

# A Comparative Study On Immediate Effect Of Acupuncture And Acupressure On Headache – A Pilot Study

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## **Abstract:**

**Background:** A headache is pain in the head or upper neck. Most headaches are not indicative of a serious medical problem. Some people have occasional headaches that resolve quickly, while others experience frequent and debilitating pain. You should seek medical attention if your headache is severe. This is a study done to compare the effects of acupressure and acupuncture.

**Materials and methods:** A total of 60 subjects of age group from 18 – 40 years were recruited for the study. Subjects who fulfilled the inclusion criteria were apprised the purpose of the study and their rights as the research subjects. A visual analog scale and headache intensity scale was administered for all the participants. To evaluate the comparative study of immediate effect of acupuncture and acupressure on headache.

**Results:** In visual analog scale and headache intensity scale the results after applying paired t test showed a significant decrease in total scores as well as when compared to both, acupressure got maximum benefits in reducing headache immediately. There was reduction in total scores as well as scores in all clusters of vas scale and head ache intensity scale.

**Conclusion:** The present study noted that by giving acupressure for 20 minutes resulted in decrease in the symptoms of headache immediately when compared to acupuncture. Acupuncture has long term curing effect and its influence on the pain management.

**Keywords:** Acupressure, acupuncture, head ache

## I. INTRODUCTION

Headache, an almost universal human experience, is one of the most common complaints encountered in medicine and neurology. Described and categorized since antiquity, with the first classification by Aretaeus of Cappadocia, other classifications followed. The evaluation of this condition may be straightforward or challenging, and, though often benign, headache may prove to be an ominous symptom. This review discusses the current diagnosis and classification of headache disorders and principles of management, with a focus on migraine, tension-type headache, trigeminal autonomic cephalgias, and various types of daily headache [1]. Lifelong

prevalence of headache is 96%, with a female predominance. The global active prevalence of tension-type headache is approximately 40% and migraine 10%. Migraine occurs most commonly between the ages of 25 and 55 years and is 3 times more common in females. Despite the fact that it causes significant disability, migraine remains under diagnosed and undertreated [2]. Chronic daily headache, daily or near-daily headache for months to years, is widely reported in the literature, yet is not an official diagnosis in the International Classification of Headache Disorders. Chronic daily headaches of long duration include chronic migraine, chronic tension-type headache, hemicrania continua, and new daily persistent headache [3].

Acupuncture is a form of alternative medicine [4]. It is used most commonly for pain relief [5], 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 [6]. Acupuncture is generally only used in combination with other forms of treatment [7]. For example, American Society of Anesthesiologists states it may be considered in the treatment for non-inflammatory low back pain only in conjunction with conventional therapy [8]. Specific, non-acupuncture is the insertion of thin needles into the skin [9]. 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 [10]. It can be associated with the application of heat, pressure, or laser light. Classically, acupuncture is individualized and based on philosophy and intuition, and not on scientific research [11]. There is also a non-invasive therapy developed in early 20th century Japan using an elaborate set of "needles" for the treatment of children (shōnishin or shōnihari) [12]. Acupuncture is a substantial part of traditional Chinese medicine (TCM). Early acupuncture beliefs relied on concepts that are common in TCM, such as a life force energy called qi [13] Qi was believed to flow from the body's primary organs (zang-fu organs) to the "superficial" body tissues of the skin, muscles, tendons, bones, and joints, through channels called meridians [14]. Acupuncture points where needles are inserted are mainly (but not always) found at locations along the meridians [15]. Acupuncture points not found along a meridian are called extraordinary points and those with no designated site are called "A-shi" points.

In TCM, disease is generally perceived as a disharmony or imbalance in energies such as yin, yang, qi, xuē, zàng-fū, meridians, and of the interaction between the body and the environment [14]. Therapy is based on which "pattern of disharmony" can be identified [16]. For example, some diseases are believed to be caused by meridians being invaded with an excess of wind, cold, and damp [17]. In order to determine which pattern is at hand, practitioners examine things like the color and shape of the tongue, the relative strength of pulse-points, the smell of the breath, the quality of breathing, or the sound of the voice [18]. TCM and its concept of disease does not strongly differentiate between the cause and effect of symptom [19].

Acupressure is a complementary treatment that uses fingers and hands to stimulate acupoints and maintains the balance of energy. The objective of this study was to review the application of acupressure in managing different pains and the effectiveness of acupressure on relieving pain in various settings [20].

Acupressure involves stimulation of meridians on the body using finger pressing movements. Several randomized trials have been conducted with acupressure, some of which have used sham treatment arms to provide a more comparable placebo arm.

Acupressure is very similar to trigger pointing, where direct pressure is applied. In this technique the pressure is applied to the points on the acupuncture meridian lines with

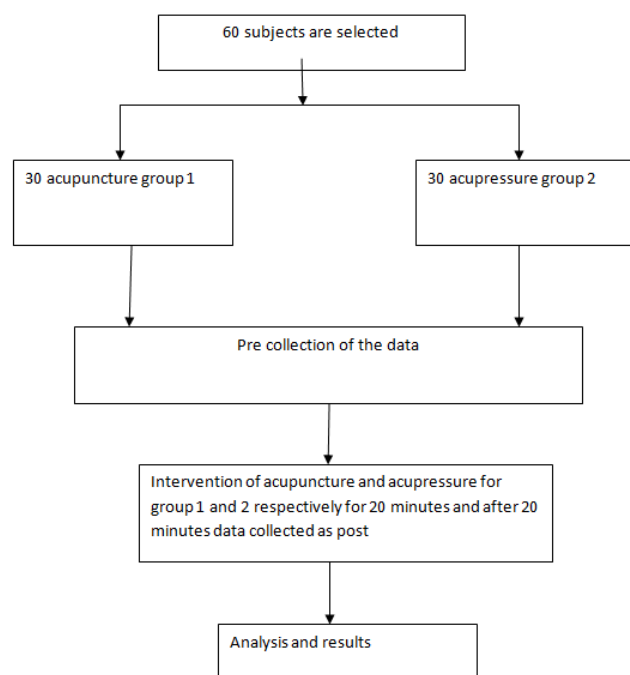
the aim of producing effects on the tissue without using needles [21].

## II. METHODOLOGY

Source of subjects: A total of 60 healthy subjects from SDM College of naturopathy and yogic sciences ujire and SDM yoga and nature cure hospital. Having an age ranging between 18-40 years, both the genders having headache without any co morbidities are included and subjects with psychological illness, any co morbidities and with an addiction were excluded. Subjects who fulfilled the inclusion criteria were appraised the purpose of the study and their rights as the research subjects. The consent from the subjects and ethical clearance from the institution obtained.

Grouping: The sample size for this trial has been estimated as 60 participants with 30 participants in each of the two groups: Group-I (n=30) recruited to acupuncture and Group- 2 (n=30) recruited to acupressure.

### ILLUSTRATION OF STUDY PLAN



Assessment: Headache intensity scale and VAS scale and Acupuncture/Acupressure given in the selected specific points like GV20, Ex7, LI4, GB34, ST36, LI10

Intervention: Acupuncture needles measuring 1cun was used. Needling is done on an empty stomach in the lying position in order to prevent vasovagal attack. Then the selected specific acupoints were sterilized using spirit. Needles are pricked at an angle of 90 degree and 45 degree to the skin surface. After needling manual stimulation is given for 5 minutes during the treatment. Then the needles are left for 20-30 minutes. Later needles are withdrawn by reducing method with dry cotton swab and are disposed.

Location of acupoints:

- ✓ GV20: on the scalp in the midline 7 t-sun above the posterior hair line, 5 t-sun behind the anterior hair line, midway on a line connecting the apex of both the auricles.
- ✓ Ex3: midpoint of the eyebrow, in the line of the pupil.
- ✓ GB20: At the apex of the posterior triangle of the neck, in the hollow directly below and between the external occipital protuberance and the mastoid process. It lies between the insertions of the trapezius and sternocleidomastoid muscles.
- ✓ LI10: 2 t-sun distal to quchi (quchi-semiflex the elbow and take the lateral end of the elbow crease.
- ✓ Ex1: on the centre of the glabella, midway between the medial ends of the two eyebrows.

### III. RESULT

The PAIRED T-TEST was done using the SPSS version 20.0 by NORMALITY AND MANN – WHITNEY U TEST. In HEAD ACHE INTENSITY SCALE AND VAS SCALE the results after applying paired t test showed that there is a significant decrease in total quality of life scores in post compared to pre in the intervention group with %, (p=0.000).

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	VAS_PRE - VAS_POST	4.733	1.081	.197	4.330	5.137	23.991	29	.000
Pair 2	HIS_PRE - HIS_POST	7.533	3.104	.567	6.374	8.693	13.292	29	.000

Values are Mean ± Standard Deviation (n=60)

Table 1: Paired Samples Test on Acupressure treatment

From the above table 1, we observe that the pre and post-measurement of the variable is under consideration are significant at the 5 percent level of significance as p.value is less than 0.05. We conclude that treatment is effective

		Paired Differences				t	df	Sig. (2-tailed)	
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Table 2: Paired Sample test on Acupuncture treatment

From the above table 2, we observe that the pre and post-measurement of the variable is under consideration are significant at the 5 percent level of significance as P value is less than 0.05. We conclude that treatment is effective

### IV. DISCUSSION

This study demonstrated that acupressure is more efficacious than the muscle relaxant Dorsiflex combined with analgesics in reducing chronic headache. The better treatment effects of acupressure are attributed to a four-step treatment process: 1. using trigger points to locate the etiological causes of illness; 2. treating damaged or injured tissue; 3. dredging focal lesions by necessary pressure; and 4. helping the holistic healing processes. Headache is better treated when the etiological cause is found and removed. The finding of

etiological causes by trigger points is a crucial step leading to a successful treatment [22].

According to the principles of traditional Chinese medicine traditional Chinese medicine, the body has invisible lines of energy flow called meridians. There are thought to be at least 14 meridians connecting our organs with other parts of the body. Acupuncture and acupressure points lie on those meridians [23].

If the flow of energy (also called "chi" or "qi") is blocked at any point on a meridian, it's thought to cause various symptoms and health conditions anywhere along the meridian. That's why a practitioner may apply pressure to an acupressure point on the foot to relieve a headache [24].

There is no consensus on how acupressure might work. Some theorize that the pressure may promote the release of natural pain-relieving chemicals in the body, called endorphins. Another theory is that the pressure may somehow influence the autonomic nervous system [25].

The tenderness of pericranial myofascial tissues and number of myofascial trigger points are considerably increased in patients with tension-type headache (TTH). Mechanisms responsible for the increased myofascial pain sensitivity have been studied extensively. Peripheral activation or sensitization of myofascial nociceptors could play a role in causing increased pain sensitivity, but firm evidence for a peripheral abnormality still is lacking. Peripheral mechanisms are most likely of major importance in episodic TTH. Sensitization of pain pathways in the central nervous system due to prolonged nociceptive stimuli from pericranial myofascial tissues seem to be responsible for the conversion of episodic to chronic TTH [26].

Sustained acupressure can be used for continuous stimulation, as a safer alternative to indwelling needles, discussed below. The traditional method involved taping seeds of Vaccaria to auricular points. Presumably these seeds were chosen because they were an appropriate size. Although acupuncture is effective in the treatment of many clinical conditions, its specificity remains a crucial area in acupuncture research, where many questions remain unanswered. Acupuncture was an acceptable and safe treatment, although we found no consistent evidence of benefit from acupuncture.

Acupuncture and acupressure use the same points, while acupressure uses the gentle but firm pressure of hands or any blunted objects, but acupuncture employs needles, Acupressure has been practiced as a healing art for at least 5,000 years. This complete health system has been documented for use in treating over 3000 conditions. Now acupoints are commonly treated utilizing transcutaneous electric nerve stimulation (aka TENS) and laser light from laser or LED diodes in specific wavelengths shown to have rapid and lasting effects. There are also great advantages to using acupressure as a way to balance the body and maintain good health. The healing touch of acupressure reduces tension, increases circulation, and enables the body to relax deeply. By relieving stress, acupressure strengthens resistance to disease and promotes wellness.

Limitation: Short duration of the study and small sample size.

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