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## Clinical study of lumbago (Wajah-uz-zahr) and its management with wet cupping (Hijama-bil-shurth)

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### Abstract

**Background and Introduction:** Waja uz zahr (Alam fi safiluz zahr, Waja ul Khasirah) or Low back pain (LBP), also known as lumbago, is a common condition affecting the muscles, nerves, and bones of the back, located between the lower edge of the ribcage and the lower fold of the buttocks. Pain can range from a faint aching to a strong stabbing sensation. Low back pain can be classified as acute (lasting less than 6 weeks), sub-chronic (6 to 12 weeks), or chronic (lasting more than 12 weeks). Depending on the underlying cause, the condition can be characterized as mechanical, non-mechanical, or referred pain. Though lumbago is not a specific disease in modern medicine rather, it is a symptom that might develop as a result of pathology caused by a range of conditions. Discomfort in the lumbosacral area is a common symptom of low back pain. It affects between 60-85 percent of the population, putting a significant strain on society. But in UNANI MEDICINE many physicians and scholars considered it as disease and at the same time symptom for many diseases. In the Unani school of medicine have specified numerous medications and regimens for the treatment of Waja'uz zahr (LOWBACK PAIN) in their classical books. So, with this in mind, the Hijama -Bil- Shurt regimen was chosen. The purpose of this study was to determine the effectiveness of Hijama- bil- shurt in the treatment of Waja'uz zahr (LUMBAGO).

**Materials and Methods:** From September 2020 to July 2022, the study was done as an open labeled single Arm clinical trial with a total of 20 individuals suffering from low back pain. Patients were administered for Hijama -bil- shurt (wet cupping), In total, four (4) sittings were completed in 28 days. Base line day (0 Day) and before the treatment and after the treatment (21<sup>st</sup> day) the patients were examined using the Visual Analog Scale (VAS) and the Oswestry Disability Index (ODI). Outcomes were compared and statistically examined.

**Results:** After intervention, highly significant ( $p < 0.001$ ) reduction was observed in VAS scale ( $8.2 \pm 1.794$  to  $1.65 \pm 1.34$ ) as well as ODI score ( $25.0 \pm 6.223$  to  $6.0 \pm 1.7199$ ).

**Interpretation and Conclusion:** This study reveals that *Hijama bil shurt* found significant in the treatment of Lumbago, *Hijama- bil- shurt (Wet Cupping)* appears to be effective in reducing pain and increasing function and quality of life in patients with *Waja-uz- zahr. (Lumbago)*.

**Keywords:** Low back pain, *Waja-uz- zahr, Hijama-bil- shurt, wet cupping, lumbo-sacral*

### Introduction

Waja uz zahr (Alam fi safiluz zahr, Waja ul Khasirah) or Low back pain (LBP), also known as lumbago, is a common condition affecting the muscles, nerves, and bones of the back, located between the lower edge of the ribcage and the lower fold of the buttocks. Pain can range from a faint aching to a strong stabbing sensation. Low back pain can be classified as acute (lasting less than 6 weeks), sub-chronic (6 to 12 weeks), or chronic (lasting more than 12 weeks). Depending on the underlying cause, the condition can be characterised as mechanical, non-mechanical, or referred pain. Though lumbago is not a specific disease in modern medicine rather, it is a symptom that might develop as a result of pathology caused by a range of conditions. Discomfort in the lumbosacral area is a common symptom of low back pain. It affects between 60-85 percent of the population,

**Aim:** To Treat the patients of Waja uz zahr (Lumbago) with hijama bil Shurth (Wet Cupping).

**Objective:** To evaluate the effect of Hijama bil shurt in the management of Waja'uz zahr. To evaluate the patient's perceived improvement and change in quality life of in Waja-uz-zahr patients.

## Review Literature

- Buqrat (460-377 BC), the father of medicine first described back pain with its cause as preponderance of balgham (phlegm) in the body, also if the patient feels numbness and burudat in calf muscles and back it indicates chronic condition.
- Aurelianus (5 AD) clearly described the symptoms of sciatica. He noted that sciatica arose from either hidden causes or observable causes, such as a fall, a violent blow, pulling, or straining.
- Zakaria Razi (865- 925 AD), described low back pain as Waja'uz zahr, Dard-e-pusht, with its etiology mainly being trauma, disc prolapse and spinal abscesses.
- Ibn Sina's (980- 1037 AD), view on low back pain is as Dard-e-pusht, which mainly happens in the muscle and ligament of the back internally as well as externally, which can be distinguished by palpating the external surface of the back, which evidences presence of tenderness.
- Akbar Arzani (1721 AD) described Waja'uz zahr as Dard-e-pusht with its classification based on the etiology of disease.
- Hakim Ghulam Jilani described different causative factors of Waja-uz- Zahr such as Thakan, Laghri and excessive labour etc.
- Virchow (1857 AD) and Kocher (1896 AD) described acute traumatic ruptures of the intervertebral disc that resulted in death. The correlation between the disc rupture and sciatica was not appreciated by these examiners.
- Oppenheim and Krause (1909 AD), performed the first successful surgical excision of a herniated intervertebral disc. Unfortunately, they did not recognize the excised tissue as disc material and interpreted it as an enchondroma.
- In early 1900's displacement and distraction of the sacroiliac joint was felt to be a common etiology for pain.

The word pain is derived from Latin word "poena" which means penalty or punishment. Pain defined as an unpleasant and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

## Classification

The International Association for the Study of Pain recommends using specific features to describe a patient's pain:

1. region of the body involved (e.g. abdomen, lower limbs etc.),
2. system whose dysfunction may be causing the pain (e.g., nervous, gastrointestinal),
3. duration and pattern of occurrence,
4. intensity, and
5. cause

Before the relatively recent discovery of neurons and their role in pain, various different body functions were proposed to account for pain. There were several competing early theories of pain among the ancient Greeks: Hippocrates believed that it was due to an imbalance in vital fluids. In the 11th century, Avicenna theorized that there were a number of feeling senses including touch, pain and titillation. In 1644, René Descartes theorized that pain was a

disturbance that passed along nerve fibers until the disturbance reached the brain. Descartes's work, along with Avicenna's, prefigured the 19th-century development of specificity theory. Specificity theory saw pain as "a specific sensation, with its own sensory apparatus independent of touch and other senses". Another theory that came to prominence in the 18th and 19th centuries was intensive theory, which conceived of pain not as a unique sensory modality, but an emotional state produced by stronger than normal stimuli such as intense light, pressure or temperature. By the mid-1890s, specificity was backed mostly by physiologists and physicians, and the intensive theory was mostly backed by psychologists. However, after a series of clinical observations by Henry Head and experiments by Max von Frey, the psychologists migrated to specificity almost en masse, and by century's end, most textbooks on physiology and psychology were presenting pain specificity as fact.

Waja (PAIN) is a perception of incongruity in the body, which is caused due to sudden changes of temperament, or variable ill temperament (Sue mizaj mukhtalif) and loss of continuity (Tafarruq -e-ittisaul). The newly developed abnormal temperament becomes garm (Hot) or sard (Cold) contrary to the original temperament. The perception of such a contrary temperament is pain. Ibn Sina uses the word Waja' as a general name for pain. However, he also uses Alam (Pain) interchangeably with Waja' to describe how the patient feels. He defined Waja' as 'one of unnatural (abnormal) conditions that affects the body' and it is a 'feeling of incongruity'. He offers further clarity in the statement 'Waja' is the sudden sensation of a different stimulus such as a sudden feeling of cold which leads to cooling of an otherwise hot organ'.

According to Galen, loss of continuity is the only real cause of pain, and thus, if cold produces pain, it is through a breach of continuity by shrinking and retracting the tissue particles and thus dislocating these from their original positions.

## Waja-uz- zahr (Low back pain)

Waja'uz zahr (Low back pain) is a pain arising from the spinal or paraspinal structures in the lumbosacral region, extends approximately from the iliac crests to the coccyx.

## Asbab (Etiology)

Most of the renowned *Unani* physicians described the causes of *Waja-uz- zahr* under the broad heading of *Waja'ul mafasil*.

- *Buqrat* first described its cause as predominance of *Balgham* (Phlegm) in the body.
- *Zakaria Razi*, an eminent *Unani* physician described the disease in his book *Al- Hawi*, though his description is not systematically arranged, but covers all possible causes related to disease. According to him, the first and foremost cause of *Waja'ul mafasil* lies in the abnormal formation of *rutubat e mukhatia* (chyme) due to *naqs* (defect) in *Hazm e kabidi and Hazm e urooqi*, due to which the abnormal chyme produces abnormal humours, particularly *ghair tabyee balgham* (abnormal phlegm), which then gets accumulated and adheres in the joints of the body, thus causing swelling, tenderness and pain. Thus we can say that the root cause of *Waja-uz- zahr* is the *naqs* in *hazm e kabidi and urooqi*, in which abnormal *balgham* gets accumulated in the joint

structures of lumbosacral region. *Razi* also says that sometimes weakness or extensiveness of joint structures either congenitally or due to some other disease, gives the seat to accumulate the *ghair tabai akhlat* (abnormal humours) in general, or *ghair tabai balgham* (vitiated phlegm) in particular<sup>[18]</sup>.

- According to *Ibn Sina*, *Waja-uz-zahr* arises from internal and external muscles, ligaments surrounding the lumbar and lumbosacral region due to *fasaad* in *mizaj* (*sue mizaj*). This *fasaad* in *mizaj* is due to surplus *burudat* and accumulation of *kham balgham* (raw phlegm).
- He further stated that pain may also arise due to accumulation of *ghaleez riyah* in the lumbar and lumbosacral region.

In addition to the above mentioned causes, *Jurjani* in *Zakheera Khawarzaam Shahi* and *Akbar Arzani* in *Tibbe Akbar* have described low back pain as *Dard-e-pusht* with different causes as:

1. Kasrate jima.
2. Mumtali rag.
3. Zoaf wa laghari gurda.
4. Musharikate reham.
5. Excessive physical work.

A variety of condition either related or unrelated to spine causes backache. The most common causes described in conventional medicine are:

1. Back muscle strain., Prolapsed lumbar intervertebral disc. Obesity
2. Poor posture. Facet joint arthritis.
3. Unaccustomed activities.

**Congenital causes:** Kyphoscoliosis, lordosis, spina bifida, spondylolisthesis, spondylolysis, spinal stenosis.

**Infective causes:** Tuberculosis (pott's spine), Acute and chronic lumbosacral osteomyelitis, Brucellosis etc.

**Traumatic causes:** Vertebral fractures or compression fracture, ligamentous injury, Lumbosacral or sacroiliac strain & sprain, damage to spinal cord or nerve roots and post laminectomy.

**Inflammatory and Immunological:** Rheumatological disorders, Ankylosing spondylitis, lumbar spondylitis, psoriatic arthropathy etc.

**Degenerative causes:** Osteoarthritis, lumbar Spondylosis etc.

**Metabolic causes:** Osteoporosis, osteomalacia, osteosclerosis (Paget's disease).

**Neoplastic causes:** Benign osteoid osteoma, Malignant secondaries, multiple myeloma.

**Neurological and psychogenic causes:** Anxiety, depression, chronic pain syndrome, malingering, psychosis.

**Other causes:** Referred pain from gynecological diseases, genitourinary diseases, gastrointestinal conditions etc.

### Classification of LBP based on specificity and duration of pain

**Specific low Back pain:** Pain which is attributable to a recognizable, known specific pathology for eg, infection, tumour, osteoporosis, lumbar spine, fracture, structural deformity

**Non specific low back pain:** It is defined as low back pain not attributable to a recognizable, known specific pathology i.e. pain is not due to any specific. Non-specific low back pain is further categorized in 3 subtypes. This subdivision is based on the duration of the back pain.

**Acute LBP:** Pain which lasts less than 6 weeks duration.

**Sub acute LBP:** Back pain which lasts more than 6 weeks, but less than 3 months of duration.

**Chronic LBP:** Chronic LBP is generally defined as pain that has persisted beyond normal tissue healing time (or about 3 months); it is not merely acute pain that has lasted longer than would be expected for an acute episode.

### Classification of LBP based on nature of pain

**a. Musculoskeletal pain:** It may be related to spasm of paraspinal muscles as a result of injury or structural abnormality of the spine. The spasms are accompanied by abnormal posture, taut paraspinal muscles, and dull pain.

**b. Radicular back pain:** It is usually sharp in character. Coughing, sneezing and straining typically exacerbate the pain by increasing intraspinal pressure.

**c. Pain referred to back:** Pain may arise from abdominal or pelvic viscera. The pain is usually described as primarily abdominal or pelvic but is accompanied by back pain and usually unaffected by posture. The patient may occasionally complain of back pain only.

**d. Pain of spinal origin:** Compression of the long tracts, may lead to an unpleasant sensation in the extremities that also is enhanced by increased intraspinal pressure or movements that stretch the cord. Pain may be located in the back or referred in the buttocks or legs. Diseases affecting the upper lumbar spinal tear refer pain to the lumbar region, groin, or anterior thighs.

**Local pain and tenderness:** It may occur from irritation of sensory nerve endings at the site of pathology, such as in the vertebral periosteum. Similarly degeneration or protrusion of intravertebral discs causes pain by compression of nerve endings in the annulus posterior ligaments. Pain of muscle or ligamentous origin or related to a herniated disc is usually alleviated by recumbency

### Alamaat (Clinical features)

Description of clinical features of *Waja-uz-zahr* present in the classical text books of *Unani* medicines are based on causative factors as:

**In case of *Sue mizaj barid sada*, the clinical features of *Waja'uz zahr* are**

Feeling of coldness. Pain without heaviness., Pain relieved by temperamentally hot regimens.

**In case of *Kham madda (balgham kham)***

Pain with heaviness. Pain relieved by exercise and massage

**In case of *Riyah (Air) Waja' mumaddida*** (pain with tension). Pain aggravates by taking those foods which produce flatulence.

**In case of *Azeem rag: Waja' zarbani felt along the course of rag (vertically)***

**In case of *Zoafe gurda wa laghari: Zoafe bah. Darde qutm.*** Bladder symptoms.

**Symptoms of Low back pain:** Symptoms are most severe in the morning and again at the end of the day and tend to improve with rest.

- The pain may be dull or sharp and it may be in one small area or over broad area.
- Difficulty in moving that can be severe enough to prevent walking or standing.
- Pain that tends to be aching and dull.
- Muscles spasm
- Local soreness upon touch

Weakness or numbness in both legs and loss of bladder or bowel control

**Tashkhees (Diagnosis)**

Traditional medical diagnosis aims to attribute a pathological cause to the symptoms through a process based on the history, physical examination and investigations. These three diagnostic processes are equally important in elucidating the cause of low back pain; but there is no agreed pathological cause for the symptoms in 85% of cases. The patients with low back pain suffer from the idiopathic form (i.e. a presumed strain or sprain that will likely improve with time). These patients complain of low back discomfort that does not radiate. A smaller percentage of patients have radicular symptoms with pain down either or both legs, sometimes with and sometimes without accompanying low back pain.

**Usool-E-Illaj (Principle of treatment)**

The principle underlying the management is to remove the *Maddi asbab* (causative matter) and correction of *sue mizaj* (ill temperament) which usually manifests in two ways; i.e. *sue mizaj maddi* and *sue mizaj sada* and restoration of these is called *tadeel* (normalization), which can be achieved by two main procedures *tanqiya mawad* and *tadeel mizaj*.

*Waja'* (pain) can be alleviated by removing its cause or can be relieved by substances producing cold and analgesia, as all the narcotics do; but the first is the real alleviating factor. As the root cause of *Waja'uz zahr* is *naqse hazam* (defective digestion) which leads to the production of *ghair tabyee balgham (kham balgham)* in the lumbosacral region; so the management should be with suitable modification (*tasaruf*) in the *asbab-e-sitte zarooriya viz.*

1. Hawa (Atmospheric air).
2. Maqool-o-Mashroob (Food and drink).
3. Harkat-o-Sukoon e Badani (Rest and physical activity).
4. Harkat-o-Sukoon e Nafsan (Psychological activity).
5. Naum-o-Yaqza (Sleep and wakefulness).
6. Istifragh-o-Ihtibas (Evacuation and retention).

In case of *sue mizaj maddi*, the first line of treatment, to remove the morbid matter from the body is *nuzij wa*

*istifraghe akhlat-e-ghair tabayiah* (concoction and expulsion of abnormal humour) specially *balgham (phlegm)* with:

1. ***Munzij***: This procedure matures the *kham balgham* from the structures of lumbar region; so that they can be easily expelled out.
2. ***Mus'hil***: This expels the matured matter via intestines.
3. ***Qai*** (emesis).

In case of *sue mizaj sada* and after *istifragh* (in case of *sue mizaj maddi*), the line of treatment, to restore and normalize the deranged temperament (*mizaj*) - which is the main cause of pain, is achieved by the intervention of *tadabeer* (regiminal therapies) like: *Zimad* (liniment), *Natool* (irrigation), *Takmeed* (hot fomentation).

*Fasd*: Usually done in case of *imtilai rag* on *rage Basleeq* or *Mabaz*. *Hamam*: Used in case of deep seated *madda* (morbid matter). It disperses the matter towards periphery and thus helps in relaxing the lumbosacral muscles.

*Riyazat* (exercise), *Dalk* (massage): Done with *har mizaji* (hot temperamental) medicinal oils like *raughan shibitt*, *raughan baboona*, *Hijama (CUPPING)* etc.

**Ilaj (Treatment)**

According to Zakaria Razi, *Waja'uz zahr* is a type of *Waja'ul mafasil*; its treatment is same as that of *Waja'ul mafasil barid*. So the treatment of *Waja'uz zahr* should be done with *habbe munten*, *habbe sheetraj* as *mushil balgham*. *Raughan arandi*, as *muqi* (emetic), *raughan bishkaphra* as massage, *musakhin zimad*, *itrifal kabeer* and *garm murabah*. He has mentioned in Al-Hawi that, two drugs namely *dafli* and *haliyoon* have a unique property to benefit in chronic *Waja'uz zahr* and in *Waja'uz zahr barid* respectively.

Jurjani in Zakhirah Khawarizm Shahi has recommended almost the same treatment as above with more emphasis on the use of *habbe sikbeej* and *tiryaaq arbah* as *mushil*. *Raughan firfiyoon*, *raughan qust*, *raughan sosan* and *raughan sudab* as massage. *Jograj gogul*, *ashq*, *jowsheer*, *sikbeej*, *jundbeedastar* and *farfiyoon* as *zimad*.

**For *tanqiya badan*, the following drugs are best to use**

As *mushil balgham*: like *habbe munten*, *habbe sikhbeej*, *iyarij feeqra*, *tiryaaq arbah*.

As *muqi* (emetic): *raughan arand*.

**Intervention and Treatment Options:** There are four primary categories of intervention in modern medicine: Physical Therapy (associated modalities and behavioural techniques) Pharmacotherapy, Injection Therapy, Surgical Intervention

**Physical Therapy** (associated modalities and behavioural techniques): Exercise Therapy (Aerobic exercise, Muscle strengthening and Stretching exercise) Transcutaneous Electrical Nerve Stimulation Therapy (TENS) Back school (first introduced in Sweden-exercise, joint manipulation, myofascial therapy, educational therapy) Lumbar supports (Massage, Heat)

Lumbar Traction Spine Manipulation, Massage therapy

**Pharmacotherapy**

- Non-Steroidal Anti-inflammatory
- Drugs (COX2 inhibitors) Opioid medications
- Anti-depressants

- Muscle Relaxants

### Injection Therapy

Epidural steroid injection (through Interlaminar, Transforaminal or Caudal approaches)  
Facet injection Sacroiliac joint injections

**Surgical options:** Decompression surgery

### Cupping (HIJAMA)

Hijama is an *Arabic* word derived from “*Hajm*” which stands for “Sucking”. The term Hajjam denotes the person who performs the cupping while *Mihjam* or *Mihjamah* is the instrument of the *Hajjam*. It is a procedure used for local evacuation or diversion of morbid *Humours* and thereby releases the toxins from the body tissue and organs. In classical *Hijama* a *Singhi* (horn) is used and suction is made by mouth to create a vacuum, now it is replaced by glass cups and vacuum is created by vacuum pump, hence the procedure is called as cupping.

### Types

**Hijama has been classified in to two main types:**

- *Hijama bila Shurt* (Dry cupping or cupping without scarification)
- *Hijama bil Shurt* (Wet cupping or cupping with scarification)

**On the basis of method *Hijama bila Shart* is further divided in to two types**

1. *Hijamae Nariyah* (Cupping with fire)
2. *Hijamae Ghair Nariyah* (Cupping without fire)

In case of *Hijamae Nariyah*, fire is used to create a negative pressure; the whole process is called as *Mahjamae Nari*. While in case of *Hijamae Ghair Nariyah* (Dry cupping) now a day vacuum pump is used to create negative pressure.

**According to need *Hijama bish Shart* is further classified into two types**

1. *Hijamae Iztirariyah* (Mandatory or essential)
2. *Hijamae Ikhtiyariyah* (Optional or voluntary)

### Mechanism of Action in the light of *Unani* and Modern view

The mechanisms of action of cupping therapy need to be elucidated. In the light of modern medicine many theories exist to explain benefits of cupping therapy. First of all we will discuss here the mechanism of action of cupping therapy according to the *Unani* system of medicine which elaborates that cupping therapy works by two ways:

1. *Tanqiyae Mawad* (Evacuation of morbid matter)
2. *Imalae Mawad* (Diversion of morbid matter)

As it is discussed earlier, the root cause of any disease is the imbalance of *Humours* which accumulates in particular sites. By the application of *Hijama bish Shart*, we just evacuate these morbid matters from the affected site. In case of *Hijama bila Shart* (Dry cupping) which works on the principle of *Imalae Mawad* causes the diversion of morbid matter from one site to another. In both cases when these morbid matters are get away from the diseased part the *Tabiyat Mudabbarae Badan* takes in the part and helps the body to restores the normal condition.

According to the modern concept so many theories are given to describe the mechanism of action of cupping, among them some are given here:

- According to Hong *et al.* cupping therapy works via creating specific changes in local tissue structures as a result of local negative pressure in the cups stretches the nerve and muscle causing an increase in blood circulation and causing auto-hemolysis.
- Gao *et al.* suggested that putting cups on selected part on the skin produces hyperemia or hemostasis which results in a therapeutic effect. However, it is not enough to explain therapeutic benefits of cupping therapy as regard effect of cupping therapy in treating RA, cellulitis and others.
- Taibah theory states that when negative pressure (suction force) is applied to the skin using cups creates uplifting of skin, due to elastic nature of skin there is gradual increase in size, it results decrease in pressure (Boyle’s law) around capillaries. This causes increased capillary filtration, local collection of filtered fluids, lymph and interstitial fluids and their retention inside skin up lift part. This dilutes chemical substances, inflammatory mediators, and nociceptive substances, bathes nerve endings in collected fluids and breaks tissue adhesions causing decreased pain.

### Methodology

The present study entitled as “Clinical Study Waja uz zahar and its Management with Hijama bil Shurth (Wet Cupping) has been carried out in the department of Moalijat (General Medicine) at Govt. Nizamia Tibbi College and General Hospital (GNTC) Hyderabad. Before going to start the project, a comprehensive protocol was chalked out and put forth for ethical clearance (GNTC/IEC/2019-20/MOJ/101) from the Institutional Ethical Committee of GNTC, Hyderabad. After ethical clearance, CTRI Registration done (CTRI/2022/04/041840) clinical study was started by enrolling eligible patients. This study stretched from September 2019 to JULY 2022. The blue print of the study was conceptualized in materials and methods which can be described under few headings for convenient comprehension.

Criteria For Selection of Patients	
Inclusion Criteria	Exclusive Criteria
<ul style="list-style-type: none"> <li>▪ Age group 18-50 years.</li> <li>▪ Either sex.</li> <li>▪ Diagnosed cases of Waja uz zahr</li> <li>▪ No radiation of low back pain to other region.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Major Trauma and Systemic disorders (CVA, CAD, D.M.... etc.)</li> <li>▪ Pregnant and lactating women.</li> <li>▪ Low back pain secondary to a malignant or autoimmune disease.</li> <li>▪ Congenital deformities of the spine.</li> </ul>

### Investigations

Certain investigations were carried out with an aim to exclude the patients with pathological conditions mentioned under exclusion criteria also for safety of intervention used. Following investigation were performed

- X- Ray Lumbosacral Spine- AP & Lateral
- Hb%, TLC, DLC, ESR
- CT, BT
- RBS (>200mg/dl)
- Viral Screening (HbsAg, HCV, Tridot I & II)

**Study design:** Open Labeled Single Arm clinical trial

**Sample size:** 20 patients

### Allocation

Total of 200 patients were screened, out of which 45 patients fulfilling the study criteria, were subjected to clinical and laboratory investigation, finally 40 patients were enrolled after taking written informed consent. 15 patients lost to follow up, a total of 20 patients completed the study protocol.

### Intervention

**Hijama bil shurt: Wet cupping**

**Size of Cups:** Medium (5.5cm)

**No of Cups:** 06 (02 on Cervical Region 02 on each side of Lumbar Region)

**Location:** cervical and Lumbosacral region on each side of vertebral column Duration of intervention: 20 min, WITH 7 days interval (weekly one sitting)

Duration of therapy: 30 days

Follow up: 0, 7th, 14th, 21st Day

### Materials for Procedure

1. Cupping Chair 2. Normal Saline 3. Betadine 4. Spirit 5. Surgical Gloves 6. Surgical Blade (15no) 7. Cotton 8. Kidney Tray 9. Hijama Cups 10. Vaccumegun 11. Antiseptic Powder, 12. Disposable Covers.

### Procedure of Hijama bil shurt

Before starting the procedure the patients were helped to be in correct posture, Hijama bil shurt (Wet Cupping) in sitting position while some feel relaxed in prone position. The area to be cupped was exposed properly and then the hair if present was removed to enable the cups to fix firmly on the body. Site of cupping was cleaned with N.S, spirit and betadine solution, vacuum pump is used to create negative pressure inside the cup, medium sized cups (total 06 cups) of diameter 5.5 cm is applied on Cervical and lumbosacral region on each side of vertebral column, 4-5 suction was made to create enough negative pressure, the cup was adhered to skin for 5 minutes and the site was observed carefully for any adverse reaction like formation of blister. After 5 minutes cups were removed by pulling up the valves of the cups easily. And then with the help of Sterile surgical blade no: 15, incision (15-21) of 5mm to 10mm was taken and the cups placed again with the help of the vacuum gun on the site of incision, site and the collection will be carefully observed for any reaction and to note the morbid matter, after 15 minutes the cups was removed and the antiseptic powder applied to protect from infections.

**Outcome assessment:** The assessment of outcome was carried out by the following

**Parameters:** Primary outcome/ Primary end point: The primary end point was the mean pain score obtained from the Visual Analogue Scale (VAS). Visual Analogue Scale: At Zero Day and 21st day, Secondary outcome/ Secondary end point: The Secondary end point was the patient's functional disability obtained from the Oswestry Disability

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**Table 1:** Showing changes in OLBP scale after treatment in

S.no	Parameter	Total no. of Patients	Base line (Mean±SD)	After treatment (Mean±SD)	P value two tail
1	OLBP	20	25.0±6.223	6.0±1.719981	0.0001

**Table 2:** Showing changes in VAS after treatment in patients

S. No	Parameter	Total no. of Patients	Baseline (Mean ± SD)	After treatment (Mean ± SD)	P Value Two Tail
1	VAS	20	8.2 ±1.794	1.65±1.348	0.0001

### Conclusion

There is converging evidence that *Hijama bil shurt* can induce comfort and relaxation on a systemic level and the resulting increase in endogenous opioid production in the brain leads to improved pain control. Many theories have been suggested to explain numerous effects of *Hijama* therapy and its mechanisms of action. Several researchers proposed biological and mechanical processes associated with the *Hijama* session. For instance, reduction of pain may result from changes in biomechanical properties of the skin as explained by the "Pain-Gate Theory" (PGT), "Diffuse Noxious Inhibitory Controls" (DNICs), and "Reflex Zone Theory" (ZRT).

- 1. Pain-Gate Theory (PGT):** "Pain Gate Theory" is one of the most influential theories of pain reduction.<sup>80</sup> proposed by Melzack and Wall (1965). This theory comprehensively explains how the pain is transmitted from the point of its inception to the brain, and how it is processed in the brain which sends back the efferent, protective signal to the stimulated or injured area. It is reported that local damage of the skin and capillary vessels acts as nociceptive stimulus. This is explanation based on a neuronal hypothesis whereby *Hijama* influences chronic pain by altering the signal processing at the level of the nociceptors both of the spinal cord and brain.
- 2. Diffuse Noxious Inhibitory Controls (DNICs):** Another theory related to pain reduction as a mechanism of action of *Hijama* therapy is Diffuse Noxious Inhibitory Controls. DNIC signifies inhibition of activity in convergent or wide dynamic range-type nociceptive spinal neurons triggered by a second, spatially remote, noxious stimulus. This phenomenon is thought to underlie the principle of counter-irritation to reduce pain. Herein "one pain masks another", or pain inhibits pain.
- 3. Reflex Zone Theory:** *Hijama* therapy of defined zones or areas of the shoulder triangle segmentally related to the median nerve to treat carpal tunnel syndrome has been practiced in European folk medicine and is supported by various studies. Only a suction stimulation is done on the disturbed point and thereafter the red blood cells from the vascular system are brought out to the surrounding tissue areas without injuring capillary vessels. This is known as dry diapedesis. These extravasations are digested or removed by the connective tissue. This happens when the disturbed area is better supplied with blood causing an activation of biological processes on the treated area, i.e., disturbed reflex zone. Many other theories are also given to

describe the mechanism of action of *Hijama* (cupping), Hong *et al.* described that *Hijama* (Cupping) acts by creating specific changes in local tissue structures as a result of local negative pressure in the cups used which stretches the nerve and muscle causing an increase in blood circulation and causing autohemolysis, while Gao *et al.* suggested that putting cups on selected part on the skin produces hyperemia or hemostasis which results in a therapeutic effect. Another theory *Taibah theory* suggested that when negative pressure (suction force) is applied to the skin, it causes decrease in pressure (Boyle's law) around capillaries. This results in increased capillary filtration, local collection of filtered fluids, lymph and interstitial fluids and their retention inside skin up lift part. This dilutes chemical substances, inflammatory mediators, and nociceptive substances, bathes nerve endings in collected fluids and breaks tissue adhesions causing decreased pain.

Some of the potential limitations inherent in this study include small sample size, short duration of the study and limited parameters of assessment. Thus, it is recommended that clinical trial of this type should be done on larger sample size, for longer duration with other assessment scales. Further studies are recommended with improved methodology to limit these inadequacies for better reliability and acceptability of such clinical trials.

#### Conflict of Interest

Not available

#### Financial Support

Not available

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