

A Survey on Feeding Practices and Health Status of Cats in Dhaka, Bangladesh



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**A Survey on Feeding Practices and Health Status of Cats in Dhaka,
Bangladesh.**



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I, Saima Akter, hereby declare that I have completed all tasks and provided the information in this report. The data was gathered through publications, websites, and other sources both domestically and abroad. All citations have been properly acknowledged. As a result, I am entirely responsible for gathering, combining, preserving, and publishing all of the data that has accumulated in this report.

The Author

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Abstract

The present study was accomplished at Teaching and Training Pet Hospital and Research Centre, Dhaka, from 17th February 2022 to 16th March 2022. The study aimed to know the general information about owners and their cats, common feeding practices, and the health status of cats. In this study, about 62 cats were induced. The data were collected from the owners through a conducted questionnaire. The data demonstrated that most of the owners (41.94%) were students. Persian (53.23%) and Local breed (32.26%) cats were preferable to owners. Homemade feed (48.39%) was the first choice of owners to feed their cats. Lara (11.29%) and Whiskas (17.74) were more popular as cat feed among owners and owners choose a dry type of diet as a commercial feed. Among individual nutrition sources, fish (61.29%) and boiled chicken (85.48%) is preferred as protein sources, rice (62.9%) as carbohydrate sources, and vegetables are also present in the diet. Most of the cats were vaccinated (66.13%) and dewormed (59.68%). It is concluded that keeping pets becoming more popular day by day. So pet feeding marketing system needs to be convenient for pet owners.

Keywords: General information, Feeding practice, Health status, Cat.

1. Introduction

Animal feed is a major component of the food chain that has a primary influence on animal health and welfare. Feed means any substances (single or multiple), whether processed, semi-processed, or raw, that is are tended to end up being fed straight to animals (**World Organization for Animal Health, 2018**).

People are gradually getting more interested in pet animal rearing these days, because urban life is dominated by nuclear families, with the majority of family members preoccupied with their hobbies (**Irvine, 2013**)(**Bradshaw, 2017**). They typically raise pet animals, especially cats, to escape loneliness. It has been reported that pet owners are more satisfied and happier in life than non-owners (**Bao, K. J, and Schreer, 2016**).

Companion animals are kept by half of the global population. There are about 94 million cats in the United States, with 47 million families having at least one. Similarly, at least one cat can be found in over 60% of Australian households. Since the introduction of dry and wet pet foods to the market, the majority of cats in industrialized countries have been fed these diets, and many consider them to be the standard manner of feeding cats. These products are designed to be simple and convenient, and it has been suggested that the formulation of nutritional targets and the distribution of full and balanced commercial goods may contribute to companion animal longevity (**Dodd, 2020**).

Bangladesh has seen a remarkable increase in its urban population during the previous four decades (**Helal, M., and Hossain, M., 2013**). These rapid urbanizations give people a diverse range of opportunities to work in a variety of fields, allowing them to supplement their income. This encourages people to keep pets. In Bangladesh, homemade feeding is the norm for cats. Fish, milk, boiled chicken, rice, and veggies are provided. Because the cat food industry is not well-established in Bangladesh, only a few amounts of dry and wet food are used.

Infectious pathogen exposure, as well as dietary deficits or imbalances, are all dangers linked with giving nutritionally inadequate diets. Pancreatitis, dysregulation of bone metabolism, myelopathy, and seizures have all been linked to eating imbalanced homemade diets. Infectious diseases and antibiotic resistance have also been linked to raw feed consumption. Commercially

processed kibble or wet food is not a fail-safe way to prevent nutritionally related disease, and there have been reports of ingredient adulteration and nutrient imbalances.

Veterinary practitioners appear to suggest that cats be fed comprehensive and balanced commercially prepared diets. Because of the variety of feeding techniques and the changing viewpoints of pet owners, it is vital to document and identify trends in companion animal nutrition to keep practitioners up to date (**Dodd, 2020**).

Therefore, the present study was undertaken with the following objectives:

- To know the common cat feeding practices in Dhaka, Bangladesh.
- To know the cat feeding management system in this area.

2. Materials and Methods

2.1 Study area and population:

The study was carried out through the period 17th February to 16th March 2022 during a 1-month internship placement at Teaching and Training Pet Hospital and Research Centre (TTPHRC), Purbachal, Dhaka. The data was collected from the cats that visited the hospital for health checkups, deworming, vaccination, treatment of illness, etc. The survey was completed with a pre-structured questionnaire based on individual-level data through face-to-face interviews and by observation of the cat. A total of 62 cats were included in the study for data collection during the study period.



Figure 1: Geographical location of TTPHRC

2.2 Data collection process and tools:

The data were acquired through face-to-face interviews of owner regarding the objectives of the study using an interview schedule. Information based on different qualitative and quantitative parameters like general information about the owner and cats (Occupation, cat population size, age, breed, body weight, sex, neutering information, BCS, etc.), feeding practices of cats (feed type, mixing %, brand name, commercial feed type, protein source, carbohydrate source, vegetables, frequency of feeding, amount of feed/meal, vitamin/mineral supplement, feeding advice, etc.) and health status of cats (hygiene, vaccination, deworming, digestive disorder, etc.) were collected during the study period.

2.3 Data analysis:

All data were sorted and imported into Microsoft Excel 2016. Descriptive statistics were adopted mainly to demonstrate the result per the objectives of the study by using an excel sheet.

3. Result

3.1 General information about owners and cats

Among general information of owners and cats, frequency and percentages of several cats, age, breed, body weight, neutering information, and BCS (Body condition score) were measured (**Table 1**). The occupation of cat owner was classified into 6 categories where students had a higher percentage (41.94%) and Army Major had a lower percentage (1.61%) to rear cats. About 19.35% of owners had more than 3 cats. Most of the cats (51.61%) were above 8 months old. Persian breed (53.23%) was dominant followed by the Local breed (32.26%). Maximum cats (53.23%) weighed within 0.5 to 3 kg. There was no percentage variation in sex and neutering information. Most of the cats (75.81%) were in good body condition (**Table 1**).

Table 1: Frequency and percentage of different parameters related to the basic information of owners and cats (N=62)

Explanatory variable	Co-variable	Frequency (n)	Percentage (%)
Occupation	Businessman	7	11.29
	Housewife	3	4.84
	Army Major	1	1.61
	Private job	23	37.09
	Student	26	41.94
	Teacher	2	3.23
Cat population size	1	21	33.87
	2	22	35.48
	3	7	11.29
	>3	12	19.35
Age(month)	1-4	17	27.42
	>4-8	13	20.97
	>8	32	51.61
Breed	Local	20	32.26
	Persian	33	53.23
	Cross	5	8.06

	Bengal	3	4.84
	Russian Blue	1	1.61
Body wt.(kg)	0.5-3	33	53.23
	>3-5	26	41.94
	>5	3	4.84
Sex	Male	31	50
	Female	31	50
Neutered	Yes	31	50
	No	31	50
BCS	Good	47	75.81
	Poor	13	20.97
	Obese	3	4.84

3.2 Feeding practices of cats

Among common feeding practices; feed type, mixing percentage, brand name, commercial feed type, protein source, carbohydrate source, vegetable, frequency of feeding, amount of feed/meal (gm), vitamin-mineral supplement, and feeding advice were included (Table 2). The highest percentage of owners preferred home cooked food (48.39%) followed by mixing both commercial and home cooked food (45.16%). In the case of mixing percentage, most of the owners (25.81%) mixed fifty percent commercial feed in their cat's diet. Most of the owners (17.74%) chose Whiskas whereas micho and partymix (1.61%) were rarely chosen by owners as cat feed. In commercial feed type, owners mainly preferred a dry type diet (51.61%). About 85.48% of owner chose boiled chicken as a protein source followed by fish (61.29%). As a carbohydrate source rice (62.9%) was mostly used. In the case of frequency of feeding, most of them preferred thrice (48.39%) in a day. The highest percentage of feed/meal was 100-200 gm (72.58%). About 20.97% of owners provided a vitamin-mineral supplement to their cats. Most of the owners (62.90%) preferred online advice for feeding their cats (Table 2).

Table 2: Frequency and percentage of different parameters related to feeding practices of cats (N=62).

Explanatory Variable	Co-variable	Frequency (n)	Percentage (%)
Feed type	Home cooked	30	48.39
	Commercial	4	6.45
	Mixed	28	45.16
Mixing %	25	12	19.35
	50	16	25.81
	75	0	0
Brand name	Lara	7	11.29
	SmartHeart	4	6.45
	BonaCibo	6	9.68
	Neko	3	4.84
	Whiskas	11	17.74
	Drools	1	1.61
	Friskas	2	3.23
	Partymix	1	1.61
	Reflex plus	3	4.84
	Micho	1	1.61
	Royal Canin	2	3.23
	Brit	2	3.23
	Commercial feed type	Dry	32
Moist		7	11.29
Canned		6	9.68
Protein source	Fish	38	61.29
	Meat	0	0
Carbohydrate	Boiled chicken	53	85.48
	Milk	1	1.61
	Egg	1	1.61
	Rice	39	62.9
	Rice gruel	0	0
Vegetable	Yes	21	33.87
	No	41	66.13
Frequency of feeding	2	20	32.26
	3	30	48.39
	4	9	14.52
	5	3	4.84
Amount of feed/meal(gm)	100-200	45	72.58
	>200-300	13	20.97
	>300-400	4	6.45
Vitamin/Mineral supplement	Yes	13	20.97
	No	49	79.09
Feeding advice	Vet	23	37.1
	Online	39	62.9

3.3 Health status of cats

Among health status; hygiene practice, vaccination, deworming, and information regarding digestive disorders were included (Table 3). All owners practiced good hygiene. Most of the cats were vaccinated (66.13%) and the maximum cats (59.68%) were dewormed. Most of the cats (83.88%) were free from any kind of digestive disorders.

Table 3: Frequency and percentage of different parameters related to health status of cats (N=62).

Explanatory variable	Co-variable	Frequency (n)	Percentage (%)
Hygiene practice	Yes	62	100
	No	0	0
Vaccination	Yes	41	66.13
	No	21	33.87
Deworming	Yes	37	59.68
	No	25	40.32
Digestive disorder	Yes	10	16.13
	No	52	83.88

4. Discussion

4.1 General information of owner and cats

The majority of cat owners in this study were students. Bangladesh's educational system has been upgraded. As a result, students must work diligently. They require a respite from this monotonous situation. So, pupils started raising pets to relief from stress and anxiety. Pets provide not only refreshment but also companionship, which helps them regain their vitality. According to a study conducted in Japan, pet raising reduced behavioral extremes such as aggression and hyperactivity, as well as decreased physiological stress, and children became more socially integrated and paid more attention to the teacher(Nakajima, 2017). The present study revealed that most of the owner preferred to rear at least one cat (33.87%) and the age range of cats were more than 8 months (51.61%). This variation may be due to the owners whose has experienced of rearing cat for long time may prefer older cats and new one may prefer kitten. We also found that Persian cats were the most popular breed due to the availability of Persian cats for purchase, as well as their docile nature and lovely appearance(**R, 2019**). Most of the cats in our study were less than 3 kg. It may be due to their primarily homemade feeding habits and self-exercise by jumping, hunting and playing etc. There was no variation in sex and neutered condition of cats in our study.

4.2 Feeding practices of cats

The most preferable feed for cats among owner was homemade feed (~49%). The main reason to choose of homemade was availability of raw materials and less popularity and unavailability of pet feed marketing system. The main merit of homemade feed is owner can control the ingredient of feed. The majority of commercial cat feed contains fillers and unneeded substances. These low-quality components contribute to weight gain and health problems(**Villaverde, C., & Chandler, M., 2022**). These problems can avoid through providing homemade feed. The lack of testing is a significant constraint of homemade feed. This could compromise safety and owners need to reliance on database data to assess nutritional sufficiency. That's why nutritional insufficiency can occur. Our study conducted that about 19% owner preferred blending of homemade and commercial feed. In commercial feed, most of the owners preferred Lara (~11%) and Whiskas (~17%). Lara is one of the most trusted brands in Bangladesh and compared to

other manufacturers, the price is fair(**Pet Zone BD, 2022**). Dry type diet was more popular in case of commercial feed. Dry food contains about 6-10 % water and meat/meat products, poultry/poultry products, grain/grain products, fish meal, fiber sources, milk products, vitamin-mineral supplements included as ingredients. To make the food more appealing, the particles of dry food are frequently coated with flavor enhancers such as animal fat(**Cornell University, 2017**). Dry cat food is affordable, and because it does not dry out, it allows owners to feed their cats "free choice." Dry food, on the other hand, may be less appealing to a cat than moist or semi-moist food, and it may also be less digestible, depending on the types and quality of the components. For some cats, moist diets are more tempting than dry cat food, and they can be served at their free time also. However, once the box is opened, the food can dry out, making it less pleasant and/or causing it to go rotten (**Villaverde, C., & Chandler, M., 2022**).

In case of protein source, owners preferred fish (61.29%) and boiled chicken (85.48%) for their cats. Fish is a lean protein source with a high concentration of Omega-3 fatty acids, including EPA (Eicosapentaenoic Acid) and DHA (Docosahexaenoic Acid). Nerve cells, the brain, the heart, and the joints all require DHA and EPA. Each of the Omega-3 fatty acids' DHA and EPA contributes to the health of your pet in its own way. Omega-3 fatty acids soothe itching and inflammation and develop a healthy and lustrous coat, improve immunity, and relieve joint problems. Studies have also shown that Omega-3 can help with arthritis, allergies, inflammatory bowel condition, cognitive difficulties, dry/flaky skin, disorientation, old age, stiff joints, dry coats, and poor nail health. DHA offers various health benefits for pets, including anti-inflammatory properties for illnesses that cause inflammation in the heart, skin, kidneys, and joints. It also aids in the reduction of itchiness, dandruff, irritation, and shedding. DHA can also help in coat of cat to look healthier and shinier. EPA also provides other health benefits for pets, including as helping kittens develop their brain and eye skills and being useful to pregnant pets and their progeny(**REALPOWER, 2020**).

Chicken breast is a lean protein source that is also low in sodium and fat. Selenium, which is good for immune system, vitamin B6, and phosphorus are all found in chicken. Phosphorus in chicken not only aids in bone health, but it also helps to keep the liver, kidneys, and central nervous system in good functioning condition. According to Gray Richter (owner and medical director of Montclair Veterinary Hospital, Oakland), "Cats are carnivores so animal protein is

critical to their good health. Cat foods should be predominantly made up of animal products.” But it should be remembered that chicken bones can’t provide to cats as small bones can get stuck in a cat's throat or puncture its digestive system and also bones are on the ASPCA toxic food list(**Rover, 2022**).

As a source of carbohydrates, owner depends on rice mostly (62.9%). Cats are carnivore so they mainly depend on protein nutrient. They can, however, benefit from rice's vitamins, minerals, and fiber. Ann Wortinger, a veterinary technician who specializes in nutrition, says, "Cats generate the enzyme amylase, which breaks down the two components of rice starch, amylose and amylopectin. Rice can be digested by cats as long as it isn't a major part of their diet ". Rice should only be given to cats as a special treat because too many carbohydrates in their diet can induce diarrhea, bloating, and gas(**Valentini, 2021**). About 33.8 % owners provide vegetables to their cats. They mostly prefer pumpkin and carrots as a vegetable. Vitamins and minerals are abundant in carrots. Carrots are a good source of vitamin A, which is necessary for cat's health. Carrots, which contain a considerable quantity of oxalates, are not recommended for cats that have a history of calcium oxalate bladder stones or crystals in their urine. Pumpkin fiber can aid to relieve diarrhea by reducing excess moisture in cat’s digestive tract and adding bulk to feces. Constipation is also eased by the water in pumpkin. Pumpkin can cause loose stools if consumed in excess(**Laurel, 2017**).

In this study, we found that majority of owners used to offer feed 3 times in a day. As Bangladeshi’s take their meal 3 times a day, so they want their pet also take meals similar with their owners. We also observed that about 72.58% owners provided 100-200 gm feed/meal. The studies conducted that most of the owners didn’t choose vitamin-mineral supplement. Only 21% owners selected vitamin-mineral supplement in their cat’s diet. Manufacturers and proponents of cat supplements said that vitamin-mineral supplement should be considered an extension of a cat's diet, and that can help cat’s live longer, healthier lives. Others, like as Cruz and members of the Pet Food Institute, believe that if one’s cat is generally healthy, all the need is a good quality cat food. Increasing cat's vitamin or mineral intake may cause more damage than good. Sherry Sanderson (DVM, PhD, of the University of Georgia College of Veterinary Medicine) says, “A cat's underlying disease may need the use of a supplement, however many supplements have yet

to be researched and confirmed in veterinary care”(Miller, 2010). This study also showed most of the cat’s owner took feeding advice from online (63%) rather than from veterinarian (37%).

4.3 Health status

Only proper nutrition can’t make a cat healthier but also their health conditions need to be maintained through vaccination, deworming and proper hygiene. It’s a good news that now pet owners are concerned about their pet’s hygiene. Our study showed that the owner, who was interviewed, maintained hygiene. Through interview, it is expressed that they cleaned their cats feeding equipment before and after feeding and properly stored their pet’s food. Now owners are concerned with their pet’s vaccination. We observed that 66% owners did their cats vaccinated. Not only outdoor cats but also cats who lives indoor entirely also need vaccination as they can be infected through travelling, interaction with other cats, the addition of a new cat to the home, and even viruses carried on owners clothing(Flowers, 2021).

Our study showed that more than 50% owners done deworming to their cats. Gastrointestinal (GI) parasitism is a common problem in cats, with prevalence rates as high as 45%. These parasitic organisms might be wormlike or single-celled protozoan and also some feline gastrointestinal parasites can infect humans. Roundworms (*Toxocara* sp.) the most prevalent intestinal parasite in cats, infecting 25% to 75% of them, with kittens being more susceptible. People can become infected with *Toxocara*.*Toxocara* larvae can cause harm to numerous organs and the eyes as they migrate through people's tissues, which are referred to as visceral larval migrants and ocular larval migrants, respectively. So routinely deworming to cats is needed not only for cats but also to owners(Cornell University, 2018). Most of the cats (83.87%) were free from any digestive disorders in this study that indicates owners were caring and conscious about their pets.

5. Limitation

There were some flaws in this research. The study period was limited, and the study area was limited to a certain location. As a result, the findings may not be representative of the entire country.

6. Conclusion

The frequency of rearing pet is increasing with rapid urbanization in Bangladesh. The conducted study will give a glimpse about cat feeding practices to the new and existed pet owners and also helps the students related to the field of veterinary science, companion animal and pet animal nutrition.

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8. Appendix

Questionnaire	
Owner's details:	
Owner's name:	Phone:
Occupation:	
General information of cat:	
No. of cat:	
Source of Cat:	
Age (m):	Sex: M/F
BCS: Poor/Good/Obese	Breed:
Neutered: Yes/No	
Feeding Practices of cat:	
Feed type: Home cooked/Commercial/Mixed	
Mixing %: 25/50/75	Name of Brand:
Commercial feed type: Dry/Moist/Canned	
Protein source: Fish/meat/milk/boiled chicken/egg	
Carbohydrate source: Rice/Rice gruel/No	
Vegetables: Yes/No	
Frequency of Feeding (per day):	
Amount of feed/meal (gm):	
Vitamin-mineral supplement: Yes/No	
Feeding advice: Vet/Online	
Health status of cat:	
Hygiene practice: Yes/No	Vaccination: Yes/No
Deworming: Yes/No	Digestive disorder: Yes/No

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Biography

This is Saima Akter, the child of A. S. M. Mahabub-Ul-Alam and Khurshida Begum, doing her graduation in Doctor of Veterinary Medicine (DVM) at Chattogram Veterinary and Animal Sciences University under the Faculty of Veterinary Medicine. She passed the Secondary School Certificate Examination (SSC) in 2013 from Govt. City Girls' High School, Chattogram, and the Higher Secondary Certificate Examination (HSC) in 2015 from Govt. City College, Chattogram. Currently, she is doing her yearlong internship. She has a great interest in wildlife and also worked as a volunteer for the Wildlife Conservation Alliance.