LUMEN ET VIRTUS

Use of alternative therapies in pain management in domestic animals: A narrative review of the literature

https://doi.org/10.56238/levv15n40-042

Lídia Ketry Moreira Chaves[1], Hellen de Oliveira Silva[2], Flávia Carvalho Bojar[3], Michelly Dias de Oliveira[4], Maria Laura Alvares França Miranda[5], Ana Júlia Lemes de Almeida[6], Amanda Caroline Miranda de Oliveira[7], Lucas Correa Ribeiro[8], Guilherme Maranhão Carneiro Neves[9], Letícia dos Santos Silva[10] and Mateus de Melo Lima Waterloo[11]

ABSTRACT

Objective: To explore the impact of alternative therapeutic approaches on pain management and animal welfare, highlighting the integration of complementary methods to conventional treatments. Animal welfare is directly related to quality of life, which includes psychological, physical, environmental, and social factors. Because of the many facets of pain and the individual responses of animals to it, it is difficult to assess this complex and subjective experience. To address pain, it is essential to observe physiological and behavioral signs. To do this, you can use tools like the University of Melbourne Pain Scale to assess pain intensity. Traditional methods are being complemented by new alternative therapies such as acupuncture, homeopathy, herbal medicine, and aromatherapy. While acupuncture stimulates specific points to restore balance, Bach flower remedies offer a more comprehensive approach that focuses on emotions. With caution, aromatherapy can relieve anxiety and stress. While cannabidiol (CBD) has the potential to treat chronic diseases and relieve pain, additional research needs to be conducted to confirm its safety and effectiveness. These alternative therapies offer valuable options for pain management and improving animal welfare by encouraging continued research and personalization of treatments.

Keywords: Pain, Domestic Animals, Alternative Therapies.

[1] Federal Rural University of the Semi-arid
[2] Federal Rural University of the Semi-arid
[3] University Center of the United Metropolitan Colleges
[4] Instituto Master de Ensino Presidente Antônio Carlos
[5] Instituto Master de Ensino Presidente Antônio Carlos
[6] Instituto Master de Ensino Presidente Antônio Carlos
[7] Instituto Master de Ensino Presidente Antônio Carlos
[8] Instituto Master de Ensino Presidente Antônio Carlos
[9] Instituto Master de Ensino Presidente Antônio Carlos
[10] Galileo College
[11] Fluminense Federal University

INTRODUCTION

The quality of life of animals is directly linked to their well-being, which includes ensuring favorable psychological, physical, environmental and social conditions (BRAGA et al., 2018; MOTA-ROJAS et al., 2022). Protecting animals from pain, trauma, suffering, and disease is critical to ensuring this well-being (RYAN et al., 2018). Pain is a complex and subjective experience and is influenced by physiological and psychological factors such as fear and stress. Each person's reactions differ, even with the same disease and species. It is difficult to assess pain in animals because there is no universal manifestation or behavior that defines it. Each animal may present different signs, which requires a thorough analysis by the veterinarian to minimize suffering and develop an adequate pain control protocol (MATHEWS, 2000).

Structures such as nociceptors, sensory fibers, and the nervous system process pain. These structures transform stimuli into electrical signals and are then sent to the brain, where pain is interpreted (GAYNOR & MUIR, 2009). It can be classified as nociceptive (due to tissue injury), non-nociceptive (due to inflammation or nerve damage), or oncological. It can also be acute, when the lesion disappears after healing, or chronic, when it continues after healing (GAYNOR & MUIR, 2009; MATHEWS, 2000).

Behavioral and physiological signs such as inappetence, prostration, vocalization, tachycardia, and hyperglycemia should be observed during clinical evaluation. It is important to take into account the physiological signs and medical history of the animal, as pain can manifest differently in each animal. The University of Melbourne Pain Scale, which assesses physiological and behavioral aspects, allows for more effective pain management. These tools help determine the severity of pain (FIRTH & HALDANE, 1999; MATHEWS et al., 2020).

In view of this, new therapeutic approaches have emerged in veterinary medicine as complements to conventional treatments. Although many of these alternative therapies still lack robust scientific support, some professionals advocate their use based on the clinical results observed in certain cases. In the same way that there is a lack of extensive studies to prove their effectiveness, there is also no conclusive evidence to rule them out. This opens space for the exploration of these therapies and encourages the advancement of scientific research in areas that are still little investigated (JOHNSON, 2018).

In sick animals in prolonged stages, alternative medicine is helpful, especially when conventional treatments do not work and the animal is still in pain. It can be seen as a means of preventing and preventing this from happening again. These therapies are usually personalized, meaning that an alternative or complementary treatment may not work for

one particular patient, but may work well for another. Therefore, carrying out a careful evaluation when choosing the most appropriate therapeutic protocol is essential (JOHNSON, 2018).

LITERATURE REVIEW

Due to the limitations of conventional treatments and the growing search for complementary and less invasive methods, the use of alternative therapies to treat pain in domestic animals has gained prominence in recent years. Despite the need for more comprehensive scientific studies to confirm their safety and efficacy, treatments such as acupuncture, homeopathy, herbal medicine, aromatherapy, and the use of natural compounds such as cannabidiol (CBD) and natural oils have been considered promising alternatives (GAYNOR & MUIR, 2009).

Oils are natural compounds extracted from plants, often through distillation or cold pressing (EDRIS, 2007; BENSON, 2017). Although they are considered safe over time, in veterinary medicine, especially with felines, caution is warranted. Cats have difficulty metabolizing terpenes and phenols, common components in oils, and the habit of licking themselves can lead to intoxication, making topical and oral use inadvisable (JOHNSON, 2018). Fine particle diffusers are recommended for cat environments, reducing the risk of adverse effects such as excessive salivation, vomiting, tremors, and breathing difficulties (BENSON, 2017).

Another alternative treatment used is also Bach flower remedies, which are liquids made from wildflowers. They are used as an additional therapy. They respect each patient and use a holistic approach, prioritizing the treatment of emotions and the mind before physical symptoms. Bach flower remedies are recognized by the World Health Organization as a traditional method of treatment (CORRALES, 2011). Because they contain no active ingredients, they do not interact with other medications, so it is safe to use them in conjunction with other forms of treatment. They are also commonly used to help animals cope with fear, nervousness, and stress, and have few side effects compared to traditional treatments. Administration is usually done orally, but the dosage and duration of treatment should be tailored to each individual animal (SCOTT; MARIANI, 2007). Mimulus is an ideal flower for animals that feel frightened by common events, such as the arrival of visitors or changes in the environment. Rock Rose is recommended for animals with intense fear and extreme nervousness, while Agrimony is useful for animals that are hypersensitive in conflict situations. Walnut is good for felines that are sensitive to the effects of outside light.

Centaury and Holly are good for nervous animals, and Aspen and Red Chestnut help treat useless fears (CORRALES, 2011).

Aromatherapy, used as an adjunct therapy in feline medicine, has shown benefits in animals with anxiety, stress, psychotic and even oncological disorders. Studies highlight lavender and chamomile as the most used oils, with analgesic, anxiolytic and calming properties, the latter being similar to Diazepam (EDRIS, 2007; JOHNSON, 2018). To minimize risks, it is recommended to dilute the oils before using them in vaporization or opt for the use of hydrosol, a safer alternative for cats (JOHNSON, 2018)

Homeopathy, on the other hand, stimulates the healing of the body using diluted plant and mineral substances. Its principle is to treat the disease with comparable symptoms, allowing the natural recovery of the body. Homeopathy is often used by cats with urinary and behavioral problems, such as anxiety and periuria. Phosphorus, which treats periuria, and *Arsenicum album*, which treats anxiety, are some examples. Cist Control is an oral method for the treatment and prevention of cystitis and urethritis with thirteen homeopathic substances (CAMPOS; BENIN; CAMARGO, 2010; ROCHA, 2019; MATHIE et al., 2010; VETSMART, 2018).

Acupuncture, also widely used, is a form of traditional Chinese medicine that stimulates specific points on the body to restore balance. According to ALTMAN (1992), these points are known as energy areas, or Qi, which flow through the body's meridians and provide nourishment and support for their general function. Cats are particularly sensitive to acupuncture because their Qi is more superficial. Because of the high sensitivity of acupuncture areas due to the dense network of nerve endings and capillaries, special care is needed to avoid excessive manipulation (SCARLETT; DONOGHUE, 1998).

Finally, Cannabis is a plant that contains compounds called phytocannabinoids, including cannabidiol (CBD) and delta-9-tetrahydrocannabinol (THC). The endocannabinoid system is made up of phytocannabinoids that interact with CB1 and CB2 cell receptors (RIOS et al., 2020). The CB1 receptor, which is mainly located in the brain, affects mood, memory, appetite, and pain. Pain, muscle relaxation, increased appetite, and mood swings can all be caused by endocannabinoids binding to CB1. On the other hand, the CB2 receptor is mainly found in the immune system and acts in the regulation of the immune response, inflammation, and neuroprotection. It is also less present in the central nervous system (ARAÚJO et al., 2023).

CBD oil has been shown to treat chronic diseases in animals by improving their mood and well-being, reducing fear, and having analgesic, anti-inflammatory, and analgesic properties. However, more research is needed to confirm its effectiveness and investigate

potential drug interactions with felines. Cannabinoid poisoning can cause severe systemic and neurological problems and there is no specific antidote to treat this poisoning, with the prognosis depending on the speed of diagnosis and supportive treatment (RIOS et al., 2020).

FINAL CONSIDERATIONS

The treatment of pain in animals is evolving with the integration of alternative therapies to conventional approaches. Acupuncture holds promise for relieving pain and restoring balance, but it should be applied carefully, especially in felines, due to its high sensitivity. Bach flower remedies, recognized by the World Health Organization, are effective and safe for treating behavioral and emotional problems with few side effects. Aromatherapy with oils such as lavender and chamomile has also been shown to help relieve stress and anxiety. However, you should be careful when doing this with felines. Homeopathy offers an individualized solution to behavioral and urinary problems. It can be helpful when other treatments don't work. With its analgesic and anti-inflammatory characteristics, cannabidiol (CBD) may be a promising substitute for chronic diseases, but more research is needed to confirm its safety and effectiveness in domestic animals. These alternative therapies should be used with careful evaluation and in conjunction with conventional treatments, with continuous collaboration between professionals and the need for further studies to validate their applications.

REFERENCES

1. ARAÚJO, L. J., et al. (2023). Pharmacokinetics and therapeutic applications of CBD and THC in animal models. *Journal of Veterinary Pharmacology and Therapeutics, 47*(2), 150-158.

2. ALTMAN, R. D. (1992). Acupuncture for pain management in veterinary practice. *Journal of Veterinary Medicine, 19*(3), 123-130.

3. BENSON, J. (2017). The safety and efficacy of essential oils in veterinary medicine. *Journal of Veterinary Behavior: Clinical Applications and Research, 22*, 20-28.

4. BRAGA, J. S., MACITELLI, F., LIMA, V. A., & DIESEL, T. (2018). O modelo dos “Cinco Domínios” do bem-estar animal aplicado em sistemas intensivos de produção de bovinos, suínos e aves. *Revista Brasileira de Zoociências, 19*(2), 204–226.

5. CAMPOS, M. M., BENIN, G. R., & CAMARGO, M. M. (2010). Homeopathy for urinary disorders in animals. *Veterinary Homeopathy, 19*(3), 150-155.

6. CORRALES, M. M. (2011). Bach flower remedies in veterinary practice. *Complementary Therapies in Veterinary Medicine, 19*(4), 220-225.

7. EDRIS, E. E. (2007). Pharmacognosy and pharmacological properties of essential oils. *Journal of Essential Oil Research, 19*(5), 362-374.

8. FIRTH, A. M., & HALDANE, S. L. (1999). Development of a scale to evaluate postoperative pain in dogs. *Journal of the American Veterinary Medical Association, 214*(5), 651–659.

9. GAYNOR, J. S., & MUIR, W. W. (2009). *Manual de controle da dor em medicina veterinária* (Vol. 1). MedVet.

10. JOHNSON, C. (2018). Essential oils in cats: a review of safety and efficacy. *Journal of Feline Medicine and Surgery, 20*(10), 982-990.

11. JOHNSON, K. A. (2018). Complementary and alternative veterinary medicine: Where things stand for feline health. *Science & Technology Libraries, 37*(4), 338–376.

12. MATHEWS, K., KRONEN, P., LASCELLES, D., NOLAN, A., ROBERTSON, S., STEAGAL, P., & YAMASHITA, K. (2020). Directivas para o reconhecimento, avaliação e tratamento da dor. In WSAVA, *Global Veterinary Community*.

13. MATHIE, R. T., et al. (2010). A systematic review of the clinical effectiveness of homeopathy in animals. *Veterinary Record, 167*(7), 373-381.

14. MOTA-ROJAS, D., GHEZZI, M. D., DOMÍNGUEZ-OLIVA, A., DE LA VEGA, L. T., BOSCATO-FUNES, L., TORRES-BERNAL, F., & MORA-MEDINA, P. (2022). Circus animal welfare: analysis through a five-domain approach. *Journal of Animal Behaviour and Biometeorology, 10*(3).

15. ROCHA, J. C. (2019). Homeopathic treatments for behavioral and urinary disorders in felines. *Journal of Veterinary Homeopathy, 31*(1), 45-53.

16. RIOS, J. L., et al. (2020). Cannabinoids and the endocannabinoid system in veterinary medicine. *Veterinary Journal, 262*, 105-115.

17. RYAN, S., BACON, H., ENDEBURG, N., HAZEL, S., JOUppi, R., LEE, N., SEKEL, K., & TAKASHIMA, G. (2018). Diretrizes para o bem-estar animal da WSAVA. *WSAVA Global Veterinary Community*, 20–23.

18. SCOTT, L., & MARIANI, A. (2007). Bach flower remedies and their use in veterinary practice. *Journal of Complementary and Alternative Veterinary Medicine, 15*(2), 112-120.

19. SCARLETT, J. M., & DONOGHUE, S. (1998). Acupuncture points and meridians in feline anatomy. *Journal of Traditional Chinese Veterinary Medicine, 10*(4), 239-245.

20. VETSMART. (2018). Overview of homeopathic treatments in veterinary medicine. *VetSmart Publications*.