

Abuse in Small Animals: a Ten-Year Retrospective and Epidemiological Study in the City of Patos-PB, Brazil

Abuso em Pequenos Animais: um Estudo Retrospectivo e Epidemiológico de Dez Anos na Cidade de Patos-PB, Brasil

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Abstract

Domestic animals, especially pets, have a close and affectionate relationship with people. However, many of them are harmed by their supposed tutors. In Brazil, there are few veterinary studies looking at epidemiology of pets' mistreatment admitted to veterinary practices and hospitals, and none in Paraíba state. The aim of this study was to identify the occurrence and the epidemiological aspects of pets' mistreatment in the Veterinary Hospital from the Federal University of Campina Grande, Patos, Paraíba, Brazil. In addition, it was sought to exhibit the frequency of animal abuse cases and their respective levels of socio-environmental vulnerability by neighborhood. A retrospective study of medical records was carried out for a period of ten years. The data were analyzed descriptively. A total of 943 cases of mistreated pets were identified with 59.8% (564/943) in dogs and 40.2% (379/943) in cats. Males represented 50.9% (480/943) of the cases and 49.1% (463/943) were females. Dogs [40.60% (229/564)] and cats [54.35% (206/379)] up to one year of age were the most affected. Furthermore, the majority of dogs [74.3% (419/564)] and cats [98.15% (372/379)] mistreated were mixed breed. Negligence was evidenced with 69.1% (651/943) of mistreatment cases. There was also a higher frequency of mistreatment in neighborhoods with high levels of vulnerability. It is concluded that although the number of mistreated dogs was higher, proportionally cats were more likely to be victims of abuse and that in those poorer socioeconomic areas, harmful attitudes to domestic animals are a daily reality.

Keywords: Animal Mistreatment. Vulnerability. Pets. Violence.

Resumo

Animais domésticos, especialmente cães e gatos, mantêm uma relação estreita e afetuosa com as pessoas. No entanto, muitos são prejudicados por seus supostos tutores. No Brasil, existem poucos estudos veterinários sobre a epidemiologia dos maus-tratos a animais de estimação admitidos em clínicas e hospitais veterinários, e nenhum na Paraíba. O objetivo deste estudo foi identificar a ocorrência e os aspectos epidemiológicos dos maus-tratos a animais de estimação no Hospital Veterinário da Universidade Federal de Campina Grande, Patos, Paraíba, Brasil. Além disso, buscou-se apresentar a frequência dos casos de maus-tratos animais e seus respectivos níveis de vulnerabilidade socioambiental por bairros. Foi realizado um estudo retrospectivo de prontuários médicos por um período de dez anos. Os dados foram analisados descritivamente. Um total de 943 casos de animais de estimação maltratados foram identificados com 59,8% (564/943) em cães e 40,2% (379/943) em gatos. Os machos representaram 50,9% (480/943) dos casos e 49,1% (463/943) eram fêmeas. Os cães [40,60% (229/564)] e os gatos [54,35% (206/379)] até um ano de idade foram os mais acometidos. Ademais, a maioria dos cães [74,3% (419/564)] e gatos [98,15% (372/379)] maltratados eram sem raça definida (SRD). Evidenciou-se a negligência com 69,1% (651/943) dos casos de maus-tratos. Observou-se também maior frequência de maus-tratos em bairros com altos níveis de vulnerabilidade. Concluímos que embora o número de cães maltratados tenha sido maior, proporcionalmente os gatos tiveram maior probabilidade de serem vítimas de maus-tratos e que naquelas áreas socioeconômicas mais desfavorecidas, atitudes prejudiciais aos animais domésticos são uma realidade diária.

Palavras-chave: Maus-Tratos Animais. Vulnerabilidade. Animais de Estimação. Violência.

1 Introduction

The interaction between humans and animals has been described since the dawn of civilization, when animals were used mainly as a source of subsistence and means of transport. Since that time man has used animals for many purposes including: food, transportation, clothing, working, entertainment, sports, guarding, companionship, emotional comfort, assistance in the diseases treatment (SILVANO *et al.*, 2010).

However, despite all the benefits provided by animals to humanity, there are still negative interactions, such as

mistreatment, where animals often end up being silent victims of criminal attitudes (DANIELL, 2002). Such attitudes are practiced by all types of people and can be motivated by cultural, social or psychological aspects, and are sometimes practiced without awareness that these acts are harmful. In addition, these abuses are often not even reported, as they are so common within the society (DELABARY, 2012).

The veterinarian is often the first person to become aware of violent acts against small animals (FARACO; SEMINOTTI, 2006; ARKOW; NASSARO, 2017). They may identify mistreatment in consultations and report it to the

appropriate authority, helping to break the cycle of violence that affects small animals, family members and the community (ARKOW; NASSARO, 2017).

In Brazil, animals mistreatment is a crime (BRAZIL, 1998). However, twenty years after the creation of the Law 9.605 / 98, Resolution 1.236 / 18 was established by the Federal Brazilian Council of Veterinary Medicine, which clearly defined animals abuse (CFMV, 2018). Although there are scientific records of small animal mistreatment cases in veterinary practices and hospitals in some Brazilian areas, little is known about their epidemiology. In addition, in contrast to the situation in other countries, such as the United States of America, the United Kingdom and New Zealand, there are no guidelines to explain how clinicians and surgeons should proceed when they suspect animal abuse (ARAÚJO *et al.*, 2015).

This study aimed to retrospectively identify the occurrence and epidemiological aspects of clinical cases of small animal abuse in the city of Patos-PB, Brazil admitted to the Veterinary Hospital from the Federal University of Campina Grande, Patos, Paraíba, Brazil.

2 Material and Methods

A retrospective and documentary study of dogs' and cats' medical records attended at the Veterinary Hospital from the Federal University of Campina Grande (UFCG), in Patos, Paraíba, Brazil, from January 2009 to December 2018, was carried out for this purpose. Only dogs and cats residing in Patos, Paraíba were included.

To carry out the study, the following information from the medical records was compiled into an electronic spreadsheet: the animals' species, race, sex and age, address of their owners and the type of abuse, which resulted in an electronic database. Mistreatment modalities were assessed based on anamnesis and clinical examination data, which were classified according to article 5 of Resolution 1,236 / 2018 of the Federal Council of Veterinary Medicine (CFMV, 2018).

After data collection, they were analyzed descriptively by Microsoft Excel® 2017 software, by obtaining absolute frequencies and percentages of the studied variables, in addition to the tables and graphs elaboration that allowed to visualize and evaluate the frequencies distribution of the mistreatments according to the animals' year, species, sex, age, type of abuse and origin neighborhood.

In addition, the frequencies distribution of animal mistreatment found in this study by neighborhood of the animal's home was compared with its respective socio-environmental vulnerability index, according to Pereira (2018), in order to verify whether in those most vulnerable neighborhoods there was greater observation of mistreated animals.

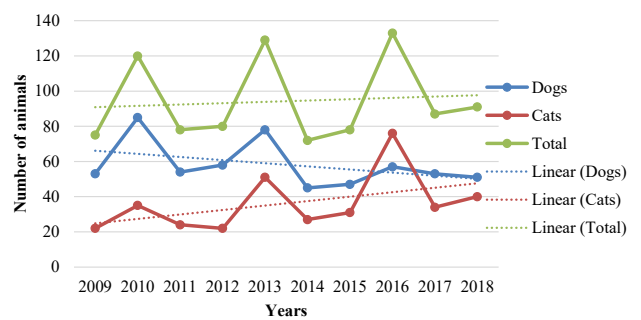
3 Results and Discussion

A total of 40,274 small animal appointments were analyzed. Of these, 1,266 (3.14%) mistreatment cases of dogs and cats were identified, of which 943 (2.34%) were related in animals living in the city of Patos, Paraíba, Brazil [59.8% (564/943) were dogs and 40.2% (379/943) were cats]. The greater number of consultations involving dogs (28,572 / 40,274) than cats (11,702 / 40,274) was related to the higher number of dogs in the referred veterinary hospital during the evaluated period.

In Brazil, dogs are the most popular pet, although there has been a recent increase in the number of cats (GARCIA, 2009). This fact was confirmed by a survey conducted in Brazil, demonstrating that there are approximately 52.2 million dogs and 22.1 million pet cats in the country (IBGE, 2015), i.e. approximately 2.5 times more dogs than cats in Brazilian homes.

Although the frequency of abuse was higher in dogs (59.8%), there was a decline in the number of the appointments with abuse characteristics in this species over the evaluated period, with a corresponding increase in the numbers in cats (Figure 1).

Figure 1 - Annual appointments distribution with evidence of mistreatment in dogs and cats at the Veterinary Hospital of Federal University of Campina Grande, (UFCG), Patos, Paraíba, Brazil



Source: Research data.

According to Marlet and Maiorka (2010) cats are animals of choice for the abuse practices because the domestic cat's behavior favors mistreatment. Cats have solitary behaviors, predominantly nocturnal habits and when they hunt, they prefer to be alone. These conditions reinforce a mysterious and mystical image of cats leading many people to believe in myths and superstitions about them. Another factor related to the cats mistreatment may be associated to its social behavior and its recent domestication which mean that it fails to show adequate submission to people in relation to interaction and living with them.

Cats have easier access to the street and neighboring houses. This also makes them more susceptible to abuse (MARLET; MAIORKA, 2010). In addition, the fact that cats isolate themselves when they are sick, may mask many signs of mistreatment and sometimes they will die alone without medical care. Merck (2013) states that abuse in cats is

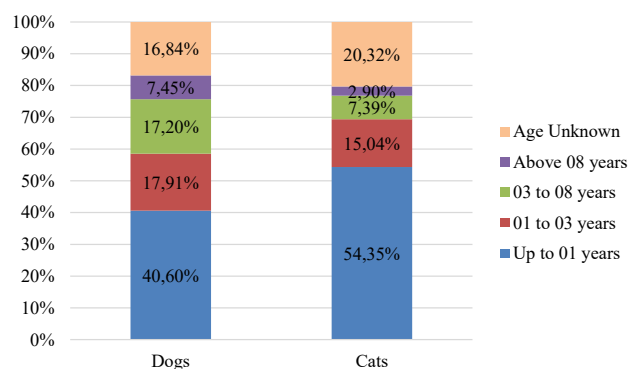
underreported because some owners do not worry when their cat fails to return home. They may assume that the cat has been run over for example. Furthermore, cats are considered independent and resistant animals and many people believe that cats have “nine lives” and if injured or abandoned, they will know how to recover and find ways to survive by themselves (MACHADO; PAIXÃO, 2014).

When data from dogs and cats were combined, 50.9% (480/943) were male and 49.1% (463/943) female. Male dogs comprised 47% (265/564) of the animals and females 53% (299/564). Meanwhile, in cats, 56.7% (215/379) were male and 43.3% (164/379) female. In a necroscopic study in the city of São Paulo (Brazil) there was an occurrence of 53% of abuse in dogs, 44% in female dogs and 3% without sex information. Of cats, 48% were male and 52% female cats (MARLET; MAIORKA, 2010). These numbers differ from those found in this study, which can be explained by different data collection methods. In this study data were collected from medical records and presentation may have been influenced by the owner’s willingness (and potentially the aggressor) to present the animal. In the necroscopic study, cases included violence perpetrated by a third party and the client, since these necropsies were performed in a police criminal institute.

However, in both studies it was observed that there was no difference between the sexes, in contrast to the data described by Munro and Munro (2008), which showed 70% of abuse to occur in male dogs in the United Kingdom. This suggests that male dogs are preferred by violent guardians, or that these animals are more difficult to control, suffering mistreatment and punishment acts in order to correct unwanted behavior.

The highest occurrence of abuse occurred in puppies < one year old, with 40.60% (229/564) of cases in dogs and 54.35% (206/379) in cats (Figure 2).

Figure 2 - Appointments distribution with evidence of mistreatment in dogs and cats, according to age, at the Veterinary Hospital Professor of the Federal University of Campina Grande, (UFPG), Patos, Paraíba, Brazil



Source: Research data.

When adding the frequency ranges of dogs and cats up to three years old, the following results are obtained: 58.51% for dogs and 69.39% for cats, corroborating findings of Marlet and Maiorka (2010) who also described a higher frequency of mistreatment in young animals, especially those < one year old. In small animals > eight years of age, abuse was found in 7.45% (42/564) of dogs and 2.90% (11/379) of cats (IVANIEVIZ *et al.*, 2016). In small animals the lowest frequency of abuse was seen in elderly pets, although interestingly in people, both children and the elderly are more vulnerable to abuse (LAKS *et al.*, 2006).

Studies have previously shown cross breed cats and dogs to predominate in Brazilian cities (GARCIA, 2009; VIEIRA *et al.*, 2019). Therefore, the high number of cases of abuse in cross breed animals is not directly associated to breed, but to the fact that crossbreed animals are common in most Brazilian cities.

There were 18 breeds of dogs and three of cats represented in the study. Most of the dogs, 74.3% (419/564) were cross breeds, while 25.7% (145/564) were from specific breeds. Doberman Pinschers were the most common [10.5% (59/564)], followed by Poodle 7.4% (42/564), Cocker Spaniel 2% (11/564), Labrador Retriever 1.2% (7/564), Rottweiler 1.1% (6/564), Dachshund 0.9% (5/564), German Shepherd 0.5% (3/564), Pitbull 0.5% (3/564), Brazilian Terrier 0.4% (2/564) and other breeds such as Chow, Dobermann, Lhasa Apso, Pointer, and the Schnauzer, each 0.2%. In cats, 98.15% (372/379) were cross breeds and only 1.85% (7/379) pure breed with 1.33% (5 / 379) Siamese and 0.52% (2/379) Persian.

There are a number of types of mistreatment, for example, trauma, intentional intoxication, intentional trampling, hunger, thirst, imprisonment, exposure to unfavorable environmental conditions, animals affected by several diseases and abandonment when they become ill or when they no longer perform the desired function, (LIMA, 2015). For this study, the following modalities were considered: abandonment, physical aggression, injuries by firearms, compressed air guns and bladed weapons, negligence and poisoning episodes (Table 1).

Table 1 - Frequencies distribution of mistreatment in dogs and cats treated at the Veterinary Hospital the Veterinary Hospital of the Federal University of Campina Grande, (UFCG), Patos, Paraíba, Brazil, from January 2009 to December 2018, according to species and age

Mistreatments A		Dogs						Cats							
		B	C	D	NI	Σd	A	B	C	D	NI	Σc	ΣT		
Abandonment	N	53	10	12	2	36	113	38	8	4	1	17	68	181	
	%	5.6	1.1	1.3	0.2	3.8	12	4	0.8	0.4	0.1	1.8	7.2	19.2	
Physical Aggression	N	16	5	6	1	5	33	6	5	2	1	10	24	57	
	%	1.7	0.5	0.6	0.1	0.5	3.5	0.6	0.5	0.2	0.1	1.2	2.6	6.1	
Knife injury	N	2	1	1	1	1	6	1	0	0	0	1	2	8	
	%	0.2	0.1	0.1	0.1	0.1	0.6	0.1	0.0	0.0	0.0	0.1	0.2	0.8	
Firearm	N	1	3	1	0	1	6	1	0	1	0	0	2	8	
	%	0.1	0.3	0.1	0.0	0.1	0.6	0.1	0.0	0.1	0.0	0.0	0.2	0.8	
Sniper arm	N	0	0	0	0	0	0	3	2	0	0	2	7	7	
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.2	0.7	0.7	
Poisoning	N	5	1	1	0	1	8	9	5	1	1	7	23	31	
	%	0.5	0.1	0.1	0.0	0.1	0.8	1.0	0.5	0.1	0.1	0.7	2.5	3.3	
Neglect	N	152	81	76	38	51	398	148	37	20	8	40	253	651	
	%	16.1	8.6	8.1	4.0	5.4	42.2	15.7	3.9	2.1	0.8	4.3	26.9	69.1	
TOTAL	N	229	101	97	42	95	564	206	57	28	11	77	379	943	
	%	24.3	10.7	10.3	4.5	10.1	59.8	21.8	6.0	3.0	1.2	8.2	40.2	100.0	

A: Age up to 01 year; B: Age over 01 year and less than 03 years; C: Age above 03 years and less than 08 years; D: Age over 08 years; NI: Age not informed. N: Number of mistreated animals. %: Frequency of mistreated animals. Σd: Total Dogs; Σc: Total Cats; ΣT= Total Dogs and Cats.

Source: Research data.

Neglect was the most frequent form of abuse, with 69.1% of cases (651/943), corroborating findings of other studies (VERMEULEN; ODENDALL, 1993; GARCIA, 2009, 2017; HAMMERSCHMIDT; MOLENTO, 2014). Neglect is an act of omission, unintentional, usually resulting from continuous action or even the client's lack of action for the animal for a long period of time (MERCK *et al.*, 2013). Although neglect is the most common form of animal abuse, it is also the least studied, both in veterinary medicine and in man. Consequently, identification of neglect is difficult, and it may be related to the families' socioeconomic precariousness. Family vulnerability can be considered as one of the reasons of neglect, affecting the care of children, vulnerable adults and the elderly as well as animals. Thus, the imposition of fines on these economically disadvantaged families will be counter-productive, as this will further complicate the animal's and the family's situation itself. Education and frequent monitoring by the competent authorities is necessary to obtain successful results in these situations of vulnerability (GARCIA, 2017).

Abandonment is the second most common type of mistreatment in this study, at 19.2% (181/943) (Table 1). The dogs and cats abandonment is an important problem for public health and animal welfare. Causes include religious, cultural, socioeconomic, demographic, ecological and biological aspects (GARCIA *et al.*, 2012). According to the World Health Organization (WHO), in Brazil there are 30 million abandoned dogs and cats (LIMA, 2015). It is important to note that the frequency of abandonment in this study does not include the whole city where the study was conducted but was limited to those animals admitted at the UFCG Veterinary Hospital

that had been rescued from the streets. These included animals that had already been domiciled and belonged to other people before being abandoned, according to the data extracted from the anamnesis.

Physical aggression had a frequency of 6.1% (57/943), including intentional burns, kicks, punches and beatings with the use of blunt objects, such as pieces of wood, leather straps. Of the cases of physical aggression, 3.5% (33/943) were registered in dogs and 2.6% (24/943) in cats. In a retrospective study in the city of Curitiba, Paraná, Brazil looking at complaints made in animal protection services, physical aggression accounted for 11.6% cases of mistreatment in dogs and cats (HAMMERSCHMIDT; MOLENTO, 2012). In São Paulo city, Brazil, a frequency of mistreatment of 21% for dogs and 24% for cats, was recorded in data collected from autopsy (MARLET; MAIORKA, 2010). Despite the differing methodologies used to determine the frequencies of mistreatment in the above studies, they all demonstrate that small animals are victims of physical aggression, regardless of the region studied and the environmental conditions.

Injuries caused by a firearm accounted for 0.8% (8/943) of cases. These were more common in dogs, 0.6% (6/943) of the cases, while in cats the incidence was 0.2% (2 / 943). These represent a small number of traumatic injuries when compared to other causes of trauma in veterinary practice (TANRISEVER *et al.*, 2017). Weapons are prohibited in Brazil, with some exceptions provided in the Federal Law 10.826 / 2003 (BRASIL, 2003), a fact that may explain the small numbers of these type of cases. According to Tanrisever *et al.* (2017) dogs are shot by hostile neighbors or people who want to protect themselves from attacks by these animals. Additionally, a dog may be shot accidentally when fighting

with another dog owned by the shooter.

The number of knife injuries were equal to the frequencies of firearm injuries for dogs (0.6%) and for cats (0.2%). In these type of injuries, there is physical proximity between aggressor and victim. In this case, fewer injuries were observed in cats, which can be explained by the fact that cats are agile and can escape from the aggression. However, injuries caused by compressed air guns (pellets) were recorded only in cats, accounting for 0.7% (7/943) of cases. Air guns are not considered firearms and are not regulated by the Federal Law 10.826 / 2003 (BRASIL, 2003). These weapons are easy to acquire, only limited by a minimum age of 18 years in Brazil. They have relatively long range, capable of reaching targets from meters away which means they can be used on cats. Although their use is legally limited to people over 18, they are used by children and teenagers against cats (TANRISEVER *et al.*, 2017).

Suspected poisoning presentations had a frequency of 2.5% (23/943) in cats and 0.8% (8/943) in dogs. Poisoning was the most common form of mistreatment reported by Marlet and Maiorka (2010). These authors suggested that cats are more frequently affected as they visit other homes. Dogs are typically poisoned by annoyed neighbors due to constant barking, or by thieves intending to break into a house.

Active harmful behaviors (physical aggression, trauma by firearms and air guns, knife trauma and poisoning) accounted for approximately 12% of the cases with violent components and may result in the animal's death. This data collection area is important, since in a study conducted in São Paulo state by Arkow and Nassaro (2017), there was a relationship between people who abused animals and committed other violent crimes. Approximately 50% of these people had already committed other violent crimes against human beings, such as theft, death threats, homicides, bodily injuries. Other researchers have also associated animals mistreatment with interpersonal violence (COSTA *et al.*, 2014; MONSALVE *et al.*, 2017).

According to Arkow and Nassaro (2017), veterinarians are in a privileged position to identify crimes of animals mistreatment and also some cases of violence against human beings. It is possible that many people who take their animals

for a veterinary consultation may also be suffering some type of abuse by the same aggressor. Thus, veterinary professionals are in a position to break the cycle of violence, through complaints to the competent authorities.

However, during the animals' medical records analysis evaluated in this study, there were only a few cases where there were some mentions by the veterinarians of mistreatment of the mistreated animal. Arkow and Nassaro (2017), pointed out that animals mistreatment is the most challenging diagnosis in clinical work, requiring time, experience, emotional energy, sensitivity, tact and a significant dose of courage. Therefore, if this crime is to be identified more frequently, specific education must be given to professionals, such as how to approach situations involving animal mistreatment.

To identify the places in the city of Patos, Paraíba, Brazil where animal mistreatment was diagnosed, the owners' neighborhoods of those animals were listed. Twenty-five neighborhoods were listed, of which eighteen had the highest rate of abuse. Officially, the city of Patos has 23 neighborhoods (IBGE, 2010). However, this number of neighborhoods does not match the number of communities, as the Brazilian Institute of Geography and Statistics (IBGE) census is performed every decade and during this time three new communities emerged.

In summary, when verifying the degree of socio-environmental neighborhoods vulnerability (PEREIRA, 2018) with the sum of the frequencies of mistreated dogs and cats found in this study, it was observed that in that set of neighborhoods with a high level of socio-environmental vulnerability (Table 2), the sum of the frequency of mistreated dogs and cats was 46% (430/943), followed by 37% (344/943) for those with average vulnerability, 13% (123/943) for neighborhoods with low vulnerability, 3% (30/943) for high vulnerability and 2% (16/943) of the cases occurred in unofficial neighborhoods in the city. This index shows the spatial overlap between very poor and highly social vulnerability and areas of risk (environmental vulnerability), and therefore allowing a more integrated analysis of areas considered vulnerable in a given location (ALVES, 2006).

Table 2 - Association between the frequency of mistreatment of dogs and cats treated at the Veterinary Hospital of the Federal University of Campina Grande, (UFCG), Patos, Paraíba, Brazil, from January 2009 to December 2018 and the degree of socio-environmental vulnerability for their respective neighborhood

Neighborhood *	Mistreatments (N, %)	Σ(Mistreatments) (N, %)	Human Population (%)	Degree of Social and Environmental Vulnerability #
Jardim Assunção**	0 (0%)	16 (2%)	19%	**
Bairro dos Estados**	1 (0%)			
Frei Damião**	3 (0%)			
Jardim Europa**	5 (1%)			
Santa Cecília**	7 (1%)			

Neighborhood *	Mistreatments (N, %)	Σ(Mistreatments) (N, %)	Human Population (%)	Degree of Social and Environmental Vulnerability #
Ana Leite	0 (0%)	123 (13%)	27%	Low
Jardim Magnólia	1 (0%)			
Distrito Industrial	2 (0%)			
Morada do Sol	3 (0%)			
Brasília	8 (1%)			
Salgadinho	26 (3%)			
Centro	83 (9%)			
Bela Vista	16 (2%)	344 (37%)	23%	Medium
Novo Horizonte	20 (2%)			
Noé Trajano	27 (3%)			
Maternidade	78 (8%)			
Belo Horizonte	100 (11%)			
Santo Antônio	103 (11%)			
Alto da Tubiba	2 (0%)	430 (46%)	27%	High
Sete Casas	8 (1%)			
Bivar Olinto	36 (4%)			
Monte Castelo	67 (7%)			
Liberdade	74 (8%)			
São Sebastião	111 (12%)			
Jatobá	132 (14%)			
Nova Conquista	30 (3%)	30 (3%)	4%	Very High

* Neighborhoods grouped according to their degree of vulnerability. ** Neighborhoods without enough data to calculate the vulnerability index.

Fonte: Pereira (2018).

Delabary (2012) states that the situation of poverty and low income are conditions of vulnerability that are linked to animals harming. Thus, the miserable situation prevents the family from providing their pets with comfortable conditions for their survival.

However, since the family is the main care provider for their pets they have an obligation to meet their needs and, to ensure physical integrity and maintain animal welfare. Thus, the socioeconomic conditions do not refrain the owners from their responsibility. However, understanding the factors concerning the animal abuse and neglect in homes is extremely important for the development of public government actions aimed at improving the quality of life for the people and animals in socioeconomic inequality situations (MONSALVE *et al.*, 2018).

4 Conclusion

Cats were proportionally more affected by abuse than dogs. In areas with high socioenvironmental vulnerability, there was a higher frequency of animals mistreatment, mainly due to negligence. However, cases of animal mistreatment are also identified in high economic social classes, so economic factors are not the only important ones in the practice of this crime and studies involving the aggressor's personality are also required.

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