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REVIEW ARTICLE

The Role and Importance of Acupuncture in Domestic Animals

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Abstract

This review provides a concise overview of acupuncture in veterinary medicine, tracing its roots from ancient Chinese practices to its integration into global veterinary care. It also examines the mechanism of acupuncture, focusing on the balance of vital energy (qi) along the meridians. The historical journey and applications of acupuncture in various animal species, pain management, neurological disorders, cancer support and more are discussed. In summary, the review highlights the importance and utility of acupuncture in veterinary medicine worldwide.

Introduction

Originating from Chinese medicine, acupuncture, and age-old therapeutic practice has become an invaluable tool in veterinary care for domestic animals Jishun and Mittelman (2014). This holistic method entails delicately inserting fine needles into specific points on an animal's body, promoting energy flow and facilitating the healing process Koh and Harrison (2023). Scientific and clinical endeavors over the past two decades have affirmed acupuncture's therapeutic value in treating animal diseases. A growing number of veterinarians aspire to integrate acupuncture therapy into their regular practices (Schwartz, 1992; Schoen, 1994; Guo and Ma, 2019; Yu *et al.*, 2020; Yu and Kim, 2023). Despite the absence of rigorous controls and statistical analysis in many published reports on acupuncture, several clinical studies offer valuable insights for routine practice. Notable Chinese Yu *et al.* (2020) and Western Jefferson (2020) publications have documented therapy methods and theories in veterinary acupuncture. This comprehensive review delves into acupuncture's extensive history, diverse mechanisms, and broad applications, emphasizing its ongoing relevance and evolution in veterinary medicine worldwide. This review aims to outline clinical indications demonstrating positive responses to veterinary acupuncture.

History of Acupuncture

The origins of acupuncture are intertwined with the philosophical and medical beliefs of traditional Chinese culture. The earliest recorded evidence of acupuncture dates to around 100 BCE in texts such as the Huangdi

Neijing (Yellow Emperor's Inner Canon), a foundational work of traditional Chinese medicine (Schwartz, 1992; Schoen, 1994; Jishun and Mittelman, 2014; Guo and Ma, 2019; Jefferson, 2020; Yu *et al.*, 2020; Koh and Harrison, 2023; Yu and Kim, 2023). Acupuncture techniques, originally developed by the Chinese, constitute an integral component of Traditional Chinese Medicine (TCM) for humans and TCVM for animals. Contemporary acupuncture can be categorized as either traditional Chinese medical acupuncture or Western medical acupuncture, the latter also referred to as transpositional acupuncture in veterinary practice Pyne and Shenker (2008). During the 1960s, there was a growing Western fascination with acupuncture medicine, leading to increased interest in TCM and TCVM. This curiosity spurred veterinary professionals to explore incorporating acupuncture into their practices, giving rise to the Western veterinary approach known as "transpositional" acupuncture Robinson (2007). Historical Chinese veterinary acupuncture point body maps were initially limited to cows, pigs, horses, and poultry, providing imprecise locations for a restricted number of acupuncture points. In the 1970s, North American veterinarians sought collaboration with human acupuncturists worldwide to develop point maps specifically for dogs and cats. They utilized human point system maps as a foundation but encountered challenges due to variations in posture and anatomy across animal species. Notably, the presence of a tail introduced an additional area for acupuncture stimulation, which lacked a corresponding site on the human body Koski (2011).

Mechanism of Acupuncture

The conceptual framework behind acupuncture is based on the idea of vital energy, known as "Qi" (pronounced chee), flowing through the body along specific pathways called meridians Pyne and Shenker (2008). The balance and harmonious flow of qi, which travels through the body's meridians, are considered essential for maintaining good health, while disruptions or blockages in this flow can lead to illness or pain (Acupuncture, 2024; Singapore Paincare TCM Wellness, 2024). Though the theories underlying traditional Chinese and Western veterinary medical acupuncture differ, both methods rely on the selection of effective acupuncture points, as a prerequisite for successful treatment Zang Hee *et al.* (2006). The Great Compendium of Acupuncture and Moxibustion and Huangdi's Canon of Medicine, which are recognized as the founding works of acupuncture, are where the concept of acupuncture points originated (Haltrecht, 1995; Li *et al.*, 2015; Cui *et al.*, 2022) Contemporary research on acupuncture's mechanism of action utilizes advanced neuroimaging techniques, including functional positron emission tomography, magnetic resonance imaging, magnetoencephalography, and electroencephalography. These sophisticated imaging modalities offer a secure and efficient means of observing brain activity, facilitating the identification, and mapping of neural correlates associated with acupuncture (Dhond *et al.,* 2007, 2008; Cho *et al.*, 2010). In veterinary medicine, the three most commonly employed acupuncture techniques are dry needling, aqua-acupuncture, and electro-acupuncture.

Aqua-acupuncture is a stimulation technique in which a liquid agent, often vitamin B12, is injected into an acupuncture point Chen *et al.* (2014). Unlike traditional acupuncture, where needles are left in place for a period, the stimulation in aqua-acupuncture is achieved through the changes in spatial configuration at the acupuncture point caused by the injected liquid Zhang *et al.* (2007). Electroacupuncture, on the other hand, combines manual acupuncture with electrostimulation DeBord *et al.* (2023). The effects of electroacupuncture are influenced by the frequency of the electrical impulses, provided that the waveform and all other parameters remain constant CMMI (2023). However, acupuncture, as a practice, entails the insertion of slender needles into specific points along these meridians to either stimulate or restore the balance of qi. Traditionally, the identification of these acupuncture points involves careful observation of the body and its responses to various stimuli. Classical acupuncture theory posits that disturbances in visceral conditions and organs are manifested at specific points, either on the skin surface or beneath it Li *et al.* (2015). An acupuncture points is regarded as a perforation in the skin that establishes communication with internal organs through a channel or meridian Haltrecht (1995). When assessing an illness, one must examine obvious signs such as tongue appearance, mental attitude, urine and feces characteristics and odor, palpate trigger points or painful locations on the body, and perform a thorough assessment of the body's general state Koski (2011). Various methods can be employed to stimulate acupuncture points, such as inserting fine filiform needles, applying heat (moxibustion), or pressure (acupressure), utilizing laser light, friction, and employing cupping Huntingford and Petty (2022). In ancient Chinese literature, there is acknowledgment of 361 classic acupuncture points associated with meridians, along with over 2000 extra-meridian acupuncture points. 309 of these acupuncture points are found on or close to nerves, according to recent research, and 286 of these points are encircled by tiny nerve bundles close to large blood arteries. (Chan, 1984; Zang Hee *et al.*, 2006). In addition, Acupuncture's physiological effects are tied to neuromodulation through direct nerve stimulation Dung *et al.* (2004). When tissue is needled at an acupuncture point, it activates the peripheral nervous system, prompting responses from the peripheral, central and autonomic nervous systems (Zang Hee *et al.*, 2006; Lindley and Cummings, 2008; Gaynor and Muir, 2015). Acupuncture induces changes in

neurohumoral and neuroendocrine factors, thereby altering pain transmission and augmenting the body's internal pain control mechanisms Gaynor and Muir (2015). The precise mechanisms elucidating the effects of acupuncture are still a subject of debate, but analgesia a key focus in literature has been extensively studied among the diverse effects exerted by acupuncture on the body and an increasing body of evidence suggests that acupuncture analgesia has physiological, anatomical, and neurochemical foundations Zhao (2008). Some studies suggest that acupuncture triggers the release of various bioactive chemicals encompass opioids at both spinal and supraspinal levels and serotonin and norepinephrine at the spinal level (Chang *et al.,* 2004; Kim *et al.,* 2005; Zhang, 2014). Recent animal studies have also indicated that a portion of electroacupuncture analgesia is not inhibited by naloxone (an opioid antagonist) Schoen (1986). It was found that median nerve stimulation releases an endogenous neuropeptide (orexin) from the hypothalamus to inhibit pain responses in mice through an endocannabinoid (an endogenous lipid functioning like chemicals from cannabis) that reduces the inhibitory (GABAergic) control in a midbrain pain-control region (the periaqueductal gray) Chen *et al.* (2018). The exploration of non-opioid mechanisms of acupuncture holds the potential to unveil new pharmacological targets for future pain treatment.

Acupuncture Points

In order to overcome the challenge of accurately transposing human acupuncture sites to animals, a modern method entails pinpointing the locations of peripheral nerves, neurovascular structures, and relationships with the central nervous system associated with human acupuncture points Koski (2011). Ongoing research, particularly at institutions like the Colorado State University of Veterinary Medicine and the University of Veterinary Medicine in Florida, is focused on developing precise transposition point location maps specifically tailored for dogs, cats, and horses (Deriu *et al.,* 2002; Xie and Wedemeyer, 2012).

Acupuncture points, classified into Four Types (Table 1), demonstrate elevated electrical conductance, reduced impedance, and enhanced capacitance in comparison to the surrounding tissue. A significant number of these points are located in areas where pain and muscle dysfunctions lead to the development of myofascial trigger points Schoen (1986).

By creating linkages between acupuncture sites throughout the body, activating these points aims to promote a balanced flow of Qi via the meridians.

The term "Zang" refers to the organs that are considered "solid" and yin in nature – the Heart, Liver, Spleen, Lung, and Kidney. In contrast, "Fu" refers to the "hollow" yang organs – the Small Intestine, Large Intestine, Gall Bladder, Urinary Bladder, Stomach and San Jiao (Lozano, 2013; Zhaoguo *et al.,* 2019).

Named after the Zhang Fu organs, there are twelve regular or major meridians (Lung Meridian (LU), Large Intestine Meridian (LI), Stomach Meridian (ST), Spleen Meridian (SP), Heart Meridian (HT), Small Intestine Meridian (SI), Bladder Meridian (BL), Kidney Meridian (KI), Pericardium Meridian (PC), Triple Warmer Meridian (TW), Gallbladder Meridian (GB), Liver Meridian (LV)) Xie (2007). These 12 meridians represent a conceptual grouping rather than literal anatomical structures. These organs, attributed to Western names, collectively play a role in generating and regulating Qi, illustrating interconnected functions governing Qi production and circulation Wright (2019). Meridians like Bladder and Gall Bladder have acupuncture points designated with numerical values along their trajectories. Additionally, there are eight Extra Meridians (Governing Vessel (GV), Conception Vessel (CV), Penetrating Vessel (PV or Chong Mai), Girdle Vessel (GV or Dai Mai), Yin Motility Vessel (Yin Qiao Mai), Yang Motility Vessel (Yang Qiao Mai), Yin Linking Vessel (Yin Wei Mai), Yang Linking Vessel (Yang Wei Mai)), each serving specific functions (Xie, 2007; Sudhakaran, 2013). These Extra Meridians contribute significantly to preserving bodily equilibrium by managing excess pathogenic Qi, regulating metabolism, and supporting the balance of blood, fluids, and Qi Harrison and Churgin (2022). Acupuncture can be used to treat a variety of common

Table 1. Acupuncture point types.

Type of Point	Location of Point
Type I	Located in areas where nerves enter muscles 67% of all acupuncture points are motor points
Type II	Located on superficial nerves in the sagittal plane on the dorsal and ventral midlines.
Type III	Located at high density loci of superficial nerves and nerve plexuses
Type IV	Located at musculotendinous junctions where the Golgi tendon organs are located.

(WHO, 2013)

illnesses and animals. Table 2 shows these ailments along with possible acupuncture point types. Figure 1 1-4 illustrate acupuncture points locations in for tranquilization, cardiovascular issues, liver function, and gastrointestinal health, respectively.

Acupuncture Around the World

Acupuncture gained recognition beyond China, spreading to other parts of Asia, and eventually reaching Europe and the Americas. The transmission of acupuncture knowledge occurred through both written texts and oral traditions. However, its acceptance in Western medicine was initially met with skepticism. For many current healthcare practitioners, embracing the traditional Chinese theory and its intricate yet elegant metaphysical concepts prove to be exceptionally challenging. This difficulty arises from the stark contrast between traditional Chinese medicine and mainstream Western medicine, which is rooted in contemporary scientific disciplines such as biochemistry, anatomy, physiology, and pharmacology Cheng (2009). In the 20th century, interest in acupuncture increased globally, and efforts were

Table 2. Animals and common conditions treatable with acupuncture, along with corresponding types of points for each condition.

Species	Common Conditions	Potential Main Points
Avian	Wing arthritis	LI11, HT3, SI4, BL11, BL 23
Avian	Limb arthritis	BL11, BL 23, BL40, BL60, KID3
Avian	Appetite stimulation	ST36, ST40, ST45
Avian	Feather plucking	HT7, LI11, ST36, and points for pain near picking
Avian	Pododermatitis	LIV8, GB34
Carnivore	Arthritis front limb	LI10, LI11, LI15, TH14
Carnivore	Arthritis hind limb	ST36, BL54, GB29, GB30, BL39, BL40, BL60, KID3
Carnivore	Spinal arthritis	Likely under anesthesia, points cranial and caudal to lesion, BL11, BL23, BL39, BL40, KID10, BL60, KID3
Hoofstock	Arthritis front limb	LI10, LI11, LI15, TH14
Hoofstock	Arthritis hind limb	ST36, BL54, GB29, GB30, BL39, BL40, BL60
Hoofstock	Gastrointestinal	LI10, LI11, ST36, ST40, BL20, BL21, BL25 (depends on height of animal as to success of obtaining all BL points)

(Chen *et al.,* 2014)

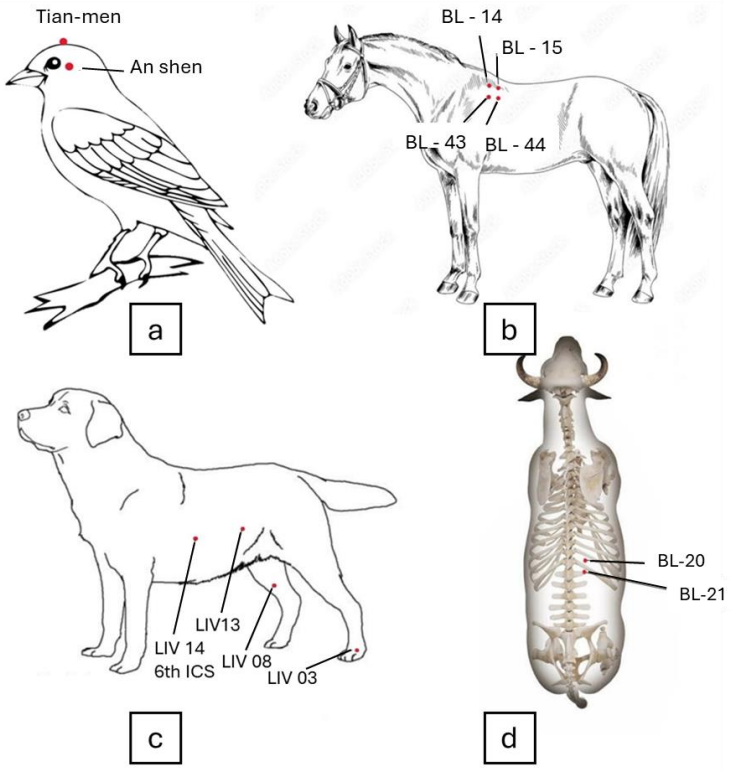

Figure 1. a) Tranquilization acupuncture points, b) Acupuncture points for cardiovascular problems, c) Liver acupuncture points, d) Gastrointestinal system acupuncture points

made to integrate it into Western medical practices. The World Health Organization recognized the potential benefits of acupuncture in treating a variety of health conditions (WHO, 2019; WHO, 2021). In the late 20th and early 21st centuries, acupuncture gained popularity as a complementary and alternative therapy in many parts of the world. According to a survey conducted by the World Federation of Acupuncture and Moxibustion Societies, Chinese acupuncture had been adopted in various forms in 183 out of 202 countries and regions worldwide by 2013 WHO (2013).

China boasts an array of over 80 distinct acupuncture techniques, and additional methods are utilized in countries such as The Americas, Europe, Japan, Korea, and Vietnam. While sharing a common diagnostic and therapeutic approach, there is no singular "traditional Chinese acupuncture," similar to the diversity observed in the interpretation and practice of Western medicine globally, despite shared principles. Acupuncture, too, exhibits variations in its application and interpretation Zang Hee *et al.* (2006). Western acupuncture medicine is rooted in anatomy and physiology, with a specific focus on concepts such as neuroanatomy and trigger points. The Western medical approach provides a clear bridge for medical professionals trained in the West, enabling the smooth integration of acupuncture into their treatment protocols.

Acupuncture finds various applications, with pain management standing out as a prominent use (Wright, 2019; Dewey and Xie, 2021), particularly in addressing conditions like arthritis Yu and Kim (2023), joint injuries, and post-surgical discomfort in animals Dewey and Xie (2021). Musculoskeletal issues Zhang and Wang (2020), such as lameness and muscle strains in domestic pets and working farm animals, neurological disorders Guo and Ma (2019), or gastrointestinal problems Li *et al.* (2022). In the realm of behavioral concerns, acupuncture is employed to manage anxiety, aggression, and stress-related behaviors (Koski, 2011; Mayo, 2013). This approach is not limited to specific animal types, as it is explored for its potential benefits in both small and large animals Schoen (1994). Acupuncture is considered a versatile tool in veterinary care, contributing to overall well-being. Table 3 shows the percentage of veterinarians using acupuncture in different countries throughout the world.

Acupuncture Applications in Horses

Acupuncture has become an integral component of equine medicine, offering a comprehensive approach to addressing a spectrum of health concerns in horses. Foremost among its applications is the effective management of pain such as back pain (Martin and Klide, 1987; Xie *et al.,* 2005; Rungsri *et al.,* 2009; Varhus and Xie, 2019) and the treatment of other conditions in horses such as Laminitis and navicular disease (Lancaster and Bowker, 2012; Faramarzi *et al.,* 2017), cervical stiffness Pasteur (2021), reproductive disorders and mastitis (Jerng *et al.,* 2014; He *et al.,* 2015), stress response Villas-Boas *et al.* (2015), emergency resuscitation Juffe *et al.* (2004), metabolic capacity Angeli and Luna (2008), laryngeal hemiplegia Kim and Xie (2009) and stem cell Salazar *et al.* (2017).

The utilization of acupuncture in treating horses can be traced back to the period between 475–221 BC. A significant milestone occurred during the Liang Dynasty (502–587 AD) with the publication of the Bole Liaoma Jing (Bole's Equine Therapy Classic), representing an early documentation of acupuncture methods for horses.

Two primary theories guide the mapping of effective acupuncture points in horses. The first, as per the ancient theory (1) outlined by Tangjitjaroen *et al.* (2009), suggests that specific points on the body, where injuries occurred, were found to successfully treat certain chronic diseases in horses. Subsequent treatments of other horses in a similar manner led to the deduction that these points had the potential to heal specific diseases. The second theory (2), described by Schoen (2000), involves the transpositional method. Considering the anatomical variations between the two species, this technique extrapolates

Table 3. Veterinarians employing acupuncture in various countries.

Country	Percentage	Country	Percentage
Australia	1.0-2.5	Japan	<2.5
Austria	<1.0	Mexico	1.0
Belgium	10-20	Netherlands	<0.2
Canada	<0.5	Norway	<0.1
Czechoslovakia	<0.4	South Africa	3.0
Denmark	<1.0	Switzerland	<0.5
Finland	10.0	Taiwan	10.0
France	<3.0	United Kingdom	<0.5
Germany	1.0-5.0	USA	<0.5
Irland	1.0		

(Santos *et al.,* 2022)

the established and well-known human meridians to horses. Despite criticisms regarding the use of comparative anatomy, clinical responses have been observed in cases where compatible anatomical structures exist, such as the lumbosacral space found in both species. This suggests that transpositional points may indeed have clinical effects Júnior *et al*. (2007).

The primary clinical applications of acupuncture in horses revolve around its utility in diagnosing and treating lameness (Schoen, 1993; Emily, 2023). Acupuncture points' exact anatomical location is important since it determines their function. Acupuncture points are thought to be mostly located at the locations where two or more muscles converge, in between fascia, and close to nerve ganglia and peripheral nerve branches that are connected to internal organs Robinson *et al.* (2007). Points related to nervous ganglia are particularly concentrated in the back, running parallel to the spinal cord Chapple (2013). In total, horses are recognized to have 361 acupuncture points Lin (2023).

Acupuncture Applications in Cattle and Sheep

Acupuncture has found widespread application in various ruminants, particularly in dairy and beef cattle, as well as sheep. Its uses span surgical analgesia, reproductive enhancement, lactation improvement, surgical adjunct, wound healing facilitation, immunity promotion, elevation of hematological and biochemical values, stimulation of ruminal motility, and correction of musculoskeletal disorders Acorda (2017).

In the context of reproductive performance, Rayos *et al.* (2001) demonstrated the positive impact of electroacupuncture and aquapuncture, using red pepper decoction, in reducing the calving to estrus interval and improving the overall conception rate in postpartum Holstein-Friesian cows. Additionally, Sumano *et al.* (1993) observed that acupuncture treatment of repeat breeding cattle, experiencing more than three failed inseminations, resulted in a pregnancy rate comparable to cows with normal fertility and no failed examinations. However, in bulls, acupuncture was found to be ineffective in treating semen abnormalities Arlt *et al.* (2006) and reducing libido Arlt and Heuwieser (2009).

In a study involving Friesian x Sahiwal crossbred lactating cows with mastitis, Daga *et al.* (2013) noted that aquapuncture using chili pepper decoction had the potential to decrease mastitis incidence. Both conventional needle acupuncture and aquapuncture were observed to potentially increase milk production. The effects of acupuncture on hematological and biochemical parameters were explored by Singh *et al.* (2008), who found that calves subjected to electroacupuncture exhibited changes indicating an enhanced immune response.

In sheep, the combined electrostimulation of four acupuncture points (GV-20, GB-34, ST-36, and SP-6) with xylazine resulted in effective analgesia, complete muscle relaxation of the abdominal and pelvic regions, increased heart rate, and decreased respiration rate Yadav *et al.* (2007). An analysis comparing four acupuncture point stimulation methods—aquapuncture, conventional needle acupuncture, hypodermic needle acupuncture, and pneumoacupuncture—revealed that hypodermic needle acupuncture and aquapuncture show promise as cost-effective alternatives to conventional acupuncture needles for inducing analgesia in sheep (Acorda *et al.,* 1997; Acorda, 1998, 1999).

Acupuncture Applications in Avian

Acupuncture is not as widely employed in avian species compared to other animals, but when utilized, birds generally exhibit positive responses (McCluggage, 2001; Eckermann-Ross, 2009; Burkett, 2021). Various techniques are applied in bird treatment, such as inserting and retaining needles, inserting and manipulating needles, or simply inserting and removing needles immediately Burkett (2021). Aquapuncture is often preferred in certain species due to anatomical differences that can make accessing specific points challenging or impossible.

Birds are commonly treated for various conditions, including osteoarthritis, paresis, anorexia, egg binding, and pododermatitis West (2011). Feather-destructive behavior, also known as feather plucking, can be addressed alongside other diagnostic and treatment approaches such as behavioral modification, habitat adjustments, and enrichment Burkett (2021).

Acupuncture Applications in Cats and Dogs

Acupuncture for dogs and cats proves to be a versatile and effective therapeutic approach, addressing a diverse range of conditions to enhance their well-being. This treatment method is particularly valuable for pain management, encompassing various issues like arthritis, back pain, hip and shoulder discomfort, knee pain, and conditions such as intervertebral disc disease Jia *et al.* (2023).

A review of older dogs with ruptured cranial cruciate ligaments found that, even in the absence of surgery, stifle function was restored in 6 to 10 months in those dogs treated with acupuncture and Chinese medicine Lee (2019). Ciolanescu (2020) examined 40 dogs with chronic lymphocytic leukaemia in another investigation. While the other half of the dogs received conservative care including joint supplements, exercise therapy, and pain management, the other half of the dogs received acupuncture and TCVM therapy. By week 24, both groups showed progress, but the acupuncture-treated dogs showed quicker and more noticeable outcomes.

Acupuncture extends its benefits to neurological disorders Santos *et al.* (2022), including degenerative myelopathy, seizures, and paralysis Kern and Erb (1987). Acupuncture also plays a significant role in alleviating symptoms related to cancer, either as a sole therapy or in conjunction with chemotherapy, contributing to an improved quality of life Ryu *et al.* (2014). The practice is found effective in addressing gastrointestinal disorders, respiratory problems Schwartz (1992) and internal organ diseases such as kidney, heart, or liver conditions Rose *et al.* (2017). Moreover, acupuncture serves as a valuable tool in managing autoimmune diseases, reproductive or infertility disorders, behavioral issues like anxiety Kontagionis *et al.* (2019) and endocrine disorders like hypothyroidism or Cushing's disease. According to a review conducted by Rose *et al.* (2017), dogs emerged as the predominant subjects in experimental acupuncture trials when compared to cats. There are over 360 recognized acupuncture points located throughout a dog's body (Snow and Zidonis, 2000; Jeong *et al.,* 2013). In cats, these acupressure points are generally found in the same locations as in dogs Snow and Zidonis (2000).

Acupuncture without Needles (Acupressure)

Acupressure, a form of traditional Chinese medicine, stands as an alternative to acupuncture, offering a needle-free approach to stimulate specific points on the body for therapeutic purposes. Unlike acupuncture, which involves the insertion of needles into these points, acupressure utilizes manual pressure applied by fingers, hands, elbows, or various devices to achieve similar therapeutic effects. Acupressure can be administered to specific acupuncture points using firm digital pressure, wooden massage-sticks, or plastic needle-holders, thereby circumventing the use of dry needle techniques (Scognamillo-Szabó and Bechara, 2010; Rogers, 2012). Applying daily acupressure on specific Diagonal Mirror Points in horse treatment, together with physical therapy aimed at pain sites, enhances, and supplements the clinical results obtained from weekly veterinary acupuncture sessions Rogers (2012).

Adverse Effects of Acupuncture in Veterinary

Acupuncture, especially when carried out by veterinarians with specialized training, has demonstrated its safety, with an exceptionally low incidence of side effects and adverse events White (2004). The risk of unintentional injury to vital organs or vessels is low if practitioners are diligent in identifying anatomical landmarks Robinson (2022). Severe reactions, possibly indicating nerve involvement, necessitate immediate needle withdrawal. It's noteworthy that horses undergoing acupuncture treatment may display adverse reactions, posing risks to both practitioners and handlers. While there is a potential for needle ingestion by patients, there have been no documented cases of associated injuries Robinson (2022). In contrast to human cases reporting adverse reactions like syncope, skin infections, and hepatitis, such incidents appear to be rare in veterinary patients. After a comprehensive analysis of 12 prospective human studies totaling more than a million treatments, the risk of a major adverse event from acupuncture was calculated to be 0.05 times per 10,000 treatments White (2004). This aligns with the NIH Consensus Statement, underscoring acupuncture's advantage in having a substantially lower incidence of adverse effects compared to many drugs or conventional procedures for similar conditions NIHCC (1998).

Conclusion

In conclusion, this comprehensive review sheds light on the evolution, mechanisms, and global applications of acupuncture in veterinary medicine. From its ancient roots in Chinese medicine to its integration into diverse veterinary practices worldwide, acupuncture has proven to be a valuable therapeutic tool for a range of animal species. The emphasis on its role in TCVM and the exploration of its mechanism, rooted in balancing vital energy (qi) along meridians, provide valuable insights. The review underscores acupuncture's versatility in addressing various health concerns in animals, including pain management, neurological disorders, and cancer support. The global acceptance of acupuncture highlights its continued relevance and evolution in veterinary care. The narrative concludes by introducing acupressure as a needle-free alternative, offering a nuanced perspective on holistic veterinary practices. Thanks to this method, many diseases and disorders that cause significant financial and sentimental losses for breeders can be prevented.

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