

Use of Homeopathy in chronic diseases of veterinary interest: a literature synthesis

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ABSTRACT

Introduction: Homeopathy is a science that uses substances from plants, animals, minerals, or biotherapeutic origin, with the aim of stimulating the body's self-healing after a specific pharmaceutical stimulus. This science is currently making great progress in veterinary medicine, especially due to the advantages that include lower cost, easy administration, and can be delivered via drinking water or food, avoiding the stress of restraining the animal or a traumatic application of the medication. Despite this, little research has been done on the use of homeopathy in veterinary. Therefore, the aim of this synthesis is to provide information on how homeopathy could help in the treatment of chronic diseases of veterinary interest. **Methodology:** The present work is characterized as a literature synthesis. The search was conducted by entering keywords at "PubMed" and covering the period between January 1999 and September 2022. The following keywords were crossed: "homeopathy," "chronic diseases," "clinical outcomes," "chronic conditions," and "homeopathy feline canine." The literature listed from this first search was selected according to inclusion and exclusion criteria. **Results:** A total of nine scientific articles related to the use of homeopathy in chronic diseases of veterinary interest were selected, and a table was created showing the results in a single plan for a didactic purpose, relating species, clinical condition, treatment, and results. **Conclusion:** It was possible to observe that conditions such as arthritis and hyperthyroidism present the best results with homeopathic treatments. Other conditions with positive outcomes were associated with homeopathy as a good complementary treatment. However, the lack of studies in this field shows that more research is needed, especially randomized controlled clinical trials with low risk of bias, to establish solid evidence on the use of homeopathy in these cases.

Keywords: Homeopathy, chronic diseases, veterinary, synthesis.

INTRODUCTION

Homeopathy is a science that uses substances of plants, animals, minerals, or biotherapeutic origin (prepared from biological products), highly diluted and prepared with the aim of stimulating the body's self-healing (1). It was idealized by a German physician named Christian Friedrich Samuel Hahnemann, who lived between the XVIII and XIX centuries. Considered the father of homeopathy, Hahnemann began his studies in medicine at the age of 20. After practicing medicine, he began to question the logical principle of the drugs administered at his time. After much study and observation, he began to do experimentations on himself and volunteers, and from these studies, he created the four fundamental principles, which are still used today as the basis of the homeopathic approach (2,3).

Today, due to advances in basic research in homeopathy, it is known that all living things, including microorganisms and plants, are sensitive to homeopathy's effects (4).

Hahnemann himself initiated the use of homeopathy in veterinary medicine. He did tests and started using it therapeutically, with success. When he treated his own horse, he said: "*If the laws I proclaim are those of nature, they will be valid for all living beings*" (2,3). In addition, the veterinarian Johann Josef Wilhelm Lux, through the knowledge obtained from Hahnemann, was successful in treating animals sick with glanders using dynamized drugs (4).

Since then, the use of homeopathy in veterinary medicine has grown significantly. Besides its use in domestic animals, such as dogs and cats, it is commonly used in cattle, horses, pigs, poultry, fish, and bees (5, 6). Homeopathy is widely used because, as well as having a lower cost and easy administration for farm animals, homeopathic medicine does not present risks of transmitting chemical residues to milk, meat, or eggs, ensuring the profit of production in a healthy and sustainable way (7).

Due to advances in medicine and technology, animal life expectancy is increasing. Because of this, the number of cases of chronic diseases, mainly related to advanced age, such as osteoarthritis and neoplasia, is also increasing. These diseases are commonly associated with chronic pain, which causes animals to need veterinary care and medicines for continuous use (8).

In veterinary medicine, in addition to the difficulty in administering medicines, tutors may not be able to treat animals properly for financial reasons: conventional medicines can have a high value, and when associated with the costs of exams and consultations, they contribute to the tutor giving up on treatment.

Homeopathic medicines have many advantages, including lower cost, easy administration, and can be delivered via drinking water or food, avoiding the stress of restraining the animal or a traumatic application of the medication. They are also easy to prepare and have no side effects, especially when compared to continuous-use medications (8,9). The indiscriminate use of allopathic drugs, especially antibiotics, ends up generating microbial resistance, making the treatment less and less effective, which does not occur with the use of homeopathy (10).

It would be important that homeopathy would not be the last choice of treatment. Usually, when the owner seeks this type of treatment, it is because all allopathic methods have already been used and have not shown results. Because of this, patients who seek this type of therapy do not always achieve a total cure of the disease, which is especially critical in chronic clinical conditions (7-9).

Therefore, the aim of this synthesis is to provide information on how homeopathy could help in the treatment of chronic diseases of veterinary interest based on clinical studies published in the last 25 years.

METHODOLOGY

The present work is characterized as a literature synthesis. The literature search was initiated by searching for articles by crossing the following keywords: "*homeopathy*," "*chronic diseases*," "*clinical outcomes*," "*chronic conditions*," and "*homeopathy feline canine*" in a scientific search indexer, "PubMed." The choice of using this database lies in the fact that the most significant studies on veterinary homeopathy are published in English and indexed in this base, according to a recent overview on the subject (11). The search covered the period between January 1999

and September 2022.

The inclusion criteria were: a) clinical and experimental studies on chronic diseases in animals in which homeopathy was used; b) articles written in English. The exclusion criteria were: a) theoretical studies on the subject and b) articles written in a language other than English.

The synthesis of these articles and the correlation between the themes addressed in each publication were summarized in **Table 1**.

RESULTS

Nine scientific articles related to the use of homeopathy in chronic diseases of veterinary interest were selected. For didactic purposes, a table synthesizing the results of this bibliographic survey is presented below (**Table 1**).

1. López *et al.* Pharmacologic and alternative therapies for the horse with chronic laminitis (9)

Lopez, Sepúlveda, and Brumbaugh describe different approaches to treating horses with chronic laminitis, both traditional and non-traditional. The article summarizes the theoretical foundation, principles, agents, and techniques as a basis for evaluation and potential use.

The authors quote acupuncture, traditional Chinese medicine, and homeopathy as non-traditional treatments. In horses, acupuncture has been reported to ease the pain of chronic laminitis without the need for constant analgesic administration. On the other hand, electrostimulation for 20 to 30 minutes increased the rate of improvement in acute laminitis. A list of herbal medicines used in traditional Chinese medicine that could help in the treatment of laminitis was also provided, but the necessity of including these plants is still little known.

For homeopathic treatment, some medications for chronic laminitis have been mentioned. *Arnica montana* acts on blood vessels and capillaries and promotes the reabsorption of extravasated blood (hematomas), preventing suppuration or septic conditions. The potency indicated by the authors was 30c. *Aconitum napellus* is the best medication for regulating inflammation and blood flow. *Aconitum* and *Belladonna* are compatible and can be administered on the same therapeutic plan. The main active ingredient found in *Belladonna* is atropine. This remedy is indicated for localized, early-stage inflammation. *Antimonium crudum* acts on joint pain in the hooves, in addition to favoring the growth of normal hooves rather than deformed and brittle ones. It also prevents the formation of excessive and painful callus growth, which can interfere with the correct positioning of the limb. The potencies indicated by the authors were 30c every 30 minutes or 200c in a single dose. *Apis mellifica* aids in the treatment of swelling, burning sensation, and acute bruising. *Bellis perennis* is the remedy of choice for the treatment of deep tissue trauma. It has anti-inflammatory action and promotes the resorption of bruises when administered at 6c potency. *Bryonia alba* acts on fibrous tissue, synovial membranes, ligaments, aponeuroses, and suppurative processes. *Calcarea fluorica* is recommended in chronic cases, and its use can shrink affected tissues by up to 100%. Therefore, this medication helps prevent the progression of the condition and promotes the return of the affected tissues to their healthy state. The potency indicated by the authors was 30c, once a day. *Calendula officinalis* is known as a "homeopathic antiseptic," and its use can be both internal and topical, having a healing action in addition to eliminating pain. Also, in this case, the potency indicated by the authors was 30c. *Graphites* 30c is a remedy with an intense effect on chronic diseases characterized by disturbances on surfaces with keratin, in addition to being highly indicated for skin lesions. *Nitricum acidum* 30c acts on hemorrhages and inflammation of the periosteum. *Nux vomica* is known as a "homeopathic

detoxifier" and works on congestive problems. *Secale*, *Opium*, *Pulsatilla Nigricans ammonia*, and *Sabina* are indicated in the treatment of venous congestion, in addition to also being indicated for the treatment of mares with laminitis due to retained placenta. *Pyrogenium* is indicated for the treatment of septic fevers. *Rhus toxicodendron* acts on fibrous connective tissue, aponeuroses, tendons, and ligaments, and promotes the elimination of toxins just like *Nux vomica*. *Silicea* is one of the main homeopathic remedies for the treatment of suppuration, in addition to being indicated as a treatment for chronic laminitis and inflammation of tissues with purulent secretion. The 30c potency was indicated by the authors. *Sulphur* is indicated for the treatment of chronic laminitis in horses. Similarly, the authors mention 30c potency as effective in these cases.

For the homeopathic treatment of chronic laminitis in horses, it is important to determine the severity of the disease and the stage to find the best medicine and potency. As treatment progresses, the clinical signs may change, and with that, it may be necessary to change the medication.

2. Mathie *et al.* Homeopathic prescribing for chronic conditions in feline and canine veterinary practice (12)

To study homeopathic treatment of chronic diseases in the veterinary clinic, Mathie et al. (12) collected patient information from 21 different veterinarians over a 12-month period. Data were collected from 400 feline cases, of which 372 were chronic, and 1504 dogs, of which 1408 were chronic.

In dogs, the most common problems reported were dermatitis, arthritis, pyoderma, colitis, pathological fear, external otitis, diarrhea, urinary incontinence, aggressiveness, spondylosis, and lymphoma. The most frequently used homeopathic remedies for the treatments were *Pulsatilla*, *Sulphur*, *Phosphorus*, *Calcarea fluorica*, *Lycopodium*, and *Causticum*.

The most frequently reported problems in cats were dermatitis, kidney failure, overgrooming, arthritis, and hyperthyroidism. The homeopathic remedies most frequently used were *Natrium muriaticum*, *Arsenicum album*, and *Staphysagria*.

Despite the individualized treatment, some medications were used in more than one patient. In dogs, 21% of urinary incontinence cases were treated with *Pulsatilla*, 18.8% of diarrhea cases with *Lycopodium*, 16.5% of arthritis cases with a combination of *Rhus toxicodendron*, *Ruta graveolens*, and *Arnica montana* (a combination known as *RRA*), and 13.5% of dermatitis cases with *Pulsatilla*. In cats, 26.6% of arthritis cases were treated with the *RRA* combination, and 22.2% of hyperthyroidism cases were treated with *Iodum*.

The results of the treatments performed were tabulated and organized into different score levels. In cats, positive scores were more observed in arthritis, dermatitis, and hyperthyroidism and were less noticeable in *overgrooming* and kidney failure. In dogs, positive scores were more observed in arthritis, colitis, otitis externa, pyoderma, spondylosis, and urinary incontinence and were less noticeable in fear and lymphoma.

The authors discuss the diseases mentioned that require complex treatments with few positive results in terms of cure. Thus, new pragmatic clinical trials, i.e., designed to identify the effectiveness of homeopathy in chronic diseases, are needed. At the end of the study, the authors conclude that many of the diseases mentioned are difficult to cure, even with conventional treatment. Therefore, homeopathy can be used in conjunction with allopathic medicine to improve life quality.

The authors also clarify that the results recorded by tutors may vary according to each individual's perception of the change in the animal's health status. In addition, they highlight the necessity of considering that some people may want to please the veterinarian or want the animal to improve so much that they end up seeing a result that is not real.

3. Mathie *et al.* Homeopathic prescribing for chronic conditions in equine veterinary practice in the UK (13)

Mathie *et al.* collected data from 12 different veterinarians from the Faculty of Homeopathy in 777 homeopathic consultations for horses. Data from 289 horses included 305 individual conditions identified as chronic in nature, of which 234 had follow-up. At the final follow-up visit, a total of 4.3% of the animals were receiving conventional medication, and 17.1% of the animals were receiving some complementary/alternative treatment in addition to homeopathy.

The most frequently used homeopathies were *Pulsatilla* in 13 cases, *Silicea* in 12 cases, *Calcarea fluorica* in 10 cases, and *Ledum* in 10 cases. In the homeopathic consultations, in general, individualized prescriptions were used for each animal. The 8 most frequently treated conditions were arthritis, headshaking, laminitis, chronic obstructive pulmonary disease, sweet itch, dermatitis, sarcoidosis, and Cushing's syndrome. The collected data were divided into positive and negative scores according to the evolution of the clinical status of the animals. The highest positive scores were achieved in laminitis (associated or not with Cushing's syndrome), headshaking, and arthritis and were less seen in chronic obstructive pulmonary disease (COPD), sweet itch, dermatitis, sarcoidosis, and Cushing's syndrome. There were no negative scores for any of the eight most frequent conditions.

According to the authors, the overall rate of moderate or major improvement (positive scores) in 86% of cases is considerably higher than the 61% reported in previous studies on other species, including dogs, cats, and horses. These findings can be seen as validation of homeopathy in horses with long-term health problems.

The authors reiterate that a controlled research program is necessary to confirm or refute evidence from observational work.

4. Mathie *et al.* Outcomes from homeopathic prescribing in veterinary practice: a prospective, research-targeted, pilot study (14)

Mathie *et al.* organized a data collection study of eight veterinarians from the Faculty of Homeopathy for six months to study the results of homeopathic prescriptions in veterinary practice. Four general practices and three referral practices, and one of them was a general and referral practice. All of them were certified in homeopathy practice in the UK. For data collection, a spreadsheet was provided with several blanks to fill in, such as the patient's age and weight, whether the condition was acute or chronic, and what medications were prescribed for each patient. On another page of this worksheet, various conditions and diseases were listed, as well as a list of homeopathic remedies used to fill out the original worksheet. To organize the data, they were asked questions such as "Are the symptoms better, worse, or exactly the same?" The answers were tabulated into positive scores in case of improvement (+1 to +3), negative in case of deterioration (-1 to -3), and zero in cases of no change or the tutors were unsure (0). The total number of consultations ranged from 43 to 357 per physician, with an average of 179 consultations. A total of 1431 homeopathic appointments were recorded. Of these, 894 used homeopathies present in the original list, 489 appointments used remedies or combinations that were not on the list, and 48 were left blank.

Of the 1431 homeopathic appointments, 855 individual conditions were recorded. The full analysis of the data shows that the most frequent conditions recorded were arthritis, dermatitis/skin conditions, lameness, epilepsy, and diarrhea. The most frequently homeopathic medicines prescribed in the penultimate consultation were *Pulsatilla*, *Phosphorus*, *Silicea*, *Causticum*, *Conium*, *Rhus toxicodendron*, *Sulphur*, and the combination of *Ruta graveolens*, *Rhus toxicodendron* and *Arnica montana* (RRA). The authors did not identify the used potencies. Individualized prescriptions were a rule in general, except for the prescription of *Rhus tox*, *Ruta*, and *Arnica* in combination, prescribed for arthritis in 10 of the 41 patients. They were all dogs.

In the overall study, there were 767 individual patients, including 547 dogs, 155 cats, 50 horses, 5 rabbits, 4 guinea pigs, 2 birds, 2 goats, 1 cow, and 1 turtle. 46 cases were described as acute, 490 as chronic, and three were not described as acute. Few patients had negative -2 and -3 results, and there were no specific medical problems that appeared to have adverse effects. In the 392 canine cases, there were positive results in 79.6%, no change in 12% and deterioration in 5.6%. Positive scores were seen, most notably in arthritis and epilepsy (symptoms such as lameness and weakness also seemed to respond well). In the 114 feline cases, there were positive results in 79.8%, no change in 10.5% and deterioration in 7.9%. Positive scores were seen more in atopic dermatitis, gingivitis, and hyperthyroidism.

In the penultimate appointment, the most used homeopathic remedies in all species with positive results were *Conium* (66.7%), *Rhus toxicodendron* (66.7%), none (61.9%), *Phosphorus* (58.3%), *Causticum* (55.6%), *Silicea* (50%), RRA (44.4%), *Sulphur* (44.4%), and *Pulsatilla* (23.1%).

The authors clarify that 87% of the positive cases were in patients who manifested chronic problems. This data reinforces the view that homeopathic treatment can have a positive impact on patients with long-term health problems. The authors conclude that clinical studies are fundamental in veterinary homeopathic practice and that the present study has exposed a spreadsheet that, with some review, can be used effectively for large-scale clinical data collection in homeopathic practice.

5. Podell *et al.* ACVIM small animal consensus statement on seizure management in dogs (15)

According to Podell *et al.*, the survival of animals with epilepsy is much more linked to the quality of life of the animal and the financial issue of the owners than to the clinical manifestations of the disease itself. The most widely used homeopathic remedies for the treatment of epilepsy in humans include *Silicea*, *Cuprum*, *Causticum*, *Hyosciamus*, *Aethus cynapium*, *Agaricus muscaricus*, *Absinthium*, *Arthemisia absinthium*, *Stramonium* and *Cicuta virosa*, however, until the date of publication of the article in question, there was still a lack of evidence to support the use of this treatment.

The trouble of treating epilepsy in domestic animals is deep and far from a definitive resolution. There is an increased risk of premature death by euthanasia in dogs with epilepsy, which is also associated with emotional stress, economic problems, or a combination of aspects associated with having an epileptic dog at home. In general, the owner's perception of the impact that epilepsy has on the family will determine whether or not the animal will be able to live with the disease. Thus, randomized clinical trials are needed to validate this approach.

6. Hektoen *et al.* Comparison of homeopathy, placebo and antibiotic treatment of clinical mastitis in dairy cows – methodological issues and results from a randomized-clinical trial (16)

To compare the efficacy of homeopathy, placebo, and antibiotics in treating clinical mastitis in dairy cows, Hektoen *et al.* designed a randomized clinical trial with 57 dairy cows from 39

different herds in Norway. The animals were randomly divided into three groups, each receiving a different type of treatment. Thus, 21 patients received treatment with homeopathic remedies, 16 received placebo, and 20 received antibiotics.

Two scoring scales were used for evaluation in the study. The 'Score I' was used to measure acute changes such as temperature, appetite, visible changes in milk, and signs of acute udder inflammation. The 'Score II' was used to measure chronic changes such as fibrosis and milk production in the affected quarter, visible changes in milk, and atrophy. In all groups, a decrease in score I was identified. Therefore, we can see that some cases of mastitis may regress even without the use of antibiotics. Antibiotic treatment, as well as homeopathy treatment, showed no statistically significant difference compared to placebo. The authors point out that it should be considered that there were small differences between the groups that were not contemplated, and the small number of patients used in the study. The best results for this score were in animals treated with homeopathy, followed by those treated with antibiotics and then placebo, but there were no significant differences between the groups.

Homeopathic treatment was not different from placebo or antibiotic treatment, but the number of individuals used in this study was not enough to be conclusive.

7. Santana *et al.* Modulation of inflammation response to murine cutaneous leishmaniasis by homeopathic medicines: *Thymulin* 5cH (17)

To evaluate the effects of homeopathic *Thymulin* on the modulation of the inflammatory response generated by leishmaniasis, Santana *et al.* designed a study with adult male mice. These animals, free of specific pathogens, were chosen for the study because of their susceptibility to *Leishmania* spp. The animals were inoculated with *Leishmania (L.) amazonensis*, following protocol, and were treated daily with the homeopathic remedy *Thymulin* 5cH or vehicle via drinking water for 60 days. Microscopic evaluations were performed on these animals after treatment. Macroscopic evaluation was performed by evaluating the size of the macroscopic lesion before inoculation and every ten days for 60 days. In the group of animals treated with homeopathy, a slight but not significant decrease in lesion size was noted in the first two days after inoculation. In the chronic phase, no significant results were observed. The microscopic evaluation showed that, in the acute phase, there was no statistical significance in mice treated with homeopathy in relation to the proportion of peritoneal cells when compared to the control group, except for CD8+ and CD25+ cells, which were more frequent in the group treated with homeopathy. In the chronic phase, the same analysis of peritoneal cells and the comparison between groups did not show statistical significance, except for CD4+ and CD8+ T cells, which were reduced in the group treated with homeopathy.

The authors report that the mice treated with homeopathic medicine did not show significant changes in macroscopic characteristics of the lesion, neither in the acute nor in the chronic phase of the infection. However, some microscopic changes accompanied the systemic immune response, which can be identified by the granulomatous organization of inflammation at the primary site of infection and by the populations of immune cells found in the peritoneal cavity and spleen. Physiologically, *Thymulin* is a thymus hormone that has several actions, including anti-inflammatory. The study evaluated the effects of the homeopathic *Thymulin* 5cH on the immune and inflammatory response to *Leishmania (L.) amazonensis* in mice and concluded that the treatment of mice induced local and structural changes in the organization of the inflammatory process secondary to the infection, with no clinical/macroscopic improvement.

8. Santana *et al.* Modulation of inflammation response to murine cutaneous Leishmaniasis by homeopathic medicines: *Antimonium crudum* 30cH (18)

To evaluate the effects of homeopathy on rodents with leishmaniasis, Santana *et al.* performed an experiment involving inoculation of *Leishmania amazonensis* promastigotes in male mice. The homeopathy chosen for the treatment was *Antimonium crudum* due to the similarity of the remedy's symptoms with leishmaniasis based on Materia medica and because its effects on pharmacological preparations are well known. The animals were kept in groups of five animals per cage, fed water and sterile food, and kept at controlled temperature, light, humidity, and air.

The treatment lasted 48 hours for the evaluation of the acute phase and 60 days for the evaluation of the chronic phase of the local immune response and was done daily via drinking water. After 48 hours and 60 days of inoculation and treatment, ten animals from each group were euthanized and submitted to necropsy. To understand the macroscopic evolution, the lesion was measured by a digital micrometer for 60 days. The animals treated with homeopathy showed a less severe local inflammatory response to leishmania, with a statistically significant reduction of phagocytes and lymphocyte migration to the primary infection site. This condition has been observed in both chronic and acute phases of the inflammatory process.

9. Banerjee *et al.* A potentized homeopathic drug, *Arsenicum album* 200, can ameliorate genotoxicity induced by repeated injections of arsenic trioxide in mice (19)

To evaluate the effects of *Arsenicum album* on genotoxicity induced by repeated injections of arsenic trioxide in mice, Banerjee *et al.* conducted a study with 30 mice of the species *Mus musculus*. To carry out the experiment, doses of arsenic trioxide were injected subcutaneously into the animals, with an interval of seven days, until they were submitted to euthanasia on days 30, 60, 90, or 120 for necropsy. The animals were divided into five groups. Each group received diluted succussed alcohol (*Alc-200*), arsenic trioxide, arsenic trioxide with succussed alcohol, arsenic trioxide with *Arsenicum album* 200cH, or no drug at all. When compared with normal metaphasic complement, which usually does not reveal any aberration, several types of chromosomal aberrations (CA) of a major or minor nature have been found in certain metaphase plates of mice that have received homeopathic treatment. The total frequency of CA was higher in rats fed arsenic trioxide and alcohol, and a lower incidence of CA was noted in the group of mice fed *Arsenicum album* 200, indicating a significant amount of CA suppression in this group when compared to controls fed alcohol, at all fixation intervals.

The group that received arsenic and alcohol showed a significant increase in arsenic deposition in the tissues of the liver and spleen when compared to the group fed the homeopathic remedy. Furthermore, in the *Arsenicum album*-fed group, the arsenic content in these same organs was surprisingly lower, almost as low as in controls. In addition, in the group of mice that was fed the homeopathic remedy, there was a marked reduction in several types of chromosomal, nuclear, and sperm head abnormalities, signifying an antigenotoxic effect of the homeopathic medicine.

According to Banerjee *et al.*, it has been reported in previous studies that the liver was one of the main organs where arsenic trioxide caused significant damage, such as tissue necrosis. Intraperitoneal injections of dilutions of arsenic compounds, particularly to decimal powers, have also been reported to increase the elimination of arsenic compounds in varying amounts from the blood of arsenic-intoxicated rats through urine and feces. In the present study, oral administration of *Arsenicum album* 200 appeared to show potential protectors against chronic arsenic trioxide-induced poisoning in mice. The authors suggest that, because of the results of this research, homeopathic remedies can also be tested for their possible positive role in improving arsenic

trioxide poisoning in other mammals, especially in areas reported to have arsenic trioxide contamination

Table 1: Summary of the results found in this literature review, classified by treated chronic disease.

Species	Chronic illness	Homeopathic medicine	Potency	Individualized treatment?	Result (positive or no effect)	The rationale for the result ¹	Reference	High score most viewed ²
Canine	Arthritis	<i>RRA</i> ³	-	Match 10/41 cases	Positive	61.9% (+2+3) high Most viewed Positive Score	Mathie <i>et al.</i> , 2007	X
Canine	Arthritis	<i>RRA</i>	-	Match 20/121 cases	Positive	80.2% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Equine	Arthritis	-	-	Yes, as a rule	Positive	66,4% (+2+3) 32,8% (+1; 0;-1) in Musculoskeletal	Mathie <i>et al.</i> , 2007	
Equine	Arthritis	-	-	Yes, as a rule	Positive	91.3% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2010b	
Feline	Arthritis	<i>RRA</i>	-	Match 4/15 cases	Positive	80% (+2+3) High Most viewed Positive Scores	Mathie <i>et al.</i> , 2010a	X
Canine	Aggressiveness	-	-	Yes, as a rule	Positive	57,1% (+2+3) 42,9% (+1; 0;-1)	Mathie <i>et al.</i> , 2010a	

¹ Scale: -3=major deterioration; -2= moderate deterioration; -1=mild deterioration; 0=no change or unsure; +1=mild improvement; +2=moderate improvement; +3=major improvement

² Diseases that best responded to homeopathic treatment, according to authors.

³ *Rhus tox, Ruta graveolens, Arnica montana*

Canine	Aggressiveness	-	-	Yes, as a rule	Positive	69,6% (+2+3) 21,7% (+1; 0;-1) 4.4% (-2-3) Behavior	Mathie <i>et al.</i> , 2007	
Feline	Aggressiveness	-	-	Yes, as a rule	Positive	-	Mathie <i>et al.</i> , 2008	
Equine	Aggressiveness	-	-	Yes, as a rule	Positive	-	Mathie <i>et al.</i> , 2009	
Equine	Claudication	-	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010	
Canine	Claudication	-	-	Yes, as a rule	Positive	70% (+2+3) Responded well	Mathie <i>et al.</i> , 2011	
Canine	Colitis	-	-	Yes, as a rule	Positive	85.2% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Equine	Syndrome Cushing	-	-	Yes, as a rule	Positive	75% (+2+3)	Mathie <i>et al.</i> , 2010b	
Canine	Dermatitis	-	-	Yes, as a rule	Positive	50% (+2+3)	Mathie <i>et al.</i> , 2007	
Canine	Dermatitis	<i>Pulsatilla</i>	-	Match 20/148 cases	Positive	66,2% (+2+3) 27,7% (+1; 0;-1) 5,4% (-2-3)	Mathie <i>et al.</i> , 2010a	
Feline	Dermatitis	-	-	Yes, as a rule	Positive	57,3% (+2+3) 36,2% (+1; 0;-1) 3.6% (-2-3) Dermatology	Mathie <i>et al.</i> , 2007	

Equine	Dermatitis	-	-	Yes, as a rule	Positive	57,3% (+2+3) 36,2% (+1; 0;-1) 3.6% (-2-3) Dermatology	Mathie <i>et al.</i> , 2007	
Equine	Dermatitis	-	-	Yes, as a rule	Positive	78,6% (+2+3)	Mathie <i>et al.</i> , 2010b	
Feline	Dermatitis	-	-	Yes, as a rule	Positive	69.6% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Canine	Dermatitis Atopic	-	-	Yes, as a rule	Positive	56,3% (+2+3)	Mathie <i>et al.</i> , 2007	
Feline	Dermatitis Atopic	-	-	Yes, as a rule	Positive	100% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2007	X
Canine	Diarrhoea	-	-	Yes, as a rule	Positive	56,3% (+2+3) 40,6% (+1; 0;-1) Gastrointestinal	Mathie <i>et al.</i> , 2007	
Canine	Diarrhoea	<i>Lycopodium</i>	-	Match 4/22 cases	Positive	68,2% (+2+3) 31,8% (+1; 0;-1)	Mathie <i>et al.</i> , 2010a	
Feline	Diarrhoea	-	-	Yes, as a rule	Positive	56,3% (+2+3) 40,6% (+1; 0;-1) Gastrointestinal	Mathie <i>et al.</i> , 2007	
Equine	Obstructive pulmonary disease chronicle	-	-	Yes, as a rule	Positive	84,6% (+2+3)	Mathie <i>et al.</i> , 2010b	

Feline	Epilepsy	-	-	Yes, as a rule	Positive	20% (+2+3) 60% (+1; 0;-1) "Nerve"	Mathie <i>et al.</i> , 2007	
Canine	Epilepsy	-	-	Yes, as a rule	Positive	66.7% (+2+3) High Most Viewed Positive Scores	Mathie <i>et al.</i> , 2007	X
Canine	Epilepsy	-	-	Yes, as a rule	Positive	63,6% (+2+3) 31,8% (+1; 0;-1) 4,5% (-2-3)	Mathie <i>et al.</i> , 2010a	
Canine	Epilepsy	<i>Aethus cynapium</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2016	
Canine	Epilepsy	<i>Agaricus muscaricus</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2017	
Canine	Epilepsy	<i>Absinthium</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2018	
Canine	Epilepsy	<i>Artemisia absinthium</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2019	
Canine	Epilepsy	<i>Stramonium</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2020	

Canine	Epilepsy	<i>Hemlock virosa</i>	-	-	Has no evidence to support usage	-	Podell <i>et al.</i> , 2021	
Canine	Spondylosis	-	-	Yes, as a rule	Positive	81% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Feline	Renal insufficiency	-	-	Yes, as a rule	Positive	57,1% (+2+3)	Mathie <i>et al.</i> , 2010a	
Feline	Renal insufficiency	-	-	Yes, as a rule	Positive	60% (+2+3)	Mathie <i>et al.</i> , 2007	
Canine	Renal insufficiency	-	-	Yes, as a rule	Positive	76,2% (+2+3) 23,8% (+1; 0;-1) Urogenital	Mathie <i>et al.</i> , 2008	
Canine	Weakness	-	-	Yes, as a rule	Positive	80% +2 or +3 (answered well)	Mathie <i>et al.</i> , 2009	
Feline	Weakness	-	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010	
Equine	Weakness	-	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2011	
Feline	Gingivitis	-	-	Yes, as a rule	Positive	100% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2012	X
Equine	<i>Headshaking</i>	-	-	Yes, as a rule	Positive	93.3% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2010b	X

Feline	Hyperthyroidism	<i>Iodum</i>	-	Match 4/18 cases (exception to the rule of individualized?)	Positive	66.7% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Feline	Hyperthyroidism	-	-	Yes, as a rule	Positive	75% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2007	X
Murina	Arsenic poisoning	<i>Arsenicum album</i>	200cH	No	Positive	Lower arsenic content detected in the organs, Marked reduction in various types of chromosomal, nuclear, and sperm head	Banerjee <i>et al.</i> , 2007	
Canine	Urinary incontinence	<i>Pulsatilla</i>	-	Match 4/19 cases	Positive	73.7% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Equine	Laminitis	-	-	Yes, as a rule	Positive	100% (+2+3) High Most Viewed Positive Score	Mathie <i>et al.</i> , 2010b	X
Equine	Chronic laminitis	<i>Arnica</i>	30cH	-	-	-	López <i>et al.</i> , 1999	
Equine	Chronic laminitis	<i>Aconitum napellus</i>	30cH; 200cH	-	-	-	López <i>et al.</i> , 2000	
Equine	Chronic laminitis	<i>Antimonium crudum</i>	-	-	-	-	López <i>et al.</i> , 2001	

Equine	Chronic laminitis	<i>Apis mellifica</i>	-	-	-	-	López et al., 2002
Equine	Chronic laminitis	<i>Belladonna</i>	30cH	-	-	-	López et al., 2003
Equine	Chronic laminitis	<i>Bellis perenis</i>	6cH	-	-	-	López et al., 2004
Equine	Chronic laminitis	<i>Bryonia alba</i>	-	-	-	-	López et al., 2005
Equine	Chronic laminitis	<i>Fluoric Calcareae</i>	30cH	-	-	-	López et al., 2006
Equine	Chronic laminitis	<i>Calendula officinalis</i>	30cH	-	-	-	López et al., 2007
Equine	Chronic laminitis	<i>Graphites</i>	30cH	-	-	-	López et al., 2008
Equine	Chronic laminitis	<i>Niticum acidum</i>	30cH	-	-	-	López et al., 2009
Equine	Chronic laminitis	<i>Nux vomica</i>	-	-	-	-	López et al., 2010
Equine	Laminitis chronicle	<i>Opium</i>	-	-	-	-	López et al., 2011
Equine	Chronic laminitis	<i>Pulsatilla Nigricans ammona</i>	-	-	-	-	López et al., 2012
Equine	Chronic laminitis	<i>Pyrogenium</i>	-	-	-	-	López et al., 2013
Equine	Chronic laminitis	<i>Rhus toxicodendron</i>	-	-	-	-	López et al., 2014

Equine	Chronic laminitis	<i>Sabina</i>	-	-	-	-	López <i>et al.</i> , 2015
Equine	Chronic laminitis	<i>Secale</i>	-	-	-	-	López <i>et al.</i> , 2016
Equine	Chronic laminitis	<i>Silecea</i>	30cH	-	-	-	López <i>et al.</i> , 2017
Equine	Chronic laminitis	<i>Sulphur</i>	30cH	-	-	-	López <i>et al.</i> , 2018
Murina	Leishmaniasis	<i>Thymulin</i>	5cH	No	Positive, but not too much	It induced alterations in the inflammatory process secondary to the infection.	Santana <i>et al.</i> , 2014a
Murina	Leishmaniasis	<i>Antimonium crudum</i>	30cH	No	Positive	They showed a less severe local inflammatory response to leishmania, with a reduction in the migration of phagocytes and lymphocytes.	Santana <i>et al.</i> , 2014b
Canine	Lymphoma	-	-	Yes, as a rule	Positive/No Effect	40% (+2+3) 53,3% (-1; 0; +1)	Mathie <i>et al.</i> , 2010a

Bovine (dairy)	Clinical mastitis	<i>Aconitum</i>	-	One group yes other 2 no, but did not specify which one	Positive, but not significant when compared to antibiotics or placebo	31% reduction in cows with score I on the 7th day; reduction of 27.6% in cows with score II on the 28th day	Hektoen <i>et al.</i> , 2004
Bovine (dairy)	Clinical mastitis	<i>Apis mellifica</i>	-	-	-	-	Hektoen <i>et al.</i> , 2005
Bovine (dairy)	Clinical mastitis	<i>Arnica</i>	-	-	-	-	Hektoen <i>et al.</i> , 2006
Bovine (dairy)	Clinical mastitis	<i>Belladonna</i>	-	-	-	-	Hektoen <i>et al.</i> , 2007
Bovine (dairy)	Clinical mastitis	<i>Carbonic calcarea</i>	-	-	-	-	Hektoen <i>et al.</i> , 2008
Bovine (dairy)	Clinical mastitis	<i>Mercurius</i>	-	-	-	-	Hektoen <i>et al.</i> , 2009
Bovine (dairy)	Clinical mastitis	<i>Phosphorus</i>	-	-	-	-	Hektoen <i>et al.</i> , 2010
Bovine (dairy)	Clinical mastitis	<i>Phytolacca</i>	-	-	-	-	Hektoen <i>et al.</i> , 2011
Bovine (dairy)	Clinical mastitis	<i>Pulsatilla</i>	-	-	-	-	Hektoen <i>et al.</i> , 2012
Canine	Pathological fear	-	-	Yes, as a rule	Positive	69,6% (+2+3) 21,7% (+1; 0;-1) 4.4% (-2-3) Behavior	Mathie <i>et al.</i> , 2007

Feline	Pathological fear	-	-	Yes, as a rule	Positive	69,6% (+2+3) 21,7% (+1; 0;-1) 4.4% (-2-3) Behavior	Mathie <i>et al.</i> , 2007	
Canine	Pathological fear	-	-	Yes, as a rule	Positive/without effect	31,6% (+2+3) 68,4% (+1; 0;-1)	Mathie <i>et al.</i> , 2010a	
Canine	Otitis externa	-	-	Yes, as a rule	Positive	40% (+2+3)	Mathie <i>et al.</i> , 2007	
Canine	Otitis externa	-	-	Yes, as a rule	Positive	72.7% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Feline	Overgrooming	-	-	Yes, as a rule	Positive	57,1% (+2+3)	Mathie <i>et al.</i> , 2010a	
Canine	Pyoderma	-	-	Yes, as a rule	Positive	75.8% (+2+3) High Most viewed Positive Score	Mathie <i>et al.</i> , 2010a	X
Canine	Skin diseases	-	-	Yes, as a rule	Positive	21,4% (+2+3)	Mathie <i>et al.</i> , 2007	
Feline	Skin diseases	-	-	Yes, as a rule	Positive	57,3% (+2+3) 36,2% (+1; 0;-1) 3.6% (-2-3) Dermatology	Mathie <i>et al.</i> , 2008	
Equine	Skin diseases	-	-	Yes, as a rule	Positive	57,3% (+2+3) 36,2% (+1; 0;-1) 3.6% (-2-3) Dermatology	Mathie <i>et al.</i> , 2009	

Canine	Itch	-	-	Yes, as a rule	Positive	57,3% (+2+3) 36,2% (+1; 0;-1) 3.6% (-2-3) Dermatology	Mathie <i>et al.</i> , 2010
Equine	Sarcoidosis	-	-	Yes, as a rule	Positive	75% (+2+3)	Mathie <i>et al.</i> , 2010b
Equine	<i>Sweet itch</i>	-	-	Yes, as a rule	Positive	80% (+2+3)	Mathie <i>et al.</i> , 2010b
Canine	Disease not specified	<i>Pulsatilla</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Canine	Disease not specified	<i>Sulphur</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Canine	Disease not specified	<i>Phosphorus</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Canine	Disease not specified	<i>Fluoric Calcareia</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Canine	Disease not specified	<i>Lycopodium</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Canine	Disease not specified	<i>Causticum</i>	-	Yes, as a general rule	-	-	Mathie <i>et al.</i> , 2010a
Equine	Disease not specified	<i>Pulsatilla</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010b
Equine	Disease not specified	<i>Silicea</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010b

Equine	Disease not specified	<i>Lycopodium</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010b
Equine	Disease not specified	<i>Calcarea Fluoric</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010b
Equine	Disease not specified	<i>Ledum</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010b
Feline	Disease not specified	<i>Natrium Muriaticum</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Feline	Disease not specified	<i>Arsenicum album</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Feline	Disease not specified	<i>Staphysagria</i>	-	Yes, as a rule	-	-	Mathie <i>et al.</i> , 2010a
Not specified	Disease not specified	<i>Pulsatilla</i>	-	Yes, as a rule	Positive	23.1% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2007
Not specified	Disease not specified	<i>Phosphorus</i>	-	Yes, as a rule	Positive	58.3% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2008
No Specified	Disease not specified	<i>Silicea</i>	-	Yes, as a rule	Positive	50% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2009
Not specified	Disease not specified	<i>Causticum</i>	-	Yes, as a rule	Positive	55.6% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2010
Not specified	Disease not specified	<i>Conium</i>	-	Yes, as a rule	Positive	66.7% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2011

Source: prepared by author

Not specified	Disease not specified	<i>Rhus tox</i>	-	Yes, as a rule	Positive	66.7% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2012
Not specified	Disease not specified	<i>RRA</i>	-	Yes, as a rule	Positive	44.4% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2013
Not specified	Disease not specified	<i>Sulphur</i>	-	Yes, as a rule	Positive	44.4% (+2 or +3 in all species)	Mathie <i>et al.</i> , 2014

DISCUSSION

From the nine eligible articles used in this synthesis, the most comprehensive and systematic presentation of data was found in three surveys organized by Mathie and collaborators (12,13,14). Diseases such as arthritis, hyperthyroidism, laminitis, and dermatitis presented the greatest improvement with homeopathic treatment. Improvements have also been reported in conditions such as colitis, dermatitis, epilepsy, spondylosis, gingivitis, headshaking, laminitis, otitis externa, pyoderma, and urinary incontinence.

Despite being some of the most frequently presented problems, overgrooming and kidney failure in cats, fear and lymphoma in dogs, chronic obstructive pulmonary disease, *sweet itch*, sarcoidosis, and Cushing's syndrome obtained lower positive scores with homeopathic treatment. Although the results sound promising, the authors stress the necessity of more and better Randomized Clinical Trials (RCTs) in veterinary homeopathy, to establish solid evidence of efficacy to each described condition. Moreover, these conditions have important metabolic alterations involved in their pathophysiology and that they also show a poor response to other conventional therapies.

Two other authors (9,15) described a list of the most used homeopathic medicines to treat chronic diseases in veterinary medicine, but they did not describe potencies or refer to RCTs related to them.

Hektoen *et al.* (16) presented an RCT on bovine mastitis, whose methodology has been evaluated as a high-confidence-level study, according to Da Matta *et al.* (11). In this case, similar results were obtained from homeopathy, placebo, and antibiotic treatments. The lack of definition of a clinical evidence-based result was understood as a bias related to the small number of animals included. In this case, new RCTs were still needed.

In both articles of Santana et al. (17,18), two homeopathic strategies were tested *in vivo* using a murine model of experimental infection with *Leishmania* (L.) *amazonensis*. In one case, the treatment with *Antimonium crudum* 30cH presented promising results, with remission of macroscopic lesion and reduction of microscopic inflammation site, with a more efficient pattern of immune cell migration to the primary infection site. Once more, the need for RCTs to test this treatment in clinical conditions was pointed out.

Finally, Banerjee et al. (19) reported that the oral administration of *Arsenicum album* 200cH was a potential resource to protect mice and other mammals against chronic arsenic trioxide-induced poisoning. But again, RCTs on this theme still need to be done.

CONCLUSION

After analysing the articles and research, it was concluded that certain conditions, such as arthritis and hyperthyroidism, respond better to homeopathic treatment. However, more studies and research are needed, especially double-blind, randomized clinical trials with low risk of bias and intention-to-treat analysis (important parameters of methodological quality in clinical research), to understand which homeopathic remedies are most suitable for certain conditions.

CONFLICT OF INTEREST

There is no conflict of interest related to this study.

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AUTHOR RULES

HMA was the main author who participated in the whole process.

NSSM was a co-author who was responsible for the double check of information and writing.

LVB was the advisor and main coordinator, being responsible for writing and the last review.

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