneous diseases	14(7.11)	18(9.18)	14(7.11)	46(23.35)
Malnutrition	04(2.03)	18(9.18)	08(4.06)	25(12.69)
Nonspecific diarrhoea	07(3.55)	03(1.52)	05(2.54)	15(7.61)
Gastritis	03(1.52)	02(1.02)	01(0.51)	06(3.05)
Overall	69(35.03)	70(35.53)	58(29.44)	197(100)

Table 4: Sex-wise prevalence (%) of the diseases in dog

Name of diseases	Male No.(%)	Female No.(%)	Total No.(%)
Bacterial disease	11(5.58)	11(5.58)	22(11.17)
Leptospirosis	01(0.51)	01(0.51)	02(1.02)
Kerato-conjunctivitis	03(1.52)	06(3.05)	09(4.57)
Pyoderma	07(3.55)	04(2.03)	11(5.58)
Viral diseases	27(13.71)	23(11.68)	50(25.38)
Canine distemper	08(4.06)	07(3.55)	15(17.61)
Canine parvovirus enteritis	03(1.52)	04(2.03)	07(3.55)
Rabies	05(2.54)	03(1.52)	08(4.06)
Viral fever	11(5.58)	09(4.57)	20(10.15)
Fungal diseases	14(7.11)	11(5.58)	25(12.69)
Dermatomycosis(Ringworm)	14(7.11)	11(5.58)	25(12.69)
Parasitic diseases	26(13.20)	28(14.21)	54(27.41)
Mite infestation	05(2.54)	08(4.06)	13(6.60)
Lice infestation	07(3.55)	05(2.54)	12(6.09)
Toxocariasis	09(4.57)	07(3.55)	16(6.12)
Ancylostomiasis	05(2.54)	08(4.06)	13(6.60)

Miscellaneous diseases	18(9.18)	28(14.21)	46(23.35)
Malnutrition	10(5.08)	15(7.61)	25(12.69)
Nonspecific diarrhoea	06(3.05)	09(4.57)	15(7.61)
Gastritis	02(1.02)	04(2.03)	06(3.05)
Overall	96(48.73)	101(51.27)	197(100)

MATERIALS AND METHODS

Ethics Statement

The handling of dogs in the study was done in accordance with the present Bangladesh legislation (Cruelty to Animal Act 1920, Act No 1 of 1920 of the Government of the People's Republic of Bangladesh). The specific experimental design was approved by the Ethics Committee of the Sylhet Agricultural University Institutional Animal Care and Use Committee, Sylhet, Bangladesh.

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Study Area, Study Period and Study Population

The study was conducted at Central Veterinary Hospital, one of the most renowned governmental veterinary hospitals in the Dhaka city of Bangladesh. Dogs were brought to the hospital from all over the Dhaka city for treatment. The study was conducted from May 2018 to March 2019 to determine the prevalence of dog diseases. A total of 197 dogs were investigated in this study.

Statistical Analysis

All the data obtained from Central Veterinary Hospital, were organized, structure and analyzed with the help of Microsoft Corporation, 2007 windows package. The obtained information was loaded and stored on the excel spread sheet. The collected data are analysis through tabular and percentage.

RESULT

A total of 5 types of diseases including bacterial, viral, fungal, parasitic and miscellaneous diseases were recorded in 197 sick dogs. Table 1 details the age wise prevalence, Table 2 shows the breed-specific risks of diseases for the 5 breeds of dogs, Table 3 shows the seasonality of dogs' diseases and Table 4 shows the sex wise prevalence.

DISCUSSION

This study revealed the most prevalent dog diseases in Central Veterinary Hospital, Dhaka, Bangladesh as bacterial disease, viral disease, fungal, parasitic and miscellaneous. The current study was designed to fill a critical data gap relating to disorder prevalence information that has been identified as a constraint to improving dog welfare (Bateson, 2010; Rooney et al., 2008; APGAW, 2009). Overall prevalence of the different diseases in dogs showed highest prevalence of parasitic infestation (27.41%), followed by viral diseases (25.38%), miscellaneous diseases (23.35%), fungal diseases (12.69%) and bacterial diseases (11.17%). These results supported the earlier works made in different areas of Bangladesh (Rahman, 1988) and elsewhere (Hazlett et al., 1983; William et al., 2002; Freeman et al., 2006; Meler et al., 2008). The highest prevalence of diseases in dog was found in cross breed (27.41%), followed by Doberman breed (25.38%), local breed (23.35%), German shepherd (14.21%), Labrador (9.64%) which was supported by Mahmud et al., 2014. According to the animal health trust, dog diseases are most prevalent on autumn to winter. In the present study the highest prevalence of diseases was observed in the summer season (35.53%), followed by winter (35.03%), and rainy season (29.44%). The sex wise highest prevalence of diseases in dog was observed in the female (51.27%), than male (48.23%) and the age wise highest prevalence of diseases in dog was observed in 7-36 months (47.512%), followed in above 36 months (30.96%), and up to 6 months (29.95%). Soumitra et al. 2016 reported that the highest prevalence of dog diseases is higher in more than 18 months of age. These results also support the earlier works done in Bangladesh (Rahman, 1988, Tarafder and Samad, 2010).

CONCLUSION

From the study it is recapitulated that the higher occurrence of diseases in dog is the serious concern for the pet owners. Among infectious cases parasitic diseases were in higher percentage than other type of diseases. The highest percentage was observed in adult dog in addition the female dog was mostly susceptible to diseases than male.

Cross breed was mostly susceptible to diseases and the highest percentage of diseases was observed in summer season than other seasons. The cross breed dog should be vaccinated schedule wise to reduce their disease occurrence and proper care should be taken to female dog during pregnancy and parturition to minimize stress. Regular deworming and safe food supply is necessary to prevent parasitic infection. However due to insufficient information and lack of proper diagnosis it might not be the exact representation. So, further advance study is needed to determine the exact association of different type of diseases.

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AUTHORS CONTRIBUTION

It is clearly stated that all authors has contributed significantly to the study.

CONFLICT OF INTEREST

The authors declare that no conflict of interest exists.

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