

SOCIO-ECONOMIC STATUS AND ATTITUDES OF PET OWNERS OF CHATTOGRAM METROPOLITAN AREA



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Statements of Author

In this report, myself, Nadia Afrin, hereby firmly assure that I have completed all tasks. The data was gathered through questionnaire and other resources on a national and international scale. There has been proper citation of all sources. Because of this, I am solely responsible for gathering, organizing, keeping, and disseminating all of the data that was gathered for this report.

The Author.

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Socio-economic status and attitudes of pet owners of Chattogram Metropolitan area

ABSTRACT

The link between pets and their owners is far stronger than anticipated. People now a days are more wiling to have pets with them from attraction to them to get rid of their monotonous life. This report aims to present a comprehensive survey conducted among dog(*Canis lupus familiaris*) and cat(*Felis catus*) owners in Chattogram metropolitan area, focusing on various aspects of pet care practices like dietary preferences, health management routines, vaccination, hygiene maintaining and the human-animal bonding. The informations shows that maximum people tries to take care of their pet with proper feeding and maintaining hygiene but not aware of deworming or vaccination schedule. By investigating these facts, we aim to contribute to the existing body of knowledge about pet ownership and deepen our understanding of the unique dynamics at play in a culturally rich and diverse city like Chattogram.

Keywords: *Canis lupus familiaris*, *Felis catus*, feeding, hygiene, deworming, vaccination.

Introduction

The relationship between humans and animals has been a subject of fascination and study for centuries. In recent years, this dynamic has gained increasing attention due to the growing recognition of pets as integral members of households, contributing to the emotional, psychological and physical well-being of their owners. Humans play a key role in the lives of many cats and dogs who live in human contexts, and companion animals frequently spend more time with people than their own species. In the past ten years, research has focused on the problem of understanding how our closest non-human companions perceive and respond to their human environment (T Humphrey et al, 2020; Aria et al 2021).

In Bangladesh, the urban population has increased quickly during the past 40 years (Helal and Hossain, 2013). People's income has likewise gone up. Due to the prevalence of nuclear families in urban life and the activities of the majority of family members, people are becoming more and more interested in raising pets. They typically raise companion animals, especially dogs and cats, to combat loneliness(Kuzniar, 2006). Spending time with companion animals reduces loneliness and improves psychological well-being(Antonacopoulos and Pychyl, 2010).

Cats are among the most common companion animals. This is particularly true in cultures with an Islamic background. Consequently, the behaviour of cats and their interaction with people has attracted scientific interest (Turner & Bateson, 2000).

Dogs have "human specialized" socio-cognitive abilities because they interact with humans on a regular basis. These traits have been extensively studied in dogs, demonstrating their amazing potential to connect with people and build relationships as well as demonstrating a high level of attentiveness to people (Cannas et al, 2022). Recent studies have shown that cats also have excellent socio-cognitive abilities(Racca et al 2010). So people are becoming more attracted to the cat.

Chattogram, a vibrant coastal city located in southeastern Bangladesh, is no exception to this trend, as the city's residents exhibit a deep affection for their furry companions. The presence of dogs and cats in Chattogram's households not only enriches the lives of individual pet owners but also reflects broader societal shifts in attitudes towards animals.

The city's urban environment, with its blend of traditional values and modern lifestyles, offers a compelling backdrop for exploring the interactions between humans and their companion animals. As Chattogram continues to experience socioeconomic growth and evolving social norms, the roles and perceptions of pets within the urban landscape are likely to undergo transformations. This survey thus serves as a timely endeavor to capture a snapshot of the current state of pet ownership and its implications, providing a valuable resource for policymakers, researchers, and pet enthusiasts alike.

Through a combination of quantitative and qualitative data analysis, this report aims to uncover patterns in pet ownership practices, preferences, and the emotional bonds formed between humans and their animal counterparts. By understanding the dynamics of pet ownership in Chattogram, we can not only enhance the well-being of pets and their owners but also contribute to broader discussions about animal welfare, urban planning, and the evolving nature of human-animal relationships.

In the following sections, we will delve into the methodology employed for this survey, present the findings in a structured manner, and discuss the implications of the results. By examining the ways in which Chattogram's residents care for and interact with their dogs and cats, we aspire to contribute valuable insights to the field of human-animal studies and promote a greater appreciation for the unique bond that exists between humans and their cherished pets.

Objectives: The study was conducted to fulfill the following key objectives -

1. To investigate dog and cat acquisition and attitudes toward care of dog and cat among residents of Chittagong.
2. To investigate the socio-economic condition of the owners of pet animals.

Materials and Methods

Study area

The study has been conducted through the metropolitan area of Chittagong including Bahaddarhat, Bakolia, EPZ, Andorkilla and Khulshi.

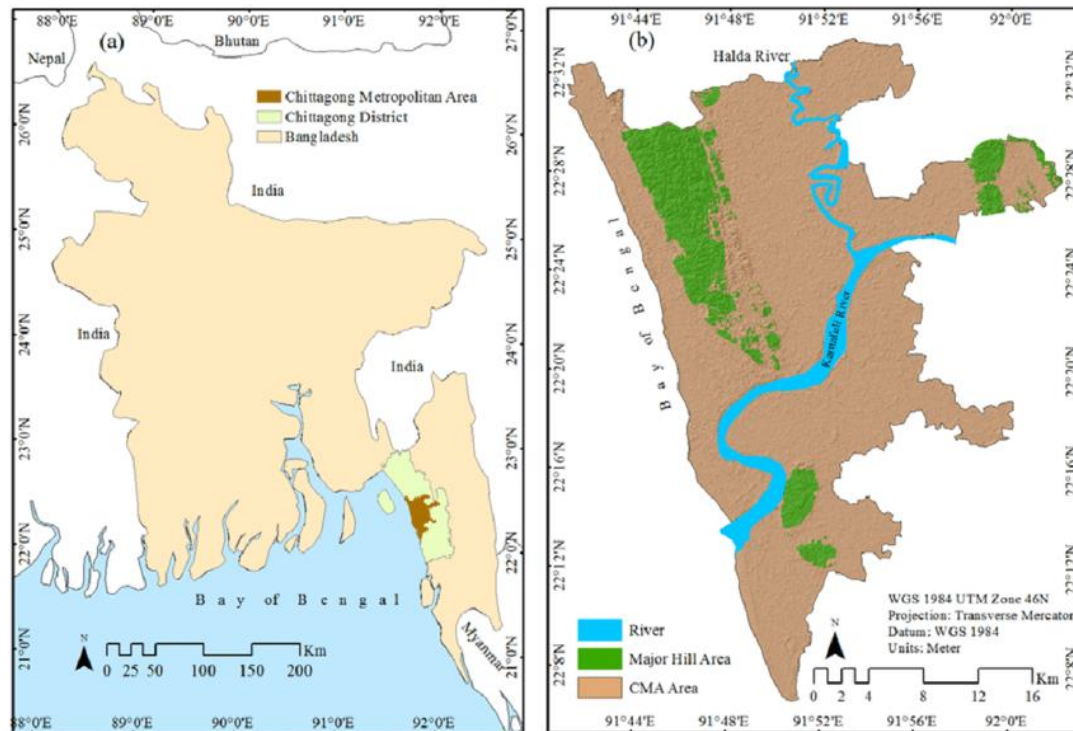


Figure 1. (a) Chittagong Metropolitan Area (CMA) in Chittagong district
(b) the CMA's location.

Study period

The survey was administered over a 2 months of period, from June 2023 to July 2023 to capture a representative snapshot of pet ownership dynamics in the city.

Study Design

A survey was conducted in Chittagong, Bangladesh, to gather data on dog and cat ownership practices and the human-animal bond. The study employed a mixed-methods approach, combining both quantitative and qualitative data collection methods. The survey was administered over a 2 months of period, from 5 June 2023

to 31 July 2023 to capture a representative snapshot of pet ownership dynamics in the city.

Sampling and Participant Recruitment

A random sampling technique was employed to ensure a diverse representation of pet owners across different neighborhoods and socioeconomic backgrounds within Chattogram. The city was divided into distinct geographic regions, and within each region, households were selected randomly for participation. To be eligible for the survey, participants needed to be at least 18 years of age and own at least one dog or cat.

Recruitment efforts included distributing paper questionnaires in local communities and utilizing online platforms to reach a broader audience. Informed consent was obtained from all participants before their inclusion in the study.

Data Collection

Quantitative Data

A structured questionnaire was developed to collect quantitative data on various aspects of pet ownership, including demographic information of owners, pet characteristics, daily care routines, health management practices, feeding habits, and recreational activities. The questionnaire was administered in physical formats. Both closed-ended and open ended questions with multiple-choice options were used for quantitative data collection.

Qualitative Data

Semi-structured interviews were conducted with a subset of participants to gather in-depth insights into the emotional bonds between pet owners and their dogs or cats. Participants were selected purposefully to represent diverse backgrounds and experiences. Interviews explored themes such as the reasons for pet ownership, the role of pets in the household, and the emotional connections formed.



Figure 2. Data collection

Questionnaire Description

The questionnaire contains 7 sections of 45 items. In the first two sections, questions centered on the owner's and cat's demographics, including owner's name, gender, educational qualification, occupation, location, contact, yearly income and social status and pet's name, species, breed, age, color, sex, weight, source of getting pet, number of total pet and neighbor's acceptance. It also includes the reason of having pet with them. The next 3 sections includes the housing system, feeding routine and medication of the pets. The 6th section includes their hygiene maintaining procedure and the last section is about their reproduction.

Questionnaire Distribution

With the aid of Microsoft Word, the questionnaire was created. Between June and July 2022, responses were gathered. Respondents had to own minimum one cat or dog, be at least 18 years old, and accept informed consent in order to complete the questionnaire. They were instructed to think about the cat they had lived with the longest if they had more than one.

Data Analysis

Quantitative data collected from the questionnaires were analyzed using descriptive statistics using STATA . Percentages were calculated to summarize owner's information, pet care practices, and other quantitative variables. Risk factor analyses were performed to identify potential correlations within different variables and disease.

Ethical Considerations

Informed consent was obtained from all participants prior to their involvement in the study. Privacy and confidentiality of participants' information were strictly maintained throughout the research process.

Limitations

Due to shortage of time, was unable to collect data from every upazila of Chattogram. This may make a bias in the report.

Statistical Analysis

The collected data were entered into MS Excel and then exported in STATA(statistical software) for statistical analyses. Descriptive analysis has been done to find out the percentages of different variables. Then for risk factor analysis, Chi² test was performed and tried to find the association between the variables and disease occurrence and P value was determined with 5% significance.

Results

General information of owners and cats

Among general information of owners and cats, the percentage of gender and social status of owner, breed, sex of cat, color and source of getting the cats are measured (Table-1). About 60% cat owners are female where 40% are male. Most of the people rearing cat are of middle class families (73.3%). About 60% people have cat of native breed. 33.3% have persian cats and 6.7% have cats of mixed breed. Maximum prefers female cat (53.3%) than male cats (46.7%).

Most of the cats are of Black & white mixed color (46.7%) followed by brown (40%), black (6.7%) and white (6.6%). Maximum cats are rescued (46.7%) by the owners and others either adopted (40%) or bought (13.3%) from pet shops or other person. Most of the neighbors (86.7%) of the cat owners accepted the cat's living in their area but some (13.3%) didn't accepted.

Table 1. General information of owners and cats

Variable	Category	Percentage(%)
Gender of owner	Male	40
	Female	60
Status	Middle class	73.3
	Rich	26.7
Breed	Mixed	6.7
	Native	60
	Persian	33.3
Sex of cat	Male	46.7
	Female	53.3
Color	Black	6.7
	Brown	40.0
	White	6.6
	Black & white	46.7
Source of cat	Adoption	40
	Bought	13.3
	Rescued	46.7
Neighbors acceptance	Yes	86.7
	No	13.3

Feeding and medicinal information of cat

The feeding, disease, vaccination, deworming and owner's awareness about antibiotic resistance are described in the table 2. One third of cat population are used to with processed food (33.3%) where maximum are not familiar with processed food (66.7%). Very few people(13.3%) give raw food to their cats where maximum avoids raw food (86.7%). Those who are provided with raw foods have 50% chance of getting digestive problems.

More than half population of cats (53.3%) faced different diseases in last six month of the study period and the rest were healthy enough (46.7%). 53.3% of owners maintains deworming schedule for their cats where 46.7% did not do any deworming courses to their cats. About two third cats are vaccinated(60%) where 40% are not.

The maximum owners (86.7%) are not aware about antibiotic resistance problem but fortunately 13.3% knows about this threat. 33.3% cats are used for further breeding where rest(66.7%) are used for only recreational and companion purpose.

Table 2. Feeding and medicinal information of cat

Variable	Category	Percentage(%)
Processed food	Yes	33.3
	No	66.7
Raw food	Yes	13.3
	No	86.7
Digestive problem after giving raw food	Yes	50
	No	50
Diseases in last 6 months	Yes	53.3
	No	46.7
Deworming	Yes	53.3
	No	46.7
Vaccination	Yes	60.0
	No	40.0
Heard about antibiotic resistance	Yes	13.3
	No	86.7
Use for breeding	Yes	33.3
	No	66.7

Risk factors analysis of cat

To determine whether there is significant association between the variables and disease occurrence, Chi² test has been used (Table 3). Most of the adopted cats (66.7%) suffered from disease where rest of the adopted cats were healthy. Half of the bought cats faced diseases and among rescued cats, 42.9% suffered from diseases. The association between disease and the source of getting cat has Chi² value of 0.75 with P value of 0.69.

50% cats maintaining deworming schedule faced diseases where those who don't get deworming medicines faces diseases in greater percentages (57.1%). So the association of disease and deworming resembles Chi² value of 0.08 with 0.78 P value. 44.4% vaccinated cats suffered from diseases where two third of non vaccinated cats (66.7%) suffered from different diseases. So the dependence of disease on vaccination resembles Chi² value of 0.71 with 0.4 P value.

Those who cut their nails with 30 days interval in 100% cases faced diseases. But those who cut nails 15 days interval faced disease in less percentage (62.5%) followed by cutting nails with 7 days interval (53.3%). This association shows 4.45 Chi² value with 0.11 P value.

Table 3: Risk factors analysis of cat

Variable	Category	Disease (%)		Chi ² value	P value
		Yes	No		
Source of cat	Adoption	66.7	33.3	0.75	0.69
	Bought	50.0	50.0		
	Rescued	42.9	57.1		
Deworming	Yes	50.0	50.0	0.08	0.78
	No	57.1	42.9		
Vaccination	Yes	44.4	55.6	0.71	0.4
	No	66.7	33.3		
Nail cutting	30D	100.0	0.0	4.45	0.11
	15D	62.5	37.50		
	7D	53.3	46.7		
Bathing	30D	0.0	100.0	5.09	0.17
	15D	66.7	33.3		
	7D	50.0	50.0		
	3D	80.0	20.0		

General information of owners and dogs



Figure 3. Dogs of different breeds

Among general information of owners and dogs, the percentage of gender and social status of owner, breed, sex of dog, color and source of getting the dogs are measured (Table-4). About 90% dog owners are male where only 10% are female. Most of the people having dogs are of rich families (70%) and rest are of middle class families (30%). Four breeds of dogs were found during this survey.

About 40% people have german shepherd, 40% have spitz, 10% have labrador and the rest rear lasa beed. Maximum prefers male dogs (70%) than female dogs (30%). 40% dogs are brown, 40% with white color. 10% of them has a mixed color of black and white and the rest are black and brown mixed color. Maximum dogs are bought (60%) from shops or other person and the others either adopted (20%) or rescued (20%) from.

Table 4. General information of owners and dogs

Variable	Category	Percentage(%)
Gender of owner	Male	90.0
	Female	10.0
Status	Middle class	30.0
	Rich	70.0
Breed	German Shepherd	40.0
	Labrador	10.0
	Lasa	10.0
	Spitz	40.0
Sex of dog	Male	70.0
	Female	30.0
Color	Black & white	10.0
	Black & brown	10.0
	Brown	40.0
	White	40.0
Source of dog	Adoption	20.0
	Bought	60.0
	Rescued	20.0

Bedding, feeding and medicinal information of dog



Figure 4. Bedding of dog

The bedding, feeding, disease, vaccination and owner's awareness about antibiotic resistance are described in the table 5. Maximum dogs are used to have floor (70%) as their bedding where 30% gets bed for living. More than one third of dog population were used to with processed food (70%) where maximum are not familiar with this (30%). Very few people(10%) give raw food to their dogs where maximum avoids(90%) raw food.

Less than one third population of the surveyed dogs (30%) faced different diseases in last six month of the study period and the rest were healthy enough (70%). Most of the dogs were vaccinated(90%) where only 10% were not vaccinated. The maximum owners (80%) are not aware about antibiotic resistance problem but fortunately 20% knows about this threat. 40% dogs were used for further breeding where rest(60%) were used for only recreational and companion purpose.

Table 5. Bedding, feeding and medicinal information of dog

Variable	Category	Percentage(%)
Bedding Material	Bed	30.0
	Floor	70.0
Processed food	Yes	70.0
	No	30.0
Raw food	Yes	10.0
	No	90.0
Disease in last 6 months	Yes	30.0
	No	70.0
Vaccination	Yes	90.0
	No	10.0
Heard about antibiotic resistance	Yes	20.0
	No	80.0
Use for breeding	Yes	40.0
	No	60.0

Risk factors analysis of dog

To determine whether there is significant association between the variables and disease occurrence, Chi² test has been used (Table 6). 50% of the adopted dogs suffered from disease where rest of the adopted dogs were healthy. One third of the bought dogs faced diseases and among rescued dogs none suffered from diseases. The association between disease and the source of getting dogs has Chi² value of 1.27 with P value of 0.53.

One third of dogs (33.3%) who were vaccinated suffered from diseases where non vaccinated dogs didn't suffered from diseases. So the dependence of disease on vaccination resembles Chi² value of 0.48 with 0.49 P value. Those who cut their nails with 45 days interval in 100% cases didn't faced diseases. But those who cut nails at 30 days interval in 25% cases faced diseases. This association shows 2.86 Chi² value with 0.24 P value.

Table 6. Risk factors analysis of dog

Variable	Category	Disease		Chi ² value	P value
		Yes	No		
Source of pet	Adoption	50.0	50.0	1.27	0.53
	Bought	33.3	66.7		
	Rescued	0.0	100.0		
Vaccination	Yes	33.3	66.7	0.48	0.49
	No	0.0	100.0		
Nail cutting	45D	0.0	100.0	2.86	0.24
	30D	25.0	75.0		
	15D	100.0	0.0		
Bathing	15D	0.0	100.0	1.11	0.57
	7D	33.3	66.7		
	3D	30.0	70.0		

Discussion

The study focused on the cat and dog rearing, feeding, vaccination and total management by the pet owners. The study shows us that those people who are willing to have cat as pet most of the cases are of middle class families. In the contrary, those willing to have dogs as pet are maximum of rich families. This can be because of high maintenance cost and feed cost of dogs than cats (Bir et al, 2020; Simonsen et al, 2014). The females are more interested in keeping cats as pet animal which is completely different in case of dogs. A previous survey shows Unquestionably, women and cats have a relationship and a love for one another (Gardiner, J. K., 1984). Males have more attachment with dogs. May be this because of the size of the animal. Cats are smaller in size than dogs so handling is easy for women.

Most of the people have native cat breeds in their house for the availability of this and also they don't have to buy it. There is also a religious issue in Muslims that cat selling and buying is prohibited in Islam. For this majority of the people have their cats by rescuing from different condition or adopting from others. Dog owners mostly have German Shepherds or Spitz. German Shepherds are the most popular breed, according to the current study, because they are versatile dogs with a wide range of skills, quick learners, and excellent relationships. They are also completely dedicated to their owners (Morn, 2009).

Female cats are more preferable than male cats. Male cats have a problem of spraying all over the place where female cats don't have this problem (Hart, B. L., & Cooper, L. 1984). Unfixed females tend to be more aloof, which benefits some owners because it makes them less dependent and able to spend more time alone. In case of dog this scenario is fully different. Maximum people have male dogs. Typically more loving and appearing to thrive on continual human attention are male dogs. They often have a lower propensity to reject affection and will accept any expression of it.

The survey shows that the chance of disease in animal is higher in those dogs and cats who are not vaccinated. According to previous researches, through the production of antibodies and cellular immune responses, vaccinations shield animals from dangerous infections (Egberink et al, 2022). So vaccination is important for animals.

Deworming is another issue, improper maintenance of which can cause parasitic diseases of cat and make cat unhealthy. This survey shows that about 47% cat owners

don't use deworming medicines in their cat and more than 57% of these cats suffers from diseases. So it has become a great issue. A previous survey says, cat owners still lack the knowledge necessary to be expected to choose wisely when it comes to routine deworming (Nijssen et al, 2016).

Hygiene management is another important issue for maintaining animal health. Nail cutting and bathing without proper interval of period can cause disease in pets. Our survey shows nail cutting in short interval of 7 days keeps cats far from diseases. *Bartonella henselae* has been detected from nails and saliva of domestic cats which can cause diseases also (Oskouizadeh et al, 2010).

Recommendation

Vaccination

Cats and dogs should be vaccinated regularly (Hart et al, 1984, Welborn et al, 2011, Day et al, 2016, Morrison et al, 2001). After getting a pet, the pet should have at least one round of vaccinations if its immunization status is unclear or out-of-date, with enough time allowed for immunity to develop. But unfortunately there are some owners who are not aware of this. So programmes should be launched for making them aware of it.

Deworming

Regular deworming of cats should be done by the owners. A more personalized deworming recommendation that takes into account the risk factors specific to each cat could persuade a cat owner to pay closer attention to the deworming method (Nijse et al, 2016).

Conclusion

With rising urbanization in Chattogram Bangladesh, attachment with pet animals is increasing day by day. This can be a great opportunity for the veterinarians to work on pet practices and make pet owners aware of scientific rearing of pet, their vaccination and hygiene maintaining.

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Biography

I am Nadia Afrin from Brahmanbaria. I have passed Secondary School Certificate examination in 2015 (G.P.A- 5.00) and Higher Secondary Certificate examination in 2017 (G.PA-5.00). I am a student of 23rd Batch and now I am an intern student under the Faculty of Veterinary Medicine in Chittagong Veterinary and Animal Sciences University. In the future I would like to be a pet practitioner and do research on pet animal behaviour.