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PET OWNERS AND THE USE OF DRUGS IN THEIR ANIMALS WITHOUT A PRESCRIPTION FROM A VETERINARIAN IN THE MUNICIPALITY OF PANAMBI, RS, BRAZIL

Responsáveis por pets e o uso de fármacos nos seus animais sem prescrição de médico veterinário no município de Panambi, RS, Brasil

Edward Augusto Jacobs
Instituto Federal Farroupilha, *Campus* Frederico Westphalen, Frederico Westphalen, RS, Brasil.
dudujacobs15@gmail.com - https://orcid.org/0009-0005-1732-8226

Guerino Bandeira Junior
Instituto Federal Farroupilha, *Campus* Frederico Westphalen, Frederico Westphalen, RS, Brasil.
guerino.junior@iffarroupilha.edu.br - https://orcid.org/0000-0002-7697-398X

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Abstract
The use of medications in companion animals without professional guidance poses a significant risk to pets' health, as it does in humans. Often, medications stored at home are administered to animals when clinical signs of illness are present, without prior consultation with a veterinarian. This practice can result in poisoning and even death. Given this concern, this study aimed to investigate the use of medications without a veterinary prescription in companion animals in the municipality of Panambi, RS. For this purpose, a physical and *online* questionnaire was applied to those responsible for companion animals, containing objective (n=16), descriptive (n=1), and mixed (n=4) questions. The questionnaire was completed by 155 people who had previously agreed to participate in the survey. It was found that 44.5% of respondents had already medicated their animals without a veterinary prescription or knew someone who had done so. The most commonly used drugs were dipyrone and paracetamol, due to their ease of access. In addition, 77.4% of respondents stated that they did not know how to identify which medications are inappropriate for use in animals. The study revealed a worrying level of ignorance about the risks of medication without a prescription from a veterinarian, reinforcing the need for educational campaigns and greater awareness of the dangers of misuse of drugs in companion animals.

Palavras-chave
animais domésticos
fármacos
intoxicação

Resumo
O uso de medicamentos em animais de companhia sem orientação profissional representa um risco significativo à saúde dos pets, assim como ocorre com a automedicação em humanos. Muitas vezes, medicamentos estocados em casa são administrados aos animais quando há sinais

clínicos de enfermidade, sem consulta prévia ao médico veterinário. Essa prática pode resultar em intoxicações e até mesmo em óbito. Diante dessa preocupação, este estudo teve como objetivo investigar o uso de medicamentos sem prescrição veterinária em animais de companhia no município de Panambi, RS. Para isso, um questionário físico e *online* foi aplicado aos responsáveis por animais de companhia, contendo perguntas, objetivas (n=16), descritivas (n=1) e mistas (n=4). O questionário foi respondido por 155 pessoas que previamente aceitaram participar da pesquisa. Constatou-se que 44,5% dos entrevistados já medicaram seus animais sem prescrição de médico-veterinário ou conhecem alguém que já os medicou. Os medicamentos mais utilizados foram dipirona e paracetamol, devido a facilidade de acesso. Além disso, 77,4% dos respondentes declararam não saber identificar quais medicamentos são inadequados para uso animal. O estudo evidenciou um nível preocupante de desconhecimento sobre os riscos da medicação sem prescrição por médico-veterinário, reforçando a necessidade de campanhas educativas e maior conscientização sobre os perigos do uso indevido de fármacos em animais de companhia.

1 Introduction

As in humans, the indiscriminate use of drugs and the use of home remedies in companion animals, without professional guidance, pose a significant health risk and are one of the main causes of poisoning in dogs and cats (Carvalho *et al*., 2010). A survey conducted by the Regional Pharmacy Council of the State of São Paulo (CRF-SP) in conjunction with the Datafolha Institute revealed that 77% of Brazilians have a habit of self-medicating, which leads to cases of drug poisoning (CRF-SP, 2019).

Despite the topic's relevance, there are currently no official data or national surveys documenting the use of drugs without a veterinary prescription in companion animals. According to Lima; Nunes; Barros (2010), the presence of self-medication and medicalization is related to the storage of drugs in homes. Among these drugs, analgesics stand out, widely used due to their therapeutic action on pain, often administered without a prescription.

Thus, it is common for guardians to extend this practice to their companion animals when they show some change in their health status. However, this practice can have negative consequences, such as unexpected adverse effects and even poisoning of the animal. This may result from the use of human drugs, inappropriate dosage (overdose), administration for purposes other than the original indication, or even negligence and ignorance on the part of the owner regarding possible side effects (Siroka; Svobodova, 2013). These factors can lead to drug poisoning and, in more severe cases, death.

For drugs to be effective, they must be used for the appropriate clinical condition, prescribed by a veterinarian in the appropriate pharmaceutical form, dosage, and treatment duration, and

administered therapeutically (Nicoletti *et al.*, 2013). Thus, considering the scenario presented, as well as the importance of the topic, the present study aimed to determine the occurrence of drug use in companion animals, administered without veterinary guidance, as well as to investigate the knowledge of those responsible for medication in animals in the city of Panambi, RS.

2 Material and Methods

This study is an exploratory scientific research study with quantitative data characteristics. The research was conducted using physical and online questionnaires, developed with the help of the Google Forms® platform. The questionnaire contained 21 questions: 18 objective, one descriptive, and two mixed.

The study described in this article was approved by the Research Ethics Committee (CEP) via Plataforma Brasil (CAAE n. 76558223.0.0000.5352) and conducted in the municipality of Panambi, RS, Brazil, during the period from January to August 2024.

The questions were designed to outline the profiles of the guardians (age group and monthly income) and the animals (species, number of animals, sex, and age), as well as to understand the guardians' behavior regarding the medication of pets without a veterinary prescription. Participants were asked about the practice of providing medication without a prescription, the frequency with which this occurred, the classes of drugs used (anti-inflammatories, antibiotics, and others), and whether they observed adverse effects or benefits after administration. Knowledge about drug poisoning, the risks of using drugs without a veterinary prescription, and the influence of financial status on the decision to seek veterinary care were also investigated.

The sample consisted of adults responsible for dogs and cats, with different socioeconomic conditions. The people who participated in the sample were selected at random by gender. Of all the questionnaires administered, two were not counted because the respondents refused to sign the consent form for the use of data in the research. The other participants were cooperative, answering all questions and signing the data use consent form. The results obtained were organized and analyzed using Google Sheets.

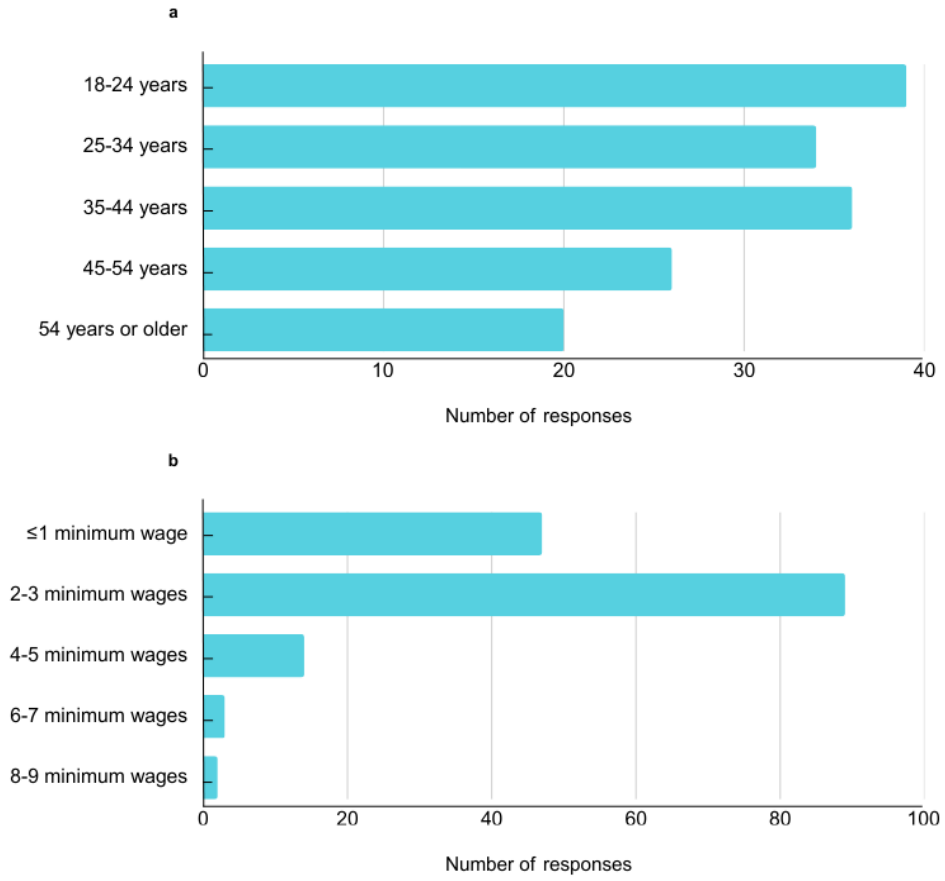
3 Results

A total of 155 responses were collected: 146 from printed questionnaires administered in public places, such as parks and streets, and 9 online, disseminated through the social networks WhatsApp and Instagram.

Regarding the questions asked to establish the profile of those responsible, most respondents were between 35 and 44 years old (36), 25 and 34 years old (34), and 19 and 24 years old (33) (Figure 1a). Regarding per capita family income, 89 people reported earning between 2 and 3 minimum wages, and 47 reported earning up to 1 minimum wage (Figure 1b).

To obtain a profile of the animals, guardians were first asked what species they owned. Most people responded that they only had a dog (72.3%) or cat (7.1%). Another 20.6% said they had both animals (Figure 2a). Regarding the number of animals per household, 51.6% of guardians responded that they had only one animal, 32.3% had two to three animals, and 16.1% said they had four or more animals (Figure 2b).

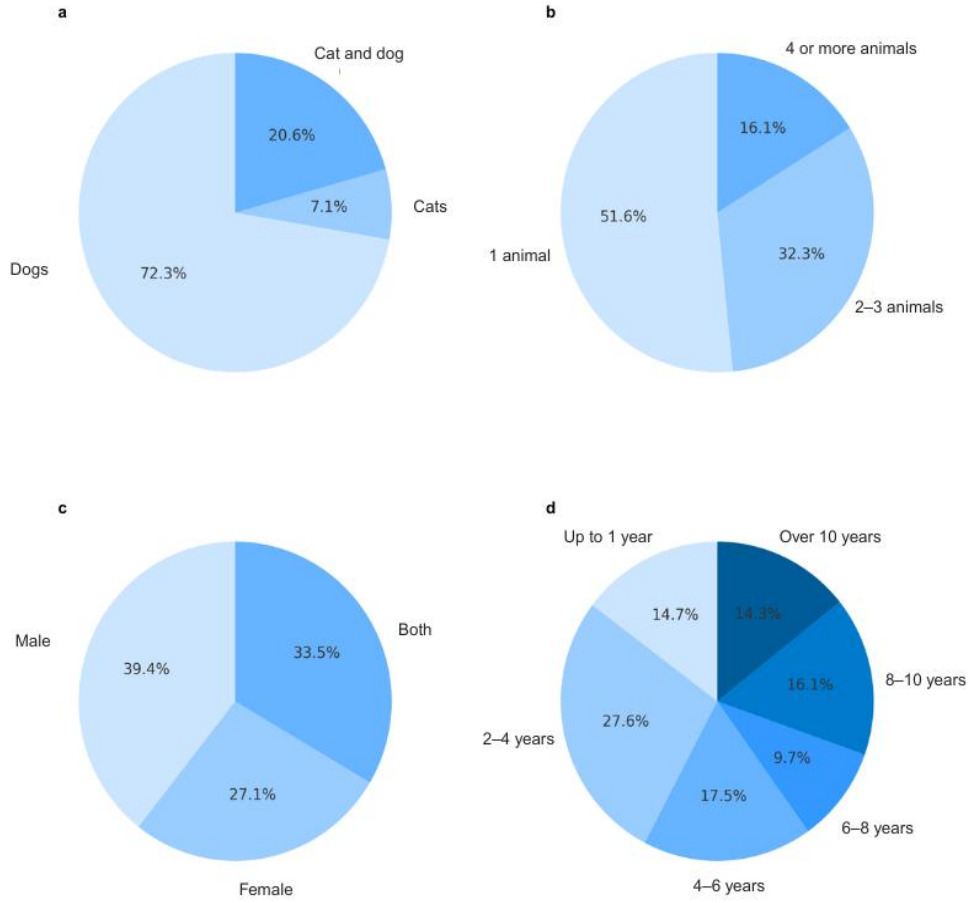
FIGURE 1 – Profile of caregivers in relation to age (a) and average family income (b).



Source: prepared by the author (2025).

Regarding the sex of the animals, 39.4% of respondents reported having only males, 27.1% had only females, and the remaining participants said they had animals of both sexes (Figure 2c). Most *pet* owners (27.6%) reported having animals aged 2 to 4 years (Figure 2d).

FIGURE 2 – Profile of animals in relation to species (a), number per household (b), sex (c), and age (d).



Source: prepared by the author (2025).

Pet owners were asked if they had ever given medication to an animal without a veterinarian's prescription, or if they knew someone who had done so. Among the responses, 55.5% said they had never given medication to an animal on their own or knew anyone who had done so. On the other hand, 44.5% of guardians reported having given medication or knowing someone who had given

medication without a prescription to an animal (Figure 3a). The following questions were directed only to those who responded positively to the previous question. When asked how many times they had given medication to the animal under their care, 35.3% of respondents said they had given it 4 or more times. Another 32.4% of respondents reported giving medication two to three times, and the same number of people said they had given medication only once (Figure 3b).

Regarding the class of medication given to pets, 54 guardians said they did not know the class. Five people responded that they had used Nonsteroidal Anti-Inflammatory Drugs (NSAIDs), and another five said that the class of medication was different from those presented in the options (Figure 3c). When asked about the reasons for giving medication to their pets, the most frequently cited responses were, in order of importance: ease of access to the medication (22 responses), financial reasons, such as saving money (17 responses), and recommendation from a friend or relative (16 responses) (Figure 3d). Among the medications offered to animals, dipyrone and paracetamol were the most cited by respondents (Figure 3e).

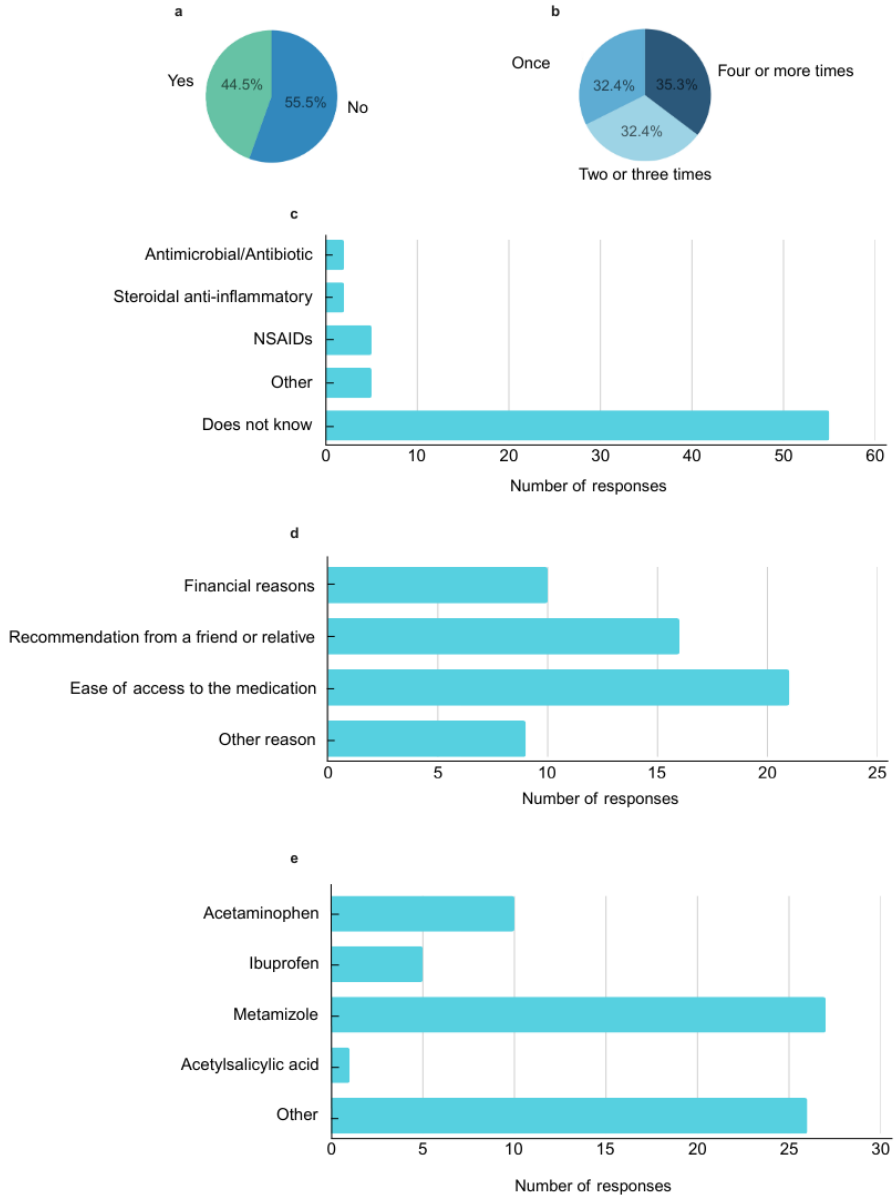
Caregivers were asked if any adverse effects were observed in the animal after the medication was administered. As shown in Figure 4a, most respondents reported that they did not observe any adverse effects (82.1%). Those who responded that they had observed adverse effects in the animal after using the medication (4.5%) were asked if they could describe what they had observed. Three responses were obtained, namely “vomiting and malaise,” “animal limp and appearing apathetic,” and “death of the animal.” The guardians were then asked if, in their opinion, the result of the medication had been positive. Most people (77.6%) said yes, while 10.4% responded that it had not been positive. Meanwhile, 11.9% did not know (Figure 4b).

The following questions were directed to all respondents. They were asked if they had ever heard about the risks of giving an animal human or animal medication without a prescription. Of these, 72.9% said they had heard about the risks, and 27.1% responded that they were unaware of the risks (Figure 4c). Next, those responsible were asked to rate their knowledge of drug poisoning in animals, and 42.6% said they had little knowledge. Another 20% said they had no knowledge, and only 12.9% said they had good knowledge of drug poisoning in animals (Figure 4d).

When asked if they knew of any medication that should not be given to an animal, 77.4% of respondents said they did not know of any medication, while 22.6% said they knew of some medication (Figure 4e). Those who answered yes were asked what this medication was, and the most commonly cited medication was paracetamol, followed by human medication in general. Finally, the guardian was asked how much the financial issue influences the decision to take their animal to the veterinarian when it is sick. Of the responses obtained, 43.2% said it influences a lot,

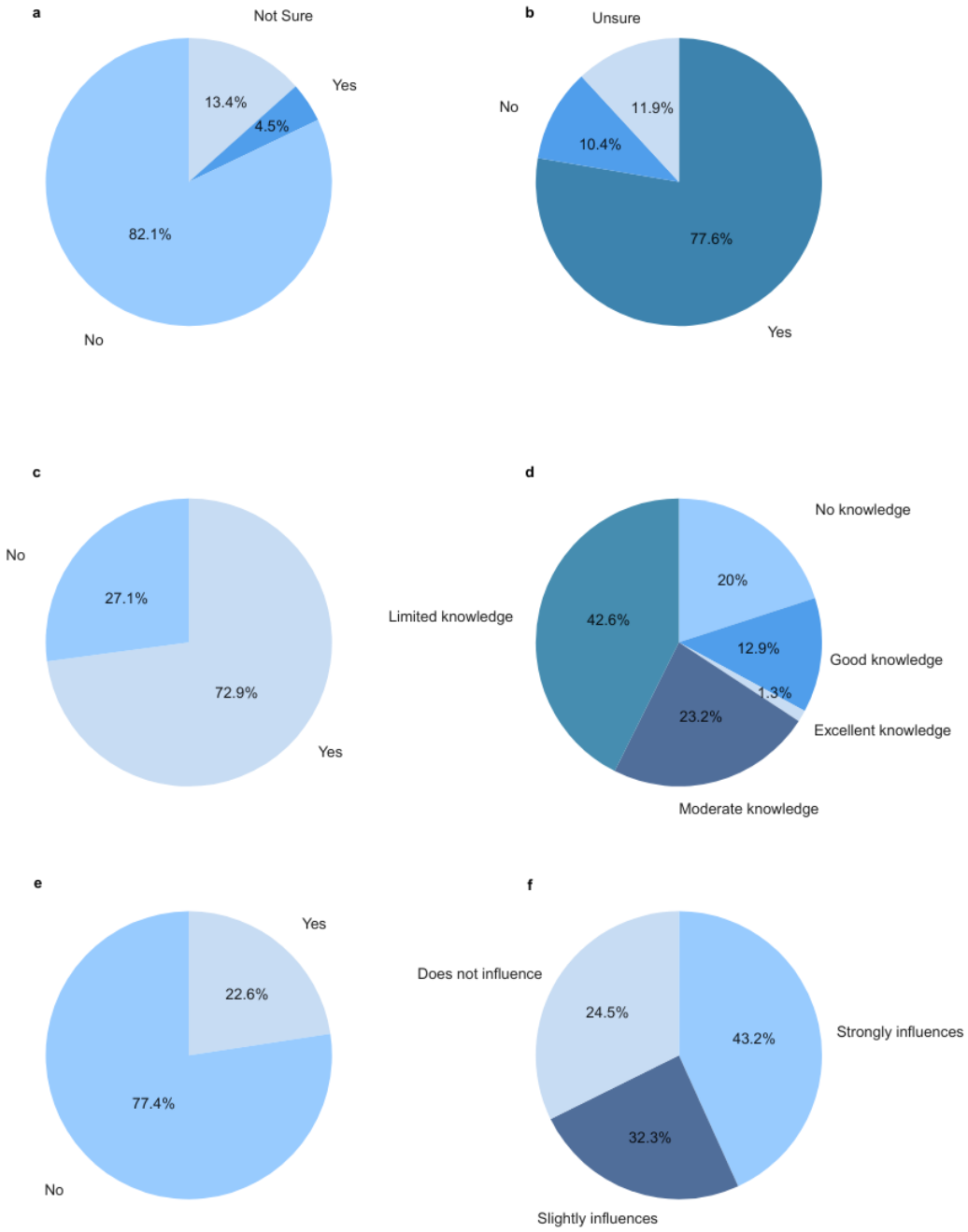
32.3% said it influences a little, and for 24.5% of guardians, the financial issue does not influence (Figure 4f).

FIGURE 3 – Responses regarding medication without veterinary prescription in animals, related to knowledge of the practice (a), frequency (b), class of medication used (c), motivation (d), and active ingredient provided (e).



Source: prepared by the author (2025).

FIGURE 4 – Responses regarding non-veterinary prescription medication in animals, related to the observation of adverse effects (a), positive results (b), knowledge about the risks of the practice (c), the degree of this knowledge (d), known medication (e), and the influence of financial considerations (f).



Source: prepared by the author (2025).

4 Discussion

Most of the guardians interviewed reported having already medicated their animal themselves or knowing someone who had (Figure 3a). These data are concerning, since the inappropriate use of medications can result in drug interactions, cause adverse effects, mask clinical symptoms, or even aggravate the patient's condition, favoring the emergence of secondary diseases and, especially, cases of poisoning (Musial; Dutra; Becker, 2007). Among these, most said they were unaware of the class of medication used, highlighting their ignorance of the subject. Again, these findings are cause for concern and reinforce the danger of administering medication without a prescription.

Regarding the medications used by caregivers, as shown in the results, the most frequently cited was dipyrone, followed by paracetamol (Figure 3e), both of which are NSAIDs. This result is similar to that of Souza (2021), who, in a study conducted in Aracaju (Sergipe, Brazil), showed that NSAIDs are the drugs most commonly used by guardians without a veterinary prescription or, especially dipyrone. Zielke *et al.* (2018) obtained similar results in their study conducted at the Veterinary Teaching Hospital of the Federal University of Pelotas (HCV/UFPEL), where paracetamol and dipyrone were the medications most commonly used by guardians without a veterinary prescription (17%). A literature review also highlighted NSAIDs as the main cause of poisoning in domestic animals, especially dogs (Cortinovis; Pizzo; Caloni, 2015).

In humans, the scenario is not very different. According to a survey conducted by the Institute of Science, Technology, and Quality (ICTQ) for the pharmaceutical market, anti-inflammatory drugs are the second most commonly used medications for self-medication in Brazil, with analgesic medications ranking first (ICTQ, 2018). It is worth remembering that the pharmacological group of NSAIDs are medications that have both analgesic and anti-inflammatory action. Because of this, they are widely used in humans for the treatment of acute or chronic painful and inflammatory conditions. In this context, it is worth noting that these behaviors (self-medicating and medicating pets) may be related, i.e., those who self-medicate with some type of drug tend to medicate their animals with the same drugs.

According to Medeiros *et al*. (2009), in the United States, drugs for human use are responsible for about 30% of poisonings in dogs and cats. Similarly, Paula *et al*. (2022) corroborate these data, reporting that 45.68% of poisonings in dogs in their study were caused by drugs for human use. Similarly, the data from the present study show that the motivation of those responsible for medicating their animals without a veterinary prescription would be mainly due to the ease of access to medications. This indicates that the fact that people already have medications prescribed for humans at home favors their use for possible treatments of their animals.

Among the drugs cited as most commonly used for non-prescription medication, dipyrone would be the least harmful to the animal. According to a meta-analysis by Silva *et al.* (2021), dipyrone is one of the most commonly used drugs in small animal clinical in Brazil. This is due to dipyrone's analgesic, antipyretic, and antispasmodic action, which can also be associated with opioids for the treatment of deep pain (Santos *et al.,* 2021). However, care must be taken when administering this drug in relation to the dose. According to Santos *et al.* (2021), high doses of dipyrone can lead to symptoms of sedation, leukopenia, and seizures, as well as the possibility of causing diarrhea, vomiting, and kidney problems. Therefore, veterinarians recommend administering a maximum of 25 mg/kg orally (PO) every 8 hours for up to three days for both dogs and cats (Andrade, 2017).

As for paracetamol, its use is not recommended for either dogs or cats (Siroka; Svobodova, 2013). Cats in particular have a deficiency of the hepatic conjugation enzyme glucuronyltransferase, which affects the metabolism of this drug, causing an accumulation of toxic metabolites, resulting in liver damage and the formation of methemoglobin. Among the main clinical signs observed in cats are depression, jaundice, edema of the face and limbs, vomiting, weakness, tachypnea, dyspnea, and hypothermia (Richardson, 2000). In cats, clinical signs of toxicity have been reported at doses between 50 and 100 mg/kg, and toxicosis can occur even at doses as low as 10 mg/kg (Fitzgerald; Bronstein; Flood, 2006).

In dogs, the recommended therapeutic dose of paracetamol is 15 mg/kg PO every 8 hours (Santos *et al.,* 2021). However, although the administration of small doses does not result in toxicity for canines, when given in larger doses or small cumulative doses, it results in saturation of the main drug metabolism pathways and consequent accumulation of toxic metabolites, affecting the liver and causing methemoglobinemia (Richardson, 2000). In addition, it is very important to note that the death of a cat due to paracetamol poisoning has been reported, resulting from medication without a prescription by the owner. Therefore, the fact that paracetamol was mentioned several times in the questionnaire raises concerns about its toxicity.

A study conducted by Jardim *et al*. (2021) between 2017 and 2018 with small animal veterinarians aimed to evaluate the main toxic agents that affect domestic cats based on the consultations they performed during that period. Among the results obtained, it was observed that human medications were responsible for 30% of poisoning cases, with paracetamol being the agent involved in 78 cases of feline toxicosis. These findings, added to the data obtained in the present study, reinforce the importance of understanding the severity of drug poisoning and show that this type of poisoning still represents one of the main causes of clinical emergencies in cats.

Although there was a high rate of people who had given their pet medication without a veterinarian's prescription, or people who knew someone who had done so, there were few cases in

which any adverse effects were observed in the animal. Despite this, the risks of this practice cannot be ignored, considering that among these few cases, there was one animal death. Amorim *et al.* (2020) warn that, among three animals poisoned by the irrational use of medications, one animal ends up dying from this cause. It is important to note that many animal owners are not trained to properly observe the presence of adverse events. In addition, events may occur without clear clinical signs, but with detectable changes in complementary tests, such as blood biochemical tests that show changes in urea and creatinine due to kidney problems or changes in liver enzymes due to liver problems resulting from the drug used.

It should also be noted that, as many guardians stated that the medication had a positive effect, this encourages them to re-medicate their animal on their own. This becomes even more evident when we evaluate the percentage of guardians who have already medicated their animal without a prescription more than once. In addition, the reuse of previous prescriptions also fits into this scenario, because as the medication has been used before, the owner feels safe administering it again without first consulting a veterinarian. According to the study by Zielke *et al.* (2018), 21% of guardians who medicated their animals on their own were using medications previously prescribed by a veterinarian. This practice is dangerous, as it does not take into account the particularities of each animal and its current clinical condition.

Another relevant fact that highlights the importance of veterinarians in guiding owners regarding medication for animals is the number of owners who are unaware of the class of medication they have given their animal and who are unaware of any medications that are toxic to animals. These data are concerning because they show that people are unaware of the dangers of the medication they are using.

It is worth reaffirming the importance of the veterinarian in this scenario, as they are the most qualified to examine the animal, choose the best therapy, and prescribe the appropriate dosage of medication according to the species and breed of the animal, thus avoiding problems with drug poisoning. Conceição and Ortiz (2015) emphasize that prevention is still the best way to reduce the incidence of drug poisoning in animals. To this end, it is important that veterinarians instruct pet owners not to medicate their animals on their own. It is also essential to inform them that there are medications that are inappropriate for animals. Thus, it is desirable that those responsible for animals become more informed and aware.

4 Conclusion

Almost half of the animal owners interviewed in the municipality of Panambi (RS, Brazil) have already given their animals medication without a prescription from a veterinarian, or know someone who has done so. Among the most commonly used medications without a prescription were dipyrone and paracetamol, the latter being the most toxic to animals, especially cats. Furthermore, another finding of the study is that the vast majority of respondents are unaware of any medication that is toxic to animals. Therefore, based on the above, there is a need for greater awareness among those responsible for animals regarding the dangers of medication without a prescription and the importance of veterinarians in choosing the best therapy to treat the animal's condition.

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