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REVIEW ARTICLE

A Review on Acupuncture

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ABSTRACT

The acupuncture has been practiced in China for more than 3000 years and was spread to Europe and American from the sixteenth to the nineteenth century. The history of acupuncture research was initiated in the eighteenth century and developed rapidly since then. In the past, physicians tried hard to apply acupuncture into clinical practice, while scientists were focused on the possible characteristics of acupoints and meridians. In the modern time, scientists have strived hard to evaluate the real effectiveness of acupuncture and the underlying physiological and biological mechanisms of acupuncture. Reviewing research history from past to present, we are delighted to witness this wonderful development. Accumulated evidences that acupuncture is beneficial in various conditions significantly enhanced our understanding the mechanisms of acupuncture treatment. However, there is still no conclusive evidence in acupuncture clinical studies. The clinical research still needs great improving, while the basic research results need to be appropriately transformed into clinical outcomes. Based on current achievements, we believe that although the challenges and difficulties exist, a more collaborative, innovative, and integrated approach will help us to achieve further progress in future acupuncture research.

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1. Introduction

Acupuncture is a form of alternative medicine in which thin needles are inserted into the body. It is a key component of traditional Chinese medicine (TCM). The method used in TCM is likely the most widespread in the US [1]. It is most often used for pain relief, though it is also used for a wide range of other conditions. Acupuncture is generally used only in combination with other forms of treatment. Acupuncture is generally safe when done by an appropriately trained practitioner using clean needle technique and single-use needles when properly delivered, it has a low rate of mostly minor adverse effects. Accidents and infections are associated with infractions of sterile technique or neglect of the practitioner. The most frequently reported adverse events were pneumo thorax and infections. Since serious adverse events continue to be reported, it is recommended that acupuncturists be trained sufficiently to reduce the risk [2]. Acupuncture is a form of alternative medicine. It is commonly used for pain relief though it is also used to treat a wide range of conditions. The majority of people who seek out acupuncture do so for musculoskeletal problems, including low back pain, shoulder stiffness, and knee pain. American Society of Anesthesiologists states it may be considered in the treatment for nonspecific, non-inflammatory low back pain only in conjunction with conventional therapy[3]. Acupuncture is the insertion of thin needles into the skin. According to the Mayo Foundation for Medical Education and Research (Mayo Clinic), a typical session entails lying still while approximately five to twenty needles are inserted; for the majority of cases, the needles will be left in place for ten to twenty minutes. It can be associated with the application of heat, pressure, or laser light [4].

2. The origin and History of Acupuncture

Acupuncture is believed to have originated around 100 BC in China. Acupuncture spread first to Korea in the 6th century AD, then to Japan through medical missionaries, and then to Europe, starting with France. In the 20th century, as it spread to the United States and Western countries, the spiritual elements of acupuncture that conflict with Western beliefs were abandoned in favor of tapping needles into nerves. The oldest known book on Chinese medicine is the "Neiching", also known as "The Yellow Emperor's classic of internal medicine". It is written in the form of a dialogue between the Yellow Emperor "Huang Ti" and "Chi Po" a Taoist teacher and physician. It is believed that the Yellow Emperor lived around 2700 B.C. The book indicates that acupuncture was widely practiced in China much before the time it was written. During archaeological excavations in China, various types of gold and silver acupuncture needles were found in the tomb of Prince Liu Sheng who died around 200 B.C. This confirms that these different types of needles were in use over two thousand years ago. Acupuncture originated in the cold north-west parts of China where herbs and other medical remedies were scarce. Acupuncture spread from there to other parts of the world through travelling physicians, scholars and pilgrims. One of these was a famous Chinese physician called PienChueh who lived around 400 B.C.

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3. Acupuncture Methods

In addition to the traditional acupuncture needle therapy, the following is a list and short description of additional methods that may be used during the acupuncture treatment: Tuina ("twee-nah"). A type of deep-tissue massage used to release muscle tension and heal injuries such as sprains and strains. Most treatments end with a tuina massage to the neck and shoulder area. Everyone seems to love this part of the treatment. It is a nice way to end the session. GuaSha ("gwa-shah"). This is another method utilized to release muscle tension due to tightness. It works especially well on neck and shoulder pain. A special spoon is used to rub over a problem area to help relax the muscles. It stimulates the flow of blood and qi to the area, thereby promoting healing.

Cupping:

A technique used for muscle tension, neck and shoulder pain, low back pain, and upper respiratory infections. As with guasha, it too stimulates the flow of blood and qi to the area to facilitate healing. A vacuum is created in small glass cups which are then placed over specific areas of the body.



Figure 1: Cupping

Moxibustion:

This is a very soothing treatment that uses a product called moxa, derived from an herb called mugwort. The moxa is held over the affected area to speed the healing process. The moxa warms the affected area, stimulates circulation of blood and qi (energy), dissipates cold and dampness and can even turn a breech baby when held over the appropriate area.



Figure 2: Moxibustion

Electro acupuncture:

Electro acupuncture is a form of acupuncture where a small electric current is passed between pairs of acupuncture needles. According to some acupuncturists, this practice

augments the use of regular acupuncture, can restore health and well-being, and is particularly good for treating pain. There is evidence for some efficacy (when used in addition to anti-emetics) in treating moderate post-chemotherapy vomiting, but not for acute vomiting or delayed nausea severity.

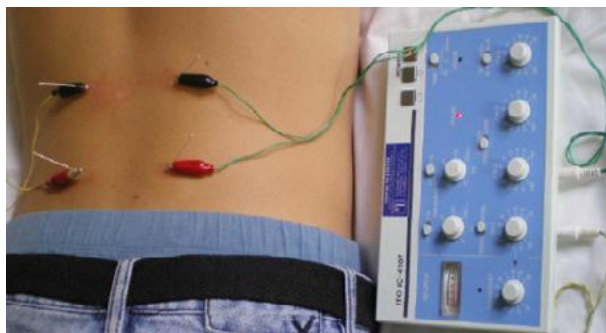


Figure 3: Electro acupuncture

Ear Acupuncture:

The ear has about 300 points that correspond to every part of our bodies. Some practitioners do strictly ear acupuncture to treat all health problems. It is common to use ear acupuncture for any addictions – food, nicotine and alcohol.



Figure 4: Ear acupuncture

Acupressure

Acupressure does not involve the insertion of needles, instead the Physiotherapist places pressure over acupuncture or trigger points in order to relieve muscle tightness or to stimulate Qi flow and balance the body. The amount of pressure used varies according to the condition and requires trained, sensitive hands. It is often used with sensitive patients, patients with a needlephobia.



Figure 5: Acupressure

4. Mechanism Action of Acupuncture

Several processes have been proposed to explain acupuncture's effects, primarily those on pain. Acupuncture points are believed to stimulate the central nervous system (the brain and spinal cord) to release chemicals into the muscles, spinal cord, and brain. These chemicals either change the experience of pain or release other chemicals, such as hormones, that influence the body's self-regulating systems. The biochemical changes may stimulate the body's natural healing abilities and promote physical and emotional well-being. There are three main mechanisms:

Conduction of electromagnetic signals:

Western scientists have found evidence that acupuncture points are strategic conductors of electromagnetic signals. Stimulating points along these pathways through acupuncture enables electromagnetic signals to be relayed at a greater rate than under normal conditions. These signals may start the flow of pain-killing biochemicals, such as endorphins, and of immune system cells to specific sites in the body that are injured or vulnerable to disease.

Activation of opioid systems:

Research has found that several types of opioids may be released into the central nervous system during acupuncture treatment, thereby reducing pain.

Changes in brain chemistry:

Sensation and involuntary body functions: Studies have shown that acupuncture may alter brain chemistry by changing the release of neurotransmitters and neurohormones. Acupuncture also has been documented to affect the parts of the central nervous system related to sensation and involuntary body functions, such as immune reactions and processes whereby a person's blood pressure, blood flow, and body temperature are regulated. Preclinical studies have documented acupuncture's effects, but they have not been able to fully explain how acupuncture works within the framework of the Western system of m.

5. Diagnosis

The Four Examinations

Looking Diagnosis:

The acupuncturist first observes the patient, examining their gait, muscle tone, how they move, their skin tone and color, facial expression, emotional expression, behavior and mannerisms. She examines the tongue for color, markings and coating, noting the corresponding organ systems that are affected. The tongue changes slowly over time and reveals the hidden substances and processes of the body.

Listening Diagnosis:

The acupuncturist will listen to the patient's symptoms, medical history, and family health history just as other doctors do. But she will also listen to the sound of the patient's voice and try to hear the underlying sound as it corresponds to the five major yin organs—is it a weeping sound, a singing sound, a groan, a shout sound. She will also listen to the strength of the voice, its loudness and clarity, and for the moment when the underlying emotion related to the imbalance is revealed.

Smelling and Tasting Diagnosis:

Your acupuncturist will ask you about your body odors and any tastes you may experience. These can be clues to

imbalances in the body. In addition, every person has a distinct body odor that corresponds to one of the five basic constitutional diagnoses, much as the sound of the voice as described above.

Touching Diagnosis (Feeling the Pulse):

Feeling and understanding the pulses is an art that is mastered over a lifetime. Your acupuncturist is feeling for the rate, rhythm, strength and presence of six pulses on each wrist. But she is also feeling for a particular pulse quality. Ancient Chinese medical texts identify 28 major pulse qualities, and there are hundreds to be found in different acupuncture textbooks. These pulse qualities reveal the hidden world of the body. The pulses change very quickly as opposed to the tongue and therefore give more of an immediate indication of the effect of the treatment.

Symptoms of Acupuncture

- Worse symptoms
- Fatigue
- Soreness
- Bruising
- Muscle twitching
- Lightheadedness
- Emotional release

6. Treatment

The word "Acupuncture" is derived from two Latin words "acus" which means 'needle' and "punctura" which means 'to penetrate'. The word "acupuncture" therefore means, "to penetrate with a needle". In acupuncture very thin needles, slightly thicker than a human hair, are inserted into acupuncture points. Acupuncture aims to relieve symptoms by curing the disease. It is possible for an acupuncturist to treat the symptoms of various diseases very effectively. The acupuncturist should treat the fundamental cause of the illness and as the cure progresses the symptoms disappear on their own. Early acupuncture needles were made from bamboo and bone and as they were rather thick, their insertion was painful. In spite of there being no knowledge of sterilization before the 19th century, it is surprising to note that infection rarely occurred with acupuncture. With the advent of the Iron Age and the Bronze Age the next type of needles to be developed were metal needles. As the art of metallurgy progressed, different types of needles were made. Early needles were made from iron, copper, bronze, silver and gold. Scalpel like needle were used for cutting open boils and abscesses. Larger and heavier needles were available for insertion into joints and when the acupuncture points lay deep below the skin, longer needles were used. Needles made from silver and gold are expensive and so are often resharpened, straightened and reused. Unfortunately, the process of sharpening needles is laborious and time consuming and it is rarely possible to get as sharp a point on these needles as on a stainless steel needle. Patients will see that the acupuncturist uses different techniques of insertion of needles and different methods of stimulation of the needles at different stages in the treatment. The patient will also find that the acupuncturist may insert needles in different acupuncture points each time. This is because an acupuncture point used

too often loses its sensitivity and is not as effective as it was earlier. When a patient is treated every day, he is given a course of eight to ten treatments. He is then given a break for a week to allow the acupuncture points to regain their sensitivity. If a patient requires continuous treatment, the acupuncture points used are rotated to allow the points that have been used to regain their sensitivity. If a patient is treated on alternate days or once or twice a week, there is no need for a break between treatments. Most patients have multiple problems that are interrelated. Acupuncture treats the whole person and all his ailments are attended to. Even though there are numerous instances of quick and near miraculous cures, some ailments do respond slower than others. There are many methods used in acupuncture. The needles may be inserted for a few seconds and taken out immediately. They may be inserted, manipulated for a minute or two and removed or they may be left in for fifteen to thirty minutes without any stimulation. The needles may be inserted and stimulated periodically by hand or with a small battery operated electrical stimulator, which electrically vibrates the needles each of these methods is used on different patients depending on the diagnosis that the acupuncturist makes. There are many other methods of stimulating acupuncture points. These include electrical stimulation, where electric conducting pads are placed over the skin and a low frequency electric current is passed through it. Acupuncture points may also be stimulated with pressure, lasers, and ultrasound or with audible sound.

7. Risk Factors

The risks of acupuncture are low if you have a competent, certified acupuncture practitioner. Possible side effects and complications include,

Soreness: After acupuncture, you might have soreness, minor bleeding or bruising at the needle sites

Organ injury: If the needles are pushed in too deeply, they could puncture an internal organ — particularly a lung. This is an extremely rare complication in the hands of an experienced practitioner.

Infections: Licensed acupuncturists are required to use sterile, disposable needles. A reused needle could expose you to diseases, such as hepatitis. Not everyone is a good candidate for acupuncture or for particular types of acupuncture.

Conditions that may increase your risks of complications include:

Bleeding disorders: Your chances of bleeding or bruising from the needles increase if you have a bleeding disorder or if you're taking blood thinners, such as warfarin (Coumadin), so let your acupuncturist know.

Having a pacemaker: Acupuncture that involves applying mild electrical pulses to the needles can interfere with a pacemaker's operation.

Being pregnant: Some types of acupuncture are thought to stimulate labor, which could result in a premature delivery.

Safety Concerns: The acupuncture needles penetrate the skin and are therefore it is an invasive procedure. Consequently there is a risk of complications, especially if not performed by a well-trained licensed practitioner.

- Risk of injury - injuries to vital nerves and structures are rare among patients treated by trained practitioners.
- With an invasive procedure there is a risk of injury and bleeding. This is rare with trained practitioners. To overcome the risk of invasive procedures the Japanese styles of acupuncture use non-inserted needling which involves the needle being brought to the skin and the skin being tapped or stroked along the meridians. Notable examples of these styles are T y hari and the pediatric acupuncture style Sh nishin.
- The laws require that the needles used for acupuncture be sterile, disposable and used only once. There is a risk of passage of infections that can be carried on needles if reused. This includes Hepatitis B and C and HIV infections.
- Other risks include minor adverse events including bleeding, bruising, dizziness, fainting. There may be nausea, paresthesia or altered sensation over the site of application, increased pain etc.
- There is a risk of injury to the unborn fetus and termination of pregnancy with the use of certain acupuncture points during pregnancy. This is a rare adverse event in the hands of a licensed practitioner.
- Another major risk is due to omission of allopathic and traditional care. This may lead to inadequate diagnosis or treatment of conditions. Many acupuncturists and doctors thus prefer to consider acupuncture a complementary therapy rather than an alternative therapy.

Uses or Benefits of Acupuncture

- Helps Reduce Headaches and Migraine
- Helps to reduce Chronic Pain, Including for the Back, Neck, Knee or Arthritis Pain
- Helps Treat Insomnia
- Improves Cancer and Chemotherapy Recovery
- Helps to Prevent Cognitive Decline
- Pregnancy, Labor & Postpartum Health.

Side Effects of Acupuncture

- Mild, short lasting side effects are
- Pain where the needles puncture the skin
- Bleeding or bruising where the needles puncture the skin
- Drowsiness
- Feeling sick
- Feeling dizzy or faint
- Worsening of preexisting symptoms
- Serious complications from treatment such as Infections or damage to tissues or existing rare
- The most common serious injury reported from the needles of acupuncture has been accidental puncture of the lung.
- The most common infection reported from acupuncture treatment is viral hepatitis.
- Other side effects include bacterial infection locally at the site of needle incision in the skin and elsewhere in the body.

- Generally side effects seem to relate poor hygiene and training of the acupuncturist.

8. Contraindications

Some patients do not tolerate acupuncture either because of a needle phobia or the inability to remain in a comfortable position for treatment. Septic or extremely weakened patients, those who are uncooperative because of delusions, hallucinations, or paranoia, are likewise unsuitable. Local infections such as cellulitis or loss of skin integrity from burns or ulcerations may preclude certain local treatments. Electroacupuncture should not be applied over the heart or brain or in the region of an implanted electrical device such as a pacemaker or medication pump. Hemophiliacs and others with severe bleeding disorders should be excluded from acupuncture Treatment.

9. Conclusion

The benefits of acupuncture are sometimes difficult to measure, but many people find it helpful as a means to control a variety of painful conditions. Several studies, however, indicate that some types of simulated acupuncture appear to work just as well as real acupuncture. There's also evidence that acupuncture works best in people who expect it to work. Since acupuncture has few side effects, it may be worth a try if you're having trouble controlling pain with more-conventional methods.

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