



RESEARCH ARTICLE

THE IMPORTANCE OF PHARMACEUTICAL CARE IN VETERINARY MEDICINE

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ABSTRACT

The present work establishes areas of action of pharmacist in medicine, as a possibility to optimize the care of pets and their guardians, allowing to satisfy the need for adequate, effective and safe treatment of the development of actions for this public. The demand for this type of service is increasing, and the humanization of animals and their importance in social life points to the need to specialize the services provided, leading to animal and human welfare. It was possible to prove the need to combine the actions of the two professions aimed at economic and individual benefits with owners of veterinary establishments, animal tutors, veterinarians, animal patients and pharmacists. For the provision of pharmaceutical care, the pharmaceutical professional must follow technical standards and laws that regulate the health system, aiming at the promotion, prevention, protection and recovery of health. In Brazil, Decree 20.377 of the Federal Constitution of September 8, 1931, approves the regulation of the exercise of the pharmaceutical profession¹, and the law 5.517 of the Federal Constitution of Brazil, of October 23, 1968, provides for the practice of the profession of veterinarian and creates the Federal and Regional Councils of Veterinary Medicine². Through a bibliographic research, based on the collection of data from sources such as monographs, scientific articles and books, it was possible to obtain a knowledge about the performance of the professional pharmacist in the veterinary field and establish this new importance niche in both social and economic aspects. K

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INTRODUCTION

Health professionals should seek immediate health care for their patients, as well as improve their overall condition. In this context, the pharmacist should use his/her knowledge to optimize the use of medications and other care by the patient, constituting what is called pharmaceutical attention. The pharmaceutical profession has a wide field of actions that permeate man, health and medicine. The professional image of the pharmacist, that is, of the specialist in the production and storage of the drug has changed over the centuries^{3,4}. The concept of pharmaceutical care was discussed, accepted and expanded at the World Health Organization (WHO) expert meeting held in Tokyo in 1994. In this meeting, the key role of the pharmacist was defined: "to extend the character of the beneficiary of Pharmaceutical Care to the public as a whole and thus recognize the pharmacist as a dispenser of health care that can actively participate in the prevention of diseases and health promotion, together with other members of the health team"⁵.

There is global growth in the breeding of domestic animals, and this growth requires innovations in the provision of services, and it is essential to establish standards that regulate the sector and ensure the quality and safety of products⁶. The health of a pet reflects today on the health of the whole family, with animals being a great source of love and affection, which influence the quality of life of the family. Research shows that pet owners have blood pressure and lower cholesterol levels. It is proven that stroking an animal causes the brain to produce endorphins, reducing an individual's heart rate, depression and stress⁷. Man has always been dependent on living with animals for their survival, initially to provide their own livelihood and later domestication. In modernity, there was an increase in the domestication of animals. Currently, domestic animals are also used as resources in physical and psychic therapeutic treatments^{8,9}. The veterinary medicinal product is fundamental for veterinary clinical practice, and these are not risk-free, which requires an assessment judicious before entering the market, as well as an effective, safe, responsible and controlled distribution that minimizes undesirable effects and risks to animals. More and more excels in veterinary medicine due to the need for training of professionals and the care required in the human-animal-environment aspects¹⁰. Establish strategies to improve the quality of patient care and guardian has been the goal of health professionals¹¹.

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Drug therapy in animals may present serious risks, as is the case in humans¹². One of the barriers faced by veterinary medicine in order to protect the health of its patients is related to the use of medicines in non-prescription animals performed by a qualified professional. Misinformed owners do not seek the guidance of a veterinarian and arbitrarily administer medicines to animals. The main drugs used without prescription in small animals are antibiotics, followed by steroidal and non-steroidal anti-inflammatory drugs. There is also a high incidence of the use of homemade medicines and use of medicinal plants^{13,14}. In Brazil, veterinarian accumulates several professions related to the medical field. For every "equivalent profession" you have to pursue, there is also a demand for time and study. And he also acts as an administrator, including inventory control¹⁵. Chapter II of Law 5,517 of the Federal Constitution of Brazil establishes that it is the private competence of the veterinarian: the practice of the clinic in all its modalities, the direction of hospitals for animals, technical and sanitary assistance to animals in any form, the planning and execution of animal health protection, among other attributes². In 2005, the Ministry of Agriculture, Livestock and Supply (MAPA) authorized in Brazil the manipulation of drugs for use in animals¹⁶. Resolution 504/2009 of the Federal Council of Pharmacy (CFF) regulates the activities of pharmacists in the veterinary products industry¹⁷. Thus, some activities can be performed in veterinary hospitals by pharmaceutical professionals, such as guidance on medication use, control and guarantee of suppliers, dispensing of medicines, waste management of health services, evaluation and comparison of costs and action in the establishment of appropriate therapies, reducing risks of drug-related problems (PRM's)¹⁸. For the provision of pharmaceutical care, the pharmaceutical professional must follow technical standards and legislation that regulate the health system, aiming at the promotion, prevention, protection and recovery of health¹⁹.

The legislation of the areas of Pharmacy^{1,17,18,20} and Veterinary Medicine^{2,16} need to interact more and more, to unite these professionals in multidisciplinary teams. The choice of this theme is justified from the understanding that it is through education that one can break paradigms and broaden horizons. Given the growth of the pet market, the performance and importance of the animal in social life, which is part of families, it becomes of great value the performance of a professional capable of optimizing the service through their actions, providing multidisciplinary and humanistic care, so important in healthcare. The work is also important to disseminate in the pharmaceutical and veterinary environment, the importance of the two professionals working together in the care of animals and tutors, seeking to optimize the treatment and well-being of patients. The main objective of this study was to evaluate the performance of pharmaceutical professionals in pharmaceutical care within the context of Veterinary Medicine, describing the possible activities performed by them and proving that it is possible and necessary to work together with pharmaceutical and veterinary professionals. Considering challenges currently existing in the market, to meet the need for new medicines in the sector, it tends to be based on science, technology and innovation, requiring the presence of the pharmacist who must, according to Article 7 of resolution 417 of 09/29/2004, keep updated his technical and scientific knowledge to continuously improve the performance of his professional activity²⁰.

METHODOLOGY

This study is a basic strategic research of a qualitative exploratory documentary nature, with emphasis on the performance of the pharmaceutical professional in the field of veterinary medicine. This approach is more than appropriate to the proposed theme because it allows us to analyze how the practice of pharmaceutical care can happen in veterinary establishments. A literature review was used, appropriate to the study of delimited topics discussed by several authors. The data were collected, using books, MAPA sites (Ministry of Agriculture, Livestock and Supply - Brazil), CFF (Federal Pharmacy Council of Brazil), CFMV (Federal Council of Veterinary Medicine of Brazil) and ABINPET (Association Brazilian Pet Products Industry) and data sources from Latin American and Caribbean Literature in Health Sciences (LILACS), scientific electronic library online (SciELO) and PUBMED, selecting scientific articles, theses and monographs of the theme in question. The inclusion criterion for the selection of publications was to present in its summary alignment with the objectives proposed in our research. Publications prior to 1999 were discarded publications that do not present well-defined methodologies and publications other than Portuguese, English or Spanish. For the research in the databases, the keywords were used: animal welfare, pharmaceutical care, pharmacological interactions, veterinary establishment. All precautions were taken with the copyright of the authors of the articles studied.

RESULTS AND DISCUSSION

The animal health segment is responsible for the manufacture of veterinary pharmaceutical products, and as is the case in humans, the administration of medicines in animals can present risks, making therapeutics irrational as it promotes an interaction with undesirable effects. It is therefore imperative to establish guidance on the use of medicines in animals also.²¹ Veterinary medicine is dedicated to the prevention, control, eradication and treatment of animal health problems, and has more and more prominence in pharmacies. The medicines used by the veterinarian occupy gaps in the knowledge of many pharmacy professionals related to the pathologies and therapies of the veterinary area.⁷ Like human medicine, the simultaneous use of several active substances aiming at a therapeutic outcome is common in the veterinary clinic, and this increases the risk of pharmacological interactions and adverse reactions. Pharmacological interaction constitutes the reciprocal influence of one drug on another, altering the intensity, increasing or decreasing the effect of one or both drugs, and even causing the appearance of a new effect that none of the drugs alone could present²². The liver is the main organ of metabolism of drugs in the body. Biotransformation is essential, because if it did not occur, the body would be a deposit of foreign chemical^{22,23}. Knowing by which pathways therapeutic agents are metabolized may be paramount in choosing the drug prescribed for a given clinical situation. Everyone's response is influenced by several environmental, physiological and/or genetic factors²⁴. CYP450 system corresponds to an enzymatic complex of hemoproteins with a composition of approximately 500 amino acids per peptide chain, and is present in almost all organisms, including protists, fungi, bacteria and plants. More than 1000 coding genes have been sequenced for different

to be studied according to each species, with the objective of minimizing the occurrence of adverse reactions and errors in prescription and administration^{11,24}.

Graphs 1 and 2 classify the market growth of veterinary, classifying Brazil against the world panorama and quantifying the growth of this market. Graph 1 ranks Brazil against the world panorama. The Brazilian Association of Pet Products Industry (ABINPET) released the following data, obtained from IBGE research conducted in 2013: 1.5 billion pets, with 837.9 billion dogs, cats and birds; 655.8 billion fish and 70.8 billion other animals³⁴.



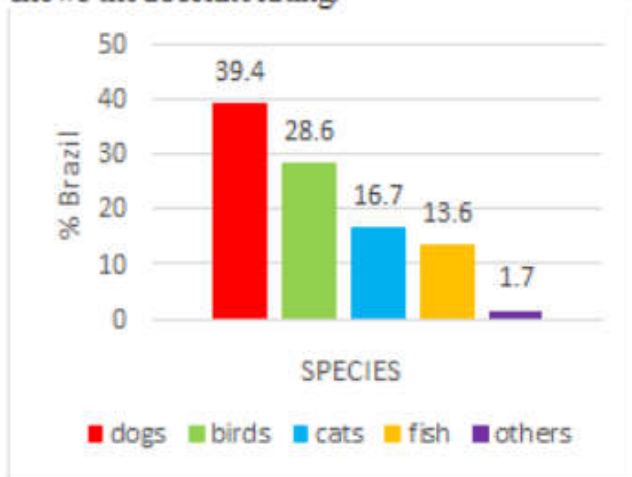
Graph 1. Brazil's ranking against the world panorama

BIBLIOGRAPHIC SOURCE: ABINPET³⁴ 2013

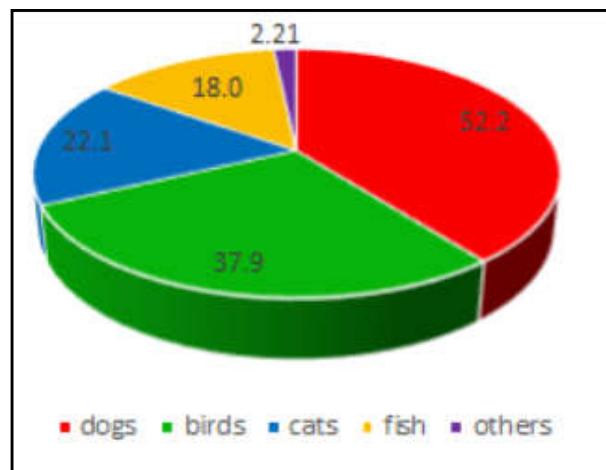
Legend: A: number of dogs, cats and birds song and ornamental (108.1 million): 2nd place
 B: total number of pets (132.4 million): 4th place
 C: number of reptiles and small mammals (2.21 million): 9th place
 D: number of ornamental fish (22.1 million): 10th place

Graphs 2 and 3 quantitatively classify Brazil by species and scale and materialize what already exists in the mentioned market. Graph 2 shows the relative classification and Graph 3 shows the absolute rating.

shows the absolute rating.



Graph 2. Quantity of animals in Brazil (%)



Graph 3. Quantity of animals in Brazil (millions)

BIBLIOGRAPHIC SOURCE: ABINPET³⁴
 BIBLIOGRAPHIC SOURCE: ABINPET³⁴
 FINAL CONSIDERATIONS

There is the growth of pet husbandry and their importance in a social context, account should be taken of the real need for the professionalization of the services provided. In a study conducted in 2011, Chaves²⁴ stated that pharmacological prescription should be intended to individualize therapy and should be based on pharmacokinetic parameters. The benefits of patient follow-up during treatment, whether in a hospital or home environment, are numerous, and will favor the continuity and efficacy of the patient. And this follow-up can be done by a pharmaceutical professional in conjunction with the veterinarian. We can affirm that the main objective of any therapy is its effectiveness with minimal toxicity, and this objective will be more adequately accomplished with the interaction of a multidisciplinary team that includes veterinarians and pharmacists. Hepler and collaborators²⁷, recalls already in the 1990s that the readjustment of the pharmacy will only be completed when all pharmacists accept their social mandate to ensure safe therapy for each individual, and it is necessary to establish new clinical standards, cooperating with other health professions and establishing new strategies for the commercialization of pharmaceutical products. There are numerous areas of operation of the veterinarian, ranging from the performance in medical clinic, laboratories and factories, through the areas of consulting, technical responsibility, commerce and even expertise.

The growth of veterinary medicines in Brazil is increasing and the veterinary drug is fundamental for veterinary clinical practice, and its importance goes far beyond clinical practice, since they are not without risks. Medicinal products for human use can also be used to treat animals, and are made under the responsibility of the veterinarian, and only this professional is authorized to prescribe. However, veterinary demand is increasing and an innovation in the provision of services is necessary to become competitive and safe in the market^{14,26}. Veterinarians are faced daily in the field of the clinic with drug interactions that are not even known, since their academic training does not deepen in the chemistry of drugs. Pharmacists, in turn, are specialists in the drug, but do not yet have established performance in the field of clinical veterinary medicine and do not have specialization in pathophysiology

and animal behavior. Inside veterinary clinics and pet shops do not have pharmacist but have pharmacy. And there occurs use of medications, both in direct sale to the guardian and in use in the animal's hospitalization system. Although there is already legislation requiring the presence of the pharmacist in veterinary handling pharmacies, there is still no law requiring the presence of a pharmacist in veterinary clinics and pet shops, despite the use and sale of medicines in these places, including controlled use. This makes pharmaceutical attention within these establishments not yet a reality. The pharmacist may be responsible for the rational use of medicines within a veterinary hospital unit, interfering with clinical activities capable of assisting veterinarians in obtaining expected results in their therapies, preparing guides and guiding the multidisciplinary team of the hospital clinical unit for rational use of medicines in the care of animals, studying drug interactions in patients who use various medications and are accompanied by different specialists, working in the field of hospital pharmacy, contributing with an adequate management, conservation and distribution of medicines and inputs, acting in the management of the costs of companies, instructing tutors in the proper use and administration of a Medicine. From the beginning, the pharmaceutical profession has developed in a context of dispute with other non-graduate professionals³⁵ and, currently, continues to establish its importance as a multiplier agent of the benefits of good care in the health area. The performance of a pharmacist in the area of veterinary medicine would greatly contribute to the efficacy and safety of drug therapies, with an emerging need for the insertion of this professional in the specialization of animal clinical pharmacy, also acquiring knowledge about animal behavior that allows him to establish differentiated parameters in their treatment. The reprofessionalization of the pharmacist also working in the area of veterinary medicine, will only be possible in view of their awareness of their importance in the social area, and when the same understands the human-animal relationship as essential for the well-being of both. On the other hand, veterinarians need to see in the pharmaceutical professional an ally in the treatment of their patient, losing the prejudice and fear of losing field of action, since the activity of that professional does not intend to replace the performance of the veterinary professional, only contribute positively to the well-being of patients and guardians. The benefits of the presence of a pharmacist in the small animal clinic are unquestionable. The veterinary market is growing, and competition challenges imply professional-focused strategies and a multidisciplinary team would greatly contribute to effective, secure care, with a fair and effective cost for professionals and tutors, being an important factor in the quality of life of all involved. Pharmacy and Veterinary Medicine are areas that are completed, united by a common point: study and action on the well-being of the human being.

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