

SHORT COMMUNICATION

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ASSESSMENT OF POPULATION KNOWLEDGE ABOUT BREEDING AND MANAGEMENT OF DOGS AND CATS

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ABSTRACT

The relationship between man and animal has narrowed over the years, causing them to be considered as family members. However, not all owners are aware of the correct ways of raising animals. The objective of this research was to evaluate the level of population knowledge on the ways of handling and breeding dogs and cats. The present work consists of the application of an online questionnaire to the population of Patrocínio-MG. The questionnaire included objective questions about the owner's personal data, animal data, types of care, management and prevention of diseases. The percentage values obtained in each question were compared using the chi-square test at 5% significance. A total of 345 dog and cat owners, residents of the city of Patrocínio-MG, participated in the research. Most of

the interviewees are up to 25 years old, have secondary education and have a salary range of one minimum wage. This population has greater preference for breeding dogs, with defined breeds, adults, preferably fed with dry feed. The owners provide multiple anti-viral and rabies vaccination in animals from puppies with a booster dose annually, and deworming being carried out periodically. It is concluded that the population knows about the types of care and management of dogs and cats, providing them with the basic care needed.

Keywords: food, deworming, hygiene, vaccination, well-being.

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INTRODUCTION

The relation between humans and pets, mainly dogs and cats, is closely related to the development of social behavior, so that these animals have the status of family members, as they leave the backyards and go inside the homes (SANTANA and OLIVEIRA, 2006). Due to a higher contact with human beings, and the change of these animals' profiles, owners have been showing greater concern with health, prevention, care and treatment of diseases in pets. Therefore, owners have increasingly sought veterinarians to take care of pets, aiming at a better quality of life (ALVES et al., 2005).

However, few owners had previous knowledge on the correct way of handling and breeding dogs and cats. The lack of knowledge by owners can cause changes in the quality of life of the animals, negatively impacting their well-being (CAETANO, 2010).

This lack of knowledge on animals' basic care favors impairment and higher dissemination of diseases, causing hazards that may be irreversible. The evaluation of the populational knowledge on the types of handling and prevention of diseases in dogs and cats, enables higher transmission of knowledge for owners, and is very important identify failures in the breeding, in order to provide better well-being and health to the animals (PARK, GRUEN and

ROYAL, 2021). This way, this study aims to assess the populational knowledge on the types of breeding and care with home dogs and cats.

MATERIAL AND METHODS

This study was submitted to the Human Research Ethics Committee from University Center of Cerrado, and was approved under number 20211450/002.

The present study was conducted in the city of Patrocínio – MG, and, due to the pandemic of COVID-19, it was made online in order to avoid the direct contact with the population, minimizing the risks of transmission of the disease.

It consisted in an online questionnaire, from Google *Forms* platform and adapted from Brito et al. (2016). The questionnaire contemplated objective multiple choice questions about the owner's personal data, including age, educational level and pay grade. There were also questions on data on the owner's animal, such as age, sex, race, sterilization, vaccination, deworming, feeding and the presence of behavioral changes.

Before starting the questionnaire, the participant accessed the Free Informed Consent Form, but the questions could only be accessed upon acceptance to participate in the survey. The survey was made available to the population through a *link* that had been generated by the pla-

tform and sent through digital media and social networks.

The sample value was based on 91,449 inhabitants living in the city of Patrocínio-MG according to IBGE (2020). This way, 345 interviewees were selected.

The collected answers were tabulated in software Microsoft Office Excel 2013, and, then, relative and percentile frequencies were obtained from the answers given. Then, the chi square (χ^2) test was used, at 5% significance level for each question, in or-

der to check whether there were significant levels among the answers.

RESULTS AND DISCUSSION

Three hundred and forty-five (345) cats and dogs' owners were interviewed for this studyowner. It was observed that for all the evaluated variables, the statistical difference was $p < 0.05$; however, only in the evaluation of sex, there was no difference. Table 1 shows the results of the interviewees age group, schooling, pay grade and knowledge about zoonosis.

Table 1 - Profile of dogs and cats' owners from Patrocínio-MG, regarding age, education, pay grade and knowledge on zoonosis ($p < 0,05$).

Questions	Alternatives	Frequency (%)	$p < 0.05$
Age	Up to 25 years old	43.19	$p < 0.001$
	From 25 to 35 years old	20.87	
	From 35 to 45 years old	15.07	
	From 45 to 55 years old	9.57	
	Over 55 years old	9.57	
Education	Elementary School	13.62	$p < 0.001$
	High School	38.26	
	Higher Education	35.65	
	Postgraduate	11.59	
Pay Grade	Master's Degree /Doctorate	1.16	$p < 0.001$
	Unemployed	13.62	
	One minimum wage	34.20	
	Two minimum wages	27.83	
	Three minimum wages	12.75	
Knowledge on what zoonosis are	Four or more minimum wages	11.59	0.034
	Yes	60.58	
	No	39.42	

The assessment of the animals' species that were being bred by owners, showed that most of the interviewed people had dogs in their homes, and the sex did not differ. Howe-

ver, animals of defined breed and adults were more prevalent among the owners. Regarding sterilization, only 23.48% of the animals were castrated (Table 2).

Table 2 – Populational characteristics of dogs and cats in Patrocínio-MG, regarding sex, age and sterilization (p<0.05).

Questions	Alternatives	Frequency (%)	p<0.05
Species	Dog	82.03	p<0.001
	Cat	17.97	
Sex	Female	57.97	0.111
	Male	42.03	
Breed	Yes	60.58	p<0.001
	No	35.36	
	Doesn't know	4.06	
Age	Cub	9.86	p<0.001
	Young	29.57	
	Adult	49.86	
Castration	Old	10.72	p<0.001
	Yes	23.48	
	No	76.52	

About the animals' vaccination, most of the owners hold the multiple antiviral and anti-rabies vaccination, since they were cubs, with annual reinforcement. Dogs are mainly immunized with antiviral and anti-rabies vaccines, while in cats the anti-rabies ones

are the most used. Regarding deworming, 49.6% of the interviewed people periodically made it, but only 6.7% makes the coproparasitological test prior to deworming. About sanitation, it is mainly provided in the animal's home (Table 3).

Table 3 – Dogs and cats' sanitation in Patrocínio-MG, (p<0.05).

Questions	Alternatives	Frequency (%)	p<0.05
Vaccinated with multiple antiviral	Yes, as a cub.	17.1	p<0.001
	Yes, since a cub, with annual booster.	64.3	
	Yes, only when adult	3.5	
	Has not been vaccinated.	8.1	
	Doesn't know	7.0	
Anti-rabies vaccine	Yes, as a cub	9.9	p<0.001
	Yes, with annual booster	80.9	
	Has never been vaccinated against viral diseases	12.2	
Vaccines given to dogs	Antiviral	33.5	p<0.001
	Anti-rabies	35.9	
	Against giardia	7.9	
	Kennels cough	8.6	
	Leishmaniosis	9.3	
	Non-vaccinated	4.8	
Vaccines given to cats	Antiviral	24.1	p<0.001
	Anti-rabies	51.8	
	Non-vaccinated	24.1	

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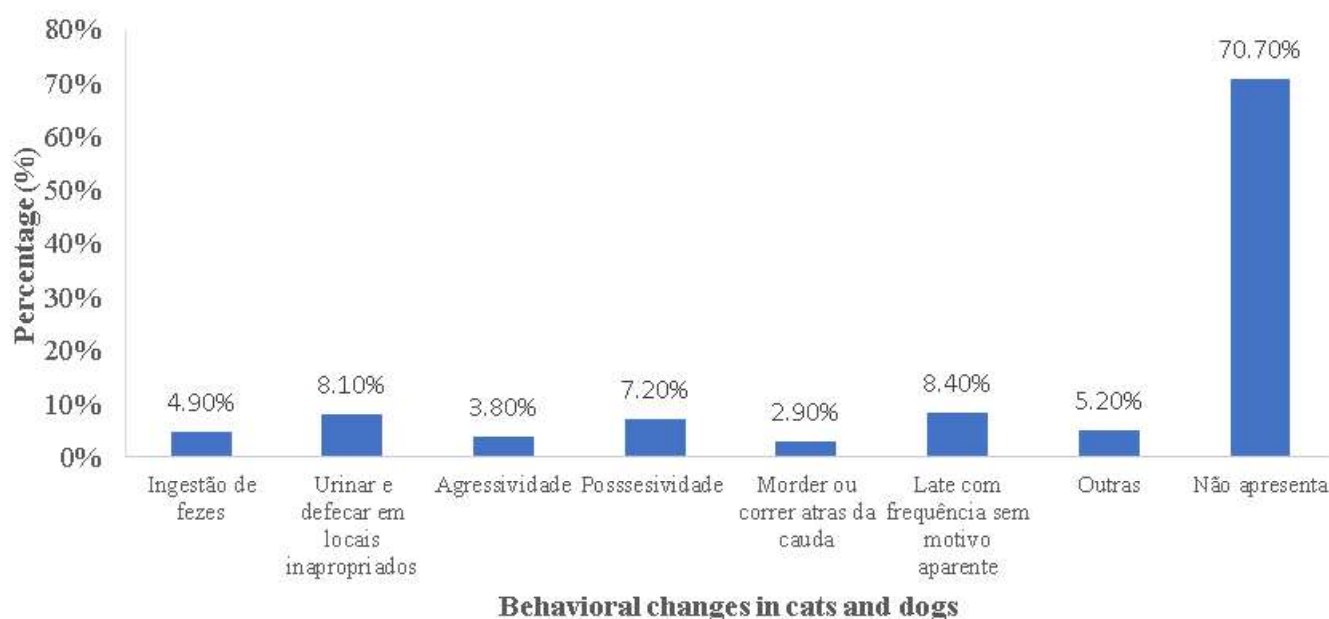
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Questions	Alternatives	Frequency (%)	p<0.05
Deworming	Yes, eventually	29.9	p<0.001
	Yes, periodically	49.6	
	No	20.5	
Coproparasitological before deworming	Yes	6.7	p<0.001
	No	93.3	
Type of Sanitation	At home	47.83	p<0.001
	At home and in a pet shop	24.06	
	In a pet shop	11.88	
	Doesn't do it	16.23	

With regard to behavioral changes shown by dogs and cats, it was reported that they bark without any visible rea-

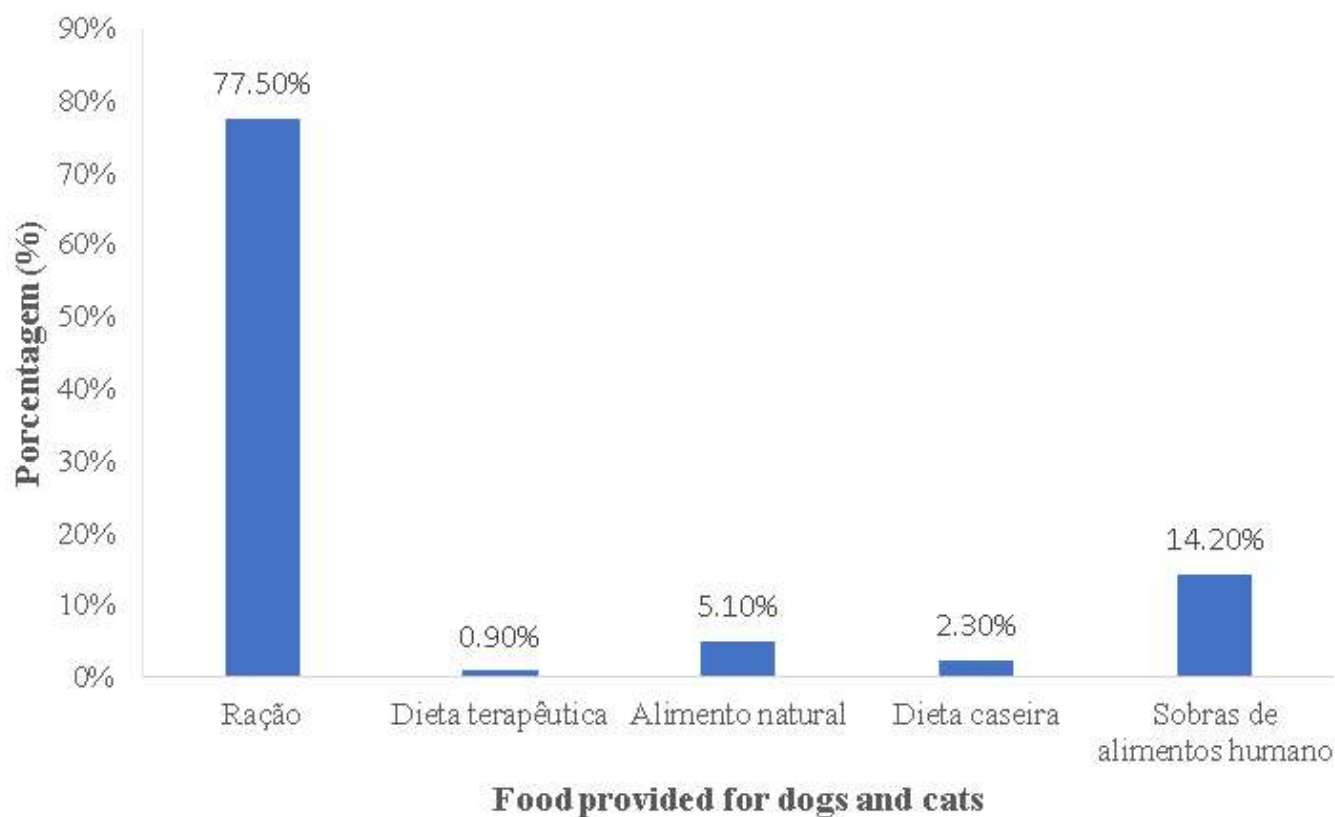
son, urinate and defecate in appropriate places, and show possessiveness with toys (Figure 1).

Figure 1 – Behavioral changes in dogs and cats in Patrocínio-MG.



About the main foods given to the animals, it was observed that most of the interviewed people (77.50%) give dry pet food to their animals. The offer of leftovers appears as the second most offered

type of food to animals (14.20%). The other ones offer natural foods (5.10%), homemade diet (2.30%), and therapeutic diets for the treatment of diseases (0.90%) (Figure 2).

Figure 2 – Main foods given to dogs and cats in Patrocínio-MG.

The results found are in accordance with the data described by the Brazilian Institute for Geography and Statistics - Instituto Brasileiro de Geographical e Estatística – IBGE (2018), and it was shown that in the year of 2018 the population in Minas Gerais was made predominantly of people up to 25 years old, corroborating with the results that had been observed in the study. But the predominant level of education in the state of Minas Gerais is the Elementary one, and these results disagree with the results from the study. It was observed that the pay grade of the studied population is below minimum wage, because per capita income average is R\$1.314, favoring the result found in the survey (IBGE, 2020).

Most of the owners said they had knowledge of zoonosis. Such result is because the

population shows higher concern with zoonotic diseases and look for ways of prevention (HALSBY et al., 2014). Jadav and Patel (2021), while assessing producers' knowledge on zoonosis, observed that these producers have prior knowledge of zoonotic diseases, which corroborates the present study results. A study by Halsby et al. (2014), reported that, among the main diagnosis, those associated to bacterial, viral and fungal diseases are outstanding.

The studied population showed greater number of dogs as pets. - this is due to the fact that dogs show strong emotional bond with their owners, and they are source of care, affection and companionship; these pets are considered, by many people, as members of the family. According to ABINPET (2020), the population of cats

and dogs has been exponentially growing; nevertheless, the Brazilian population of dogs is higher than the population of cats; 55.1 and 24.7 million, respectively.

Dogs with defined breed prevailed among owners; however, according to Ackerman (2021), the population of dogs without defined breed is the largest among pets, because of the number of wandering animals and inter-racial crossing, and the care of these animals is provided in animal clinics. However, such result diverges from that of the present study. According to Sánchez-Vizcaíno et al. (2017), most of the medical care is provided to adult animals, because this age group is easily susceptible to diseases, due to their access to the street, frequency in going to animal clinics and pet shops, as well as socializing with other animals; this is in accordance with the results found here.

As observed, large part of the population does not castrate their animals, even though castration is considered a measure to minimize the risks to animals' health, decreasing the risk of neoplastic diseases in their reproductive and urinary systems, improving their well-being, and providing increased longevity (VENDRAMINI et al., 2020). According to Wongsangchan and McKeegan (2019), castration is one of the most commonly used procedures in small animals' clinics to reduce proliferation of cats and dogs, the odor of urine, as well as diseases.

About the vaccines given to animals, owners do not know about the ones that can be given to animals, and they also declare that they follow the vaccine protocol for the

animals since they are cubs, with booster. According to Wang et al. 2021 and Bertasio et al. 2020, the most administered vaccines to dogs and cats are the multiple anti-rabies and antiviral vaccines, because they are mandatory. However, it was observed higher administration of anti-rabies vaccination, because it is free (WERA et al., 2021).

There are many other vaccines that can be part of dogs' vaccine calendar, as the one against kennel cough (MOORE, RENDALL e MILLAR, 2021), leishmaniosis (ALMEIDA et al., 2021) and giardia (NAMBOOPPHA et al., 2021). For cats, the availability of vaccines is not as high as that of dogs, and the most used one is the anti-rabies (LARSON e SCHULTZ, 2021). It was possible to observe that large part of owners do not make use of vaccines in cats, because they do not know about the vaccines to be administered, as well as the difficulty in handling, containing and transporting the animals (SAVADOGO et al., 2021).

In this study, it was observed that owners, eventually, make use of worming, once the copro-parasitological exam should have been done prior to the worming, which is performed only by a small part of the studied population – only 6.7% of the interviewed people perform the animal's periodic worming. The parasitological stool exam in pets is of great importance for the diagnosis of the parasite that causes the gastrointestinal disorder, because the identification of the etiological agent will help the veterinarian in their therapeutic approach, in the choice of adequate medication to, specifically, fight

the type of parasitic agent (NUNES, 2011).

As described by the owners, the animals do not show behavioral changes, which shows that the animals live in good environments, since, most of the time, behavioral changes arise from changes in the environment, directly impacting on the animals' well-being (Faraco, 2008). More behavioral changes were expected, once they are home animals, and, many times, recluse, which may result in changes in the pattern of well-being, incidence of accidents, among others (LIMA e LUNA, 2012); However, such result has not been found.

Dry food is the most offered food to their animals, which corroborates what has been described by Stercova et al. (2020), who affirm that dry commercial diets are popular among the owners of cats and dogs, because they are easy to store and to supply, and

many of these owners consider these foods complete and balanced, which favors their acquisition and preference in the supply. However, Trevizan (2009), reports that the supply of non-balanced and inappropriate foods, for cats and dogs, as rests of foods eaten by humans, can favor the arising of metabolic diseases, such as obesity, which negatively interferes with the animals' quality of life and well-being. Then, right diets favor the animal's better performance, which is associated to better conditions of well-being.

CONCLUSION

The studied population shows knowledge on the basic care of dogs and cats, making it possible to provide better quality of life, health and well-being to the animals.

AVALIAÇÃO DO CONHECIMENTO POPULACIONAL SOBRE CRIAÇÃO E MANEJO DE CÃES E GATOS

RESUMO

A relação entre homem e animal tem se estreitado no decorrer dos anos, fazendo com que os mesmos sejam considerados como membros das famílias. Porém, nem todos os owners tem conhecimento sobre as formas corretas de criação dos animais. Objetivou-se com essa pesquisa avaliar o nível de conhecimento populacional sobre as formas de manejo e criação de cães e gatos. O presente trabalho consiste na aplicação de um questionário online para a população de Patrocínio-MG. O questionário contemplou questões objetivas sobre dados pessoais do owner, dados do animal, formas de cuidado, manejo e prevenção de doenças. Os valores percentuais obtidos em cada questão foram comparados pelo teste de qui-quadrado a 5% de significância. Participaram da pesquisa

345 owners de cães e gatos, residentes da cidade de Patrocínio-MG. A maior parte dos entrevistados possuem até 25 anos, ensino médio e faixa salarial de um salário mínimo. Tal população apresenta maior preferência pela criação de cães, com raça definida, adultos, sendo a ração seca o alimento preferivelmente fornecido aos animais. Os owners realizam vacinação antiviral múltipla e antirrábica nos animais desde filhotes com dose reforço anualmente, sendo a vermifugação realizada periodicamente. Conclui-se com o presente trabalho que a população conhecimento sobre as formas de cuidado e manejo de cães e gatos, realizando os cuidados básicos necessários para os mesmos.

Palavras-Chave: alimentação, bem-estar, vacinação, vermifugação, higienização.

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