



A SYSTEMIC REVIEW: THE ASSESSMENT OF THERAPEUTIC ACUPUNCTURE IN ALTERNATIVE MEDICINE

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Abstract:

This review's objective was to evaluate acupuncture's therapeutic benefits in alternative medicine. For tenacious, unspecified low back pain (LBP), acupuncture is used. The productiveness of acupuncture in treating pain is hotly contested. To precisely ascertain its significance in the supervision of chronic pain, further investigation along with discourse is required. Anxiety disorders occur among the most prevalent issues related to mental health. For over 2500 years, acupuncture has been utilized in traditional Chinese medicine (TCM) to treat a wide range of illnesses and physiological issues. Owing to its effectiveness, the World Health Organization suggested acupuncture as a viable alternative treatment for forty-three different illnesses in 1980. A number of meridian system and mechanism ideas have been put up in recent decades to explain the feasible mode of action of acupuncture. However, the majority of these mechanisms are still unable to provide a clear reason for why acupuncture is beneficial in treating a broad range of ailment. Until recently, there was no workable technique. This is the first in a three-part series that attempts to give a review of the aforementioned subjects in comparison. Part 1 goes over the fundamentals of TCM, the basis of the meridian system, and current indications for acupuncture. A theoretically rigorous framework for TCM is offered by proposing the chaotic wave theory of fractal continuum.

KEY WORDS: Alternative Medicine, Acupuncture, Low Back Pain, Chronic Pain, Migraine.

INTRODUCTION

One type of AM is acupuncture, which has its roots in China over 2,000 years ago. Hair-thin needles are inserted within the epidermis at particular places on the body to alleviate pain or tension. In traditional Chinese medicine, acupuncture is described as an approach for harmonizing the flow of life force, or energy, according to the Yin and Yang concept. Over 2,000 acupuncture points linked by twelve meridians or pathways are said to interconnect with

several organs, including the liver, kidneys, and heart, according to acupuncture practitioners [1]. By placing the needles into particular places along these meridians, the energy flow is brought back into balance. Because of our modern lifestyle's imbalanced eating habits, lack of physical activity, and way of living, we face many physical issues. Numerous benefits of acupuncture include its ability to combat inflammation, metabolic diseases, digestive disorders, respiratory disorders, and nervous system disorders. Furthermore, neurochemistry is regulated by the release of hormones and neurotransmitters, which affects cognitive and sensory processes [2].

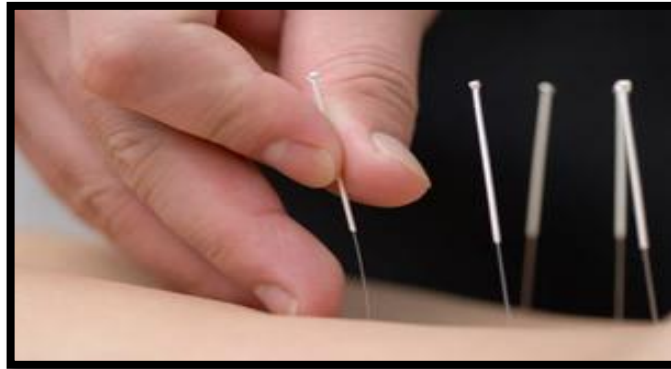


Fig 1: Acupuncture

WHAT DOES ACUPUNCTURE FEEL LIKE?

Hair-thin needles are used in acupuncture treatments. Most people say that the needle insertion causes them only a little discomfort. The point at which the needle is inserted causes an ache or pressure feeling. Needles may be heated or come into contact with a small quantity of electric current throughout the treatment. Acupuncture is said by some to provide increased energy. Some say they feel comfortable. [3]

During treatment, pain may result from incorrect needle insertion. Sterilization of needles is necessary to avoid infection.

Other forms of stimulation, such as the following, are occasionally applied over the acupuncture points in place of needles: [4]

- Moxibustion (heat)
- Acupressure (pressure)
- Friction
- Suction (cupping)
- Electromagnetic energy pulses

CAN ACUPUNCTURE AFFECT THE HUMAN BODY?

Acupuncture locations are believed to stimulate the central nervous system. This causes chemicals to be released into the muscles, spinal cord, and brain. These changes in metabolism have the potential to improve both mental and physical health by stimulating the body's natural healing process. According to research from the Using acupuncture, according to the National Institutes of Health (NIH), can treat the following conditions either on its own or in conjunction with traditional therapies: [5–6]

- Breast cancer chemotherapy and surgical
- Anesthesia-induced nausea
- Headaches
- Myofascial discomfort
- Osteoarthritis
- Low back pain
- Headaches
- Menstrual cramps
- Asthma

DURING THE PROCEDURE

Everywhere on the body are acupuncture sites. The right points aren't always close to where you're hurting. The desired treatment's general location and however or not you require to take off any clothing will be disclosed to you by your acupuncture practitioner. There will be a sheet, towel, or gown available. This entails you lying on a padded surface for the therapy. [7]

- ✚ **Inserting the needle.** Acupuncture needles are strategically placed throughout your body at different depths. Because the needles are so small, there is typically minimal discomfort during insertion. Many times, people don't even feel like they're implanted. 5 to 20 needles are usually used during a therapy. The needle may provide a slight aching feeling when it gets to the right depth.
- ✚ **Manipulation using needles.** After the needles are inserted, your practitioner may gently rotate or reposition them, and they may deliver heat or brief electrical pulses.
- ✚ **Removal of needles.** The pricks are usually not removed in place for ten to fifteen minutes meanwhile you lie still and unwind. The process of getting rid of the needles normally causes no pain.

MECHANISMS OF ACTION

Numerous neural routes as well as endogenous opioids (neuromodulator, enkephalin, and dynorphins), among other chemical neurotransmitters and neurohormones, have been demonstrated to be stimulated by acupuncture. One mechanism by itself is insufficient to explain its actions. [8–10] For instance, different receptor locations and processes modulate the consequence of acupuncture on pain. Acupuncture activates the nerve system's afferent fibers, which, depending on the stimulus, activates various pain inhibitory systems. Additionally, it triggers the release of descending inhibition-based endogenous opioids from the spinal cord and supraspinal fluid that reduce pain pathways. [11–13]

APPLICATION OF ACUPUNCTURE

The least intrusive practice of acupuncture has its roots in Chinese traditional medicine (TCM). Not as much as it is in Western medicine, pain is considered a symptom. but rather as an illness in and of itself in TCM. A diagnosis is made following a comprehensive examination of the patient using both objective and subjective data.

As part of the holistic approach, a thorough medical history must be taken, and patients must be questioned about their social, emotional, and physical health. After evaluating the patient's tongue and pulse, the medical professional diagnoses the condition. Usually, this first thorough history and physical examination take an hour or so. [14]

The body is said to be traversed by channels known as collaterals and meridians in TCM. These channels facilitate the movement of qi, also known as "life energy," or "chi," from the body's numerous organs to its exterior. They also support the equilibrium of yin and yang, the two opposing energies believed to keep the body in a balanced state.

In terms of Western medicine, the sympathetic and parasympathetic nerve systems can be compared to the yin and yang because they affect the human body in ways that are contrary but complementary. TCM practitioners are able to manipulate the organs or identify internal problems by palpating or inserting needles into various meridians to access the qi of the organs. [15]

SAFETY OF ACUPUNCTURE

When administered by licensed professionals, acupuncture is a safe therapeutic alternative with minimal risk of complications and a low rate of infection [16–18]. Extensive research has demonstrated that serious adverse events necessitating hospitalization are exceedingly uncommon, with over 3 million treatments administered by licensed clinicians ending in no deaths [16–18].

- Nonetheless, in certain circumstances, safety measures are required:
- During pregnancy: acupuncture may trigger contractions that lead to labor. [19]

- Malignant tumors: needles should never be inserted into the tumor site, and acupuncture should never be utilized to treat a malignant tumor. [20]
- Bleeding disorders: Before undergoing acupuncture therapy, patients using medication to thin blood or those suffering from hemorrhaging should consult their physician.
- Acupuncture needles can very rarely pierce the lungs. [21]

THERAPEUTIC EFFECT OF ACUPUNCTURE IN VARIOUS DISEASES

1. Anxiety Disorder:

One of the most prevalent issues with mental health is anxiety disorders. These illnesses are often linked to complications and disability, making them a serious public health concern. Early detection of anxiety in children has been found in the 5–9 age range. It lasts until the 55–59 age range, at which point depression is the most prevalent mental health issue. Anxiety caused by substance misuse, anxiety related to a medical condition, phobias, panic attack disorder, interpersonal anxiety disorder, separation anxiety disorder, and generalized anxious disorder are among the conditions that fall under the umbrella term "anxiety disorders." [22]

2. Low Back Pain

The use of acupuncture, an alternative medicine practice that has its roots dating again in excess of 3,000 years in China, to treat pain is growing. There are several variations of acupuncture, such as cupping, Moxibustion, and needling [23].

Needling is the process of putting needles—usually 32–36 gauges—into predetermined body acupuncture sites. Stainless steel, bronze, iron, gold, silver, or ceramic can all be used to make needles. An electrical flow is passed with the pricks during electroacupuncture. In laser acupuncture, typical acupuncture sites are exposed to non-thermal laser irradiation. Moxibustion involves burning the practice above the skin at pressure points. Finally, cupping is a technique that uses bamboo, also known as glass, or ceramic cups to generate a vacuum over the acupuncture sites. [24]



Fig 2: Acupuncture in Low Back Pain

3. Pregnancy

Additionally, acupuncture may be helpful in treating low back pain associated with pregnancy. It is estimated that allying 30 to 70% of pregnant women experience low back discomfort [25]. Pregnancy-related back discomfort might result from a mix of mechanical, hormonal, and motor changes. Low back discomfort is a result of increased tension on the lumbar spine caused by an expanding uterus carrying a growing fetus. The uterus's growth results in considerable abdominal muscle stretching, which weakens and impairs the lumbopelvic muscles' coordination and strength, especially the gluteus medius. Lastly, it is believed that relaxin, a hormone secreted by the placenta, reduces joint strength and causes low back pain [26].



Fig 3: Acupuncture in Pregnancy

4. Migraines

An effective treatment for migraines is acupuncture. When it came to reducing migraines, Acupuncture proved to be more efficacious than fake needles, and even a little benefit persisted for a full year following treatment [27]. Ear acupuncture reduced the number of migraine attacks per month in 37.5% of the 20 women in the study who had chronic migraines [28]. Treating migraines with acupuncture might be more successful when paired with tuina treatment, a type of therapeutic massage. Patients in the trial used fewer analgesics when tuina and acupuncture were combined [29]. Although the precise mechanism of action of acupuncture is uncertain, it seems to be helpful in reducing migraines.



Fig 4: Acupuncture in Migraine

5. Chronic Pain

Individuals who suffer from chronic pain undergo mental and physical anguish, which influences their way of life and conduct. Accordingly, pain is defined as an emotional and sensory experience linked to or explained in terms of actual tissue damage [30]. Chronic, or neuropathic, pain is characterized by the loss of its unique signal function as well as the complexity of physical, mental, and psychosocial patterns, all of which can significantly affect how severe the pain is experienced [31]. Co-morbidities like loneliness, melancholy, anxiety, and sleep disturbances can result from pain. A minimally invasive method derived from traditional Chinese medicine (TCM) is acupuncture. In Traditional Chinese Medicine (TCM), pain is viewed as a sickness within itself rather than as a symptom, as is the case in Western medicine. After the patient has undergone a thorough examination, a diagnosis is made utilizing both objective and subjective data. There are 361 acupuncture sites distributed over the dorsal and ventral portions of the trunk, arms and legs, face, head, and neck. These points trace the routes taken by the organs along the body's surface in accordance with their respective meridians [32].

6. Rheumatoid Arthritis

In rheumatoid arthritis, acupuncture had little effect on inflammatory markers and has no effect on myalgia, disease activity, or drug use. According to recent studies, acupuncture may be helpful in treating specific RA (rheumatoid arthritis) instances. A study conducted among 1974 to 2018 and released in Evidence-driven Alternative and

Complementary Medicine states that "needle therapy either by itself or in conjunction with various forms of therapy is beneficial to the clinical manifestations of RA and can improve functionality and standard of life, and is worth trying. The review lists a number of potential mechanisms by which acupuncture may alleviate RA, including immune system control, anti-oxidative and anti-inflammatory effects. [33]

7. Osteoarthritis

Eighty percent of people 65 years of age or older have osteoarthritis, the most prevalent kind of arthritis. It is the eighth most frequent cause of disability globally, as well as the most common joint to be linked to disability is the knee. Stepping up and down stairs, walking a mile, and housework are the activities for which knee osteoarthritis accounts even after adjusting for more instances of disability than any other health problem for age, sex, and co morbidities.[34]



Fig 5: Acupuncture in Osteoarthritis

8. Postoperative Nausea and Vomiting (PONV)

In general, Vomiting and Nausea Post Surgery are thought to be well treated with acupuncture as an antiemetic. This effect has been shown to be located on the wrist at the P6 acupoint. While some trials have demonstrated efficacy for Vomiting and feeling sick brought on by chemotherapy, the antiemetic impact is thought to be less beneficial in these cases. This therapy approach has comparatively low risks, making it a viable alternative for treating a variety of refractory and incapacitating medical diseases.

While acupuncture has been widely used to treat sickness and vomiting brought on through chemotherapy in addition to pain management in cancer patients, the effectiveness of this treatment is questionable and the quality of the research that have been conducted is low. [35]

9. Stroke

Several systematic evaluations have looked at acupuncture's productiveness in different facets of stroke recovery; however, the findings of these reviews are inconclusive, and the quality of the initial clinical trials was sometimes uneven. [36]

Sleeplessness with a stroke a 2016 meta-analysis intended to summarize and estimate the information about how well acupuncture works to treat insomnia following a stroke. It included 13 RCTs, two of which were completed in Korea and eleven of which were completed in China. (98) The review's findings suggest that acupuncture could be a more effective therapy for post-stroke insomnia than medication, and that intradermal acupuncture may have a greater impact on insomnia following a stroke than sham treatment. [37]

10. Gastrointestinal disorders

According to research, acupuncture may be Capable of managing functional gastrointestinal diseases such as diarrhea, constipation, and pain or discomfort in the abdomen. The effects of acupuncture on the motion of the gastrointestinal obstacle, visceral sensitiveness, and the brain-gut axis may contribute to these illnesses. [38]

Constipation: According to a 2013 meta-analysis, acupuncture is safe and may improve the standard of life, every week spontaneously bowel motions, and other symptoms of constipation in people with chronic functional constipation. Even if the included studies procedure quality received a good rating, these findings need to be validated in other demographic groups due to the limited sample sizes of the 15 RCTs (n = 1256 individuals) that were conducted in China. [39]

Imitable Bowel Syndrome (IBS)-

A 2006 Cochrane study came to the conclusion that there wasn't enough data to say whether acupuncture was a successful treatment for IBS. On the other hand, more clinical studies were included given the more definitive results drawn in the year 2012 upgrade of the Cochrane analysis from 2006. A Cochrane meta-analysis from 2012 that included 17 RCTs (n = 1806 individuals) revealed that no effects of acupuncture were observed for IBS symptom severity or IBS-related quality of life in sham-controlled RCTs (5 RCTs, n = 411 people). The authors claim that these RCTs had outstanding procedure quality and were well-designed. Acupuncture was found to be more effective than two antispasmodic medications (trimebutine maleate and pinaverium bromide) in four Chinese language comparative efficacy trials. Despite the fact that neither medication is approved for In Australia, both antispasmodics had a very small beneficial effect on the therapy of irritable bowel syndrome. 2019 saw the publication of the most recent meta-analysis, which comprised 41 RCTs with 3440 individuals. Additionally, it showed that there was no appreciable difference between the benefits of real and fake acupuncture on IBS symptoms and quality of life. [40]

CONTRAINDICATIONS

Some patients cannot endure acupuncture because they are unable to remain in an appropriate position throughout treatment, or they have a needle anxiety. Additionally inappropriate are individuals who are exceedingly weak or septic, or who are uncooperative due to paranoia, hallucinations, or delusions. Certain local remedies may not be effective in cases of local illness such cellulites or skin integrity loss from burns or ulcerations. Electroacupuncture is not recommended for use near an implanted electrical device, such as a medicine pump or pacemaker, or over the heart or brain. Patients with serious bleeding disorders, such as hemophiliacs, should not receive acupuncture treatment. [41]

Risk factors for acupuncture complications

Gushing blood

Advanced liver illness may impair the synthesis of clotting factors, and hemophilia might impact clotting factors. Individuals using blood thinners may experience prolonged bleeding.

Infection

Individuals with immune system deficiencies or HIV infection are more vulnerable to opportunistic infections. Diabetes patients have a lower propensity to heal wounds, and neuropathy can impair their senses, increasing their risk of infection that goes unnoticed. Individuals who receive transplants frequently use immuno suppressants, which increase their susceptibility to infections. Steroids taken in excess weaken the immune system. Infection risk is increased by open wounds.

Losing consciousness

Patients with hypoglycemia, anxiety, or extreme exhaustion may pass out. [42]

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