

Clinical Study to Evaluate the Efficacy of *Hijāma bi'l Sharṭ* (Wet Cupping) in the Management of Musculoskeletal Pain: A Case-Series

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Abstract

Chronic pain is a global public health problem, causing major consequences for the quality of life of the sufferer and a major burden on the healthcare system in the world. Chronic pain of moderate to severe intensity has been estimated to occur in 19% of adult Europeans, seriously affecting their daily activities, social and working lives. *Hijāma* (cupping) is one among various regimes of *Ilāj bi'l Tadbīr* (Regimen Therapy) used in Unani System of Medicine to alleviate pain since ages. This case-series study was designed to evaluate the effect of *Hijāma bi'l Sharṭ* (wet cupping) in musculoskeletal pain conditions. This study was conducted at the Central Research Institute of Unani Medicine, Hyderabad, during 2016-17. Seventy seven patients of either gender, aged 20-60 years, having moderate to severe musculoskeletal pain, including *Waja' al-Khāṣira* (low back pain), '*Waja' al-Rukba* (knee pain) and '*Waja' al-Unuq* (neck pain) and *Waja' al-Katif* (shoulder pain) were included in this case series. Two cupping therapy sessions were performed one week apart. Post-treatment follow-up was conducted after two weeks of treatment. Response to therapy was evaluated by visual analogue scale (VAS) and patient global assessment of response to treatment (PGART). Student-'t' test was applied and P-value <0.05 was considered significant. There was a significant reduction in pain after two sessions of *Hijāma bi'l Sharṭ* as assessed by VAS (P<0.05). This case series suggests that *Hijāma bi'l Sharṭ* (wet cupping) is effective in the management of musculoskeletal pain; however, there is a need to conduct randomised controlled clinical trials with larger sample size and more cupping therapy sessions before arriving at any firm conclusion.

Keywords: *Hijāma bi'l Sharṭ*, Wet cupping, Musculoskeletal pain, Unani, Low back pain

Introduction

Chronic pain is a global public health problem, causing major consequences for the quality of life of the sufferer and a major burden on the healthcare system in the world. Chronic pain of moderate to severe intensity has been estimated to occur in 19% of adult Europeans, seriously affecting their daily activities, social and working lives. Chronic non-cancer pain substantially affects more than 60 million Americans and a significant population of India. (Leverence *et al.*, 2011) Indian epidemiological study conducted by Dureja *et al* (2014) revealed that patients of chronic pain were no longer to maintain an independent life and about 32% of the patients lost ≥4 hours of work due to pain.

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Although, there is no common definition of what constitutes chronic (persistent) non-cancer pain, the term is often used to describe continuous, long-term pain of more than 12 weeks duration or pain that persists beyond the expected period of healing after trauma or surgery. (Pergolizzi J) Physicians are facing a lot of troubles in dealing with the patients of chronic pain conditions. Though, a number of drug classes are presently available to combat pain but there is a need for some alternative therapies to deal with the chronic pain conditions. *Hijāma* (Cupping Therapy) may be a solution for suffering faced in many diseases manifested by pain. (El Sayed S *et al.*, 2013)

Hijāma bi'l Sharṭ, an Arabic term for wet cupping, is one of the ancient traditional therapies in which special cups are put on the patient's skin for a few minutes to create suction and blood is drawn by vacuum from small skin incisions for therapeutic purposes. Eber's papyrus, one of the oldest medical texts written in 1550 BC had also described cupping therapy. Ancient Egyptians, Chinese, Greek, and Arab Physicians had performed cupping therapy in different kinds of ailments. (El Sayed *et al.*, 2013; Al-Bedah *et al.*, 2016)

In Unani System of medicine, *Hijāma* (Cupping Therapy) is a well-known regime, which comes under '*Ilāj bi'l Tadbīr* (Regimen Therapy); an important part of treatment modality of the system. Scholars of Unani Medicine were very well acquainted with the procedure of *Hijāma* (Cupping) and its indications, contraindications and pre and post procedure precautions. (Abū al-Qāsim Zahrāwī, 2012; Ibn al-Quff). *Hijāma* is done by creating negative pressure inside the cups on pre-determined skin area, through suction or fire. The types of *Hijāma* include *Hijāma bi'l Sharṭ* (wet cupping or cupping with bloodletting) and *Hijāma bilā Sharṭ* (dry cupping or cupping without bloodletting). *Hijāma bi'l Nār* (Fire Cupping) is a kind of dry cupping in which vacuum is created by fire (*Nār*). It is not commonly practised nowadays. (Akhtar *et al.*, 2008) *Hijāma bi'l Sharṭ* (wet cupping) works under the principle of *Tanqiya Mawād* (evacuation of morbid humour), while *Hijāma bilā Sharṭ* (dry cupping) is done to divert the morbid humour from the diseased area. (Abū al-Qāsim Zahrāwī, 2012; Ibn al-Quff, Akhtar *et al.*, 2008)

Hijāma (Cupping) is indicated in various musculoskeletal disorders of back and extremities, e.g., '*Waja' al-Rukba* (knee pain), '*Irq al-Nasā* (sciatica), *Niqris* (gout), *Waja' al-Khāshira* (low back pain), *Shaqīqa* (migraine); diseases of respiratory system, e.g., *Waram-i-Halaq* (pharyngitis), *Itihāb al-Anf* (rhinitis); gynaecological disorders, e.g., *Ihtibās al-Tams* (amenorrhoea), *Kasrat-i-Tams* (menorrhagia), *Itihāb al-Rahim* (metritis), pelvic pain; skin diseases, e.g., *Jarab* (scabies), *ikka* (pruritus), *Kalaf* (melasma), etc.

Currently, *Hijāma* (Cupping) is being practised in different parts of India by Unani scholars, however; there are limited scientific data on the efficacy of *Hijāma*. Keeping this in view, this case series study was conducted to evaluate the effect of *Hijāma bi'l Sharṭ* in the management of musculoskeletal pain.

Material and Methods

A clinical case-series study was conducted in patients having moderate to severe pain (VAS >3) for more than 12 weeks duration attending OPD of Central Research Institute of Unani Medicine (CRIUM), Hyderabad, during 2016-17. The procedure of therapy was explained to the participants along with the possible outcomes. Written informed consent was obtained from all the patients prior to initiation of the procedure. A detailed physical examination was done and *Mizāj* (temperament) and vitals were recorded. Each patient was asked to grade pain intensity on a 0-10 visual analogue scale (VAS) before the procedure.

Inclusion Criteria

Patients of either sex between the age of 20 and 60 years having the following musculoskeletal pain conditions:

- *Waja' al-Khāṣira* (low back pain)
- *'Waja' al-Rukba* (knee pain)
- *'Waja' al-'Unuq* (neck pain)
- *Waja' al-Katif* (shoulder pain)

Exclusion Criteria

- Use of NSAIDs since a week
- Cupping therapy in the last 3 months
- Any therapy for pain in the previous 2 weeks
- Known coagulopathy
- Severe anaemia
- Use of anticoagulant
- Other systemic diseases
- Pregnant and lactating women

Intervention

Hijāma bi'l Sharṭ (wet cupping) was performed twice at the baseline (day 0) and after one week (day 7) and post-treatment follow-up was done on 14th day of the therapy. Unani physicians have described cupping, puncturing and cupping (CPC) method in their legendary texts, (Abū al-Qāsim Zahrāwī, 2012; Ibn al-Quff) The detailed CPC method described by El Sayed *et al.*, consists of six steps viz. skin demarcation, sterilization, cupping, puncturing, cupping and sterilization.

- 1. Skin Demarcation:** Firstly, skin demarcation was made by selecting the specific points on body (on back and other body parts). In case of '*Waja' al-Khāṣira* (low back pain), 2 medium size cups were applied between scapulae and 2 medium size cups on lower back. In '*Waja' al-Rukba* (knee pain), 2 medium size and 1-2 small cups were applied on affected joint, while in '*Waja' al-Unuq* (neck pain) cases, 2 small size cups on posterior neck and 2 medium size cups on inter-scapular region were applied. In patients with '*Waja' al-Katif* (shoulder pain), 2 medium size cups were applied on inter-scapular region and 2-3 small size cups were applied on tender area of shoulder.
- 2. Sterilization:** Selected area was sterilized by disinfectant (spirit) gently.
- 3. Cupping:** Cups were placed on demarcated area and negative suction pressure was applied by manual suction (visco-elastic nature of skin helps it to be sucked to the inside of cups). The cups were clung to the skin and placed for 3-5 minutes or till the appearance of erythema and congestion on the surface.
- 4. Puncturing or Scarification:** After removing the cups, immediate skin pricking (15-20 superficial incisions) for few millimeters depth was given by surgical blade no 11.
- 5. Cupping:** Cups were again placed on the skin in the same manner as described above. Blood started oozing from injured capillaries towards the puncture site at the skin surface. Coagulation pathway stimulated and allowed clotting of blood. Cups were removed after 3-5 minutes or till blood was coagulated, whichever was earlier.
- 6. Dressing:** In the last step, the area was cleaned by antiseptic solution and dressing was done to prevent any infection.

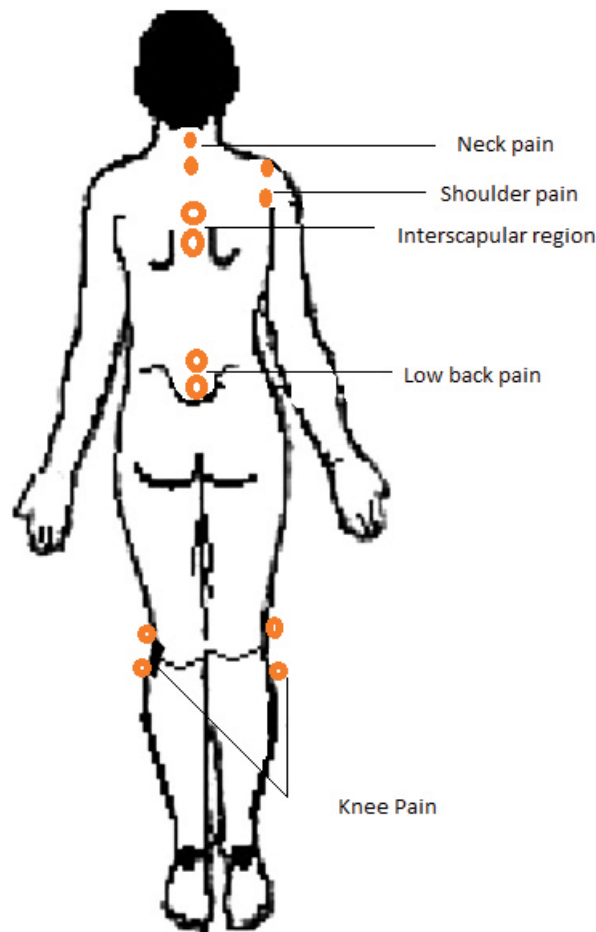


Fig. 1 : Anatomical Areas of Wet Cupping for Different Pain Conditions

Special Instructions

After the procedure, patients were kept under observation for at least one hour and liquid diet was allowed. Patients were advised to take rest for the next 24 hours. Patients were asked to note any skin changes at the site of puncturing.

Follow-Up

Two cupping therapy sessions were performed one week apart. Thus, follow-up was conducted after one week during the therapy. Post-treatment follow-up was done after two weeks of treatment.

Outcome

Assessment of response to therapy was made by VAS and PGART. Pain intensity was assessed qualitatively by a simple, reliable and commonly used validated scale, i.e., 0-10 cm visual analogue scale (VAS). Patient global assessment of response to therapy (PGART) consists of 4 categories, viz. poor, satisfactory, good and excellent.

Adverse Events

All the participants were asked to report any symptoms such as irritation, burning sensation, infection, increase of pain at the site of *Hijāma* (Cupping) and appearance of any new symptoms after the procedure.

Statistical Analysis

Descriptive and inferential statistical analysis were carried out in the present study. Student-'t' test was used to find out the significance of study parameters and P-value (<0.05) was considered significant.

Results

The demographic characteristics of each patient are presented in Table 1 and 2. A total of 77 cases were registered for *Hijāma bi'l Sharṭ* (wet cupping), out of which 22 were male and 55 female. The mean age of the participants was 44.7 ± 10.5 years. Most of the participants had 1 month to 2 years of chronicity and majority belonged to middle class. Of the 77 cases, 33 had '*Waja' al-Khāshira* (low back pain), followed by 20 '*Waja' al-Rukba* (knee pain), 19 '*Waja' al-'Unuq* (neck pain), and 5 '*Waja' al-Katif* (shoulder pain) (Table 3).

Pain intensity score was assessed qualitatively by VAS. Table 4 presents response of *Hijāma bi'l Sharṭ* (wet cupping) assessed by VAS and reveals a significant reduction ($p < 0.05$) in all kinds of pain conditions after intervention. Table 5 gives mean response of *Hijāma bi'l Sharṭ* (wet cupping) assessed by VAS and reveals that the response to the treatment in all pain conditions was >50%. Patient Global Assessment of Response to Therapy (PGART) was found good by 46 patients, satisfactory by 14 patients and excellent by 17 patients out of 77 registered patients. Nobody responded that the therapy was poor. Three patients informed to have burning at the site of *Hijāma* (Cupping), which was of mild degree and relieved itself in the next 24 hours. No other adverse events were reported by the patients.

Discussion

Hijāma (cupping) is one of the oldest medical techniques in the world. It is being practised in Unani system of medicine since antiquity. Abū al-Qāsim Zahrāwī (Abulcasis), known as father of surgery and Ibn al-Quff have given a detailed description of *Hijāma* (cupping) in their texts *Kitāb al-Taṣrīf* and *Kitāb al-'Umda fi'l Jarāḥa*. In the present study, *Hijāma bi'l Sharṭ* (wet cupping) was performed to relieve pain in patients with different kinds of musculoskeletal pain conditions. (Abū al-Qāsim Zahrāwī, 2012; Ibn al-Quff-1986)

In the present study, *Hijāma bi'l Sharṭ* (wet cupping) was performed twice at an interval of one week and post-treatment follow-up was done on 14th day of therapy. After two sessions of therapy, pain was significantly ($P < 0.05$) reduced suggesting effectiveness of *Hijāma bi'l Sharṭ* (wet cupping). Hence, it may be suggested that wet cupping may be an alternative treatment in some musculoskeletal pain conditions. In this case series, low back pain was the most commonly reported condition followed by knee pain while in a study conducted by Dureja et al, knee pain was most prevalent. This is because, in this study, number of female patients was comparatively more and low back pain was reported more in case of in females by Indian study. (Ahdhi *et al.*, 2016)

According to Unani concept, pain originates due to accumulation of *Akhlāṭ Fāsida* (morbid humour) and *Balgham Ghayr Tabīṭ* in different parts of the body and line of management is the removal of *Akhlāṭ Fāsida* (morbid humour) through *Istifrāgh* (evacuation). *Hijāma bi'l Sharṭ* (wet cupping) works according to the principle of *Tanqiya Mawād* (evacuation of morbid humour). (Ibn Sina, 2007) Although, the physiological mechanism through which *Hijāma* works is not known but the evidence-based *Taibah* theory has already explained the therapeutic benefits of *Hijāma bi'l Sharṭ* (wet cupping) through clearing blood and interstitial spaces from causative pathological substances (CPS) which include pain causing and pain related substances. (El Sayed *et al.*, 2013)

Being a case series, the present study has several limitations, e.g., lack of control group (standard or placebo), small sample size and short duration of therapy. Thus, there is a need to conduct randomized controlled clinical trials with larger sample size to evaluate the significant effect of *Hijāma bi'l Sharṭ* (wet cupping). Further, long-term follow-up studies are required to establish the frequency of cupping therapy sessions.

Conclusion

In view of the above observations, it can be concluded that *Hijāma bi'l Sharṭ* (wet cupping) is effective in reducing pain of different musculoskeletal conditions. However, there is a need to conduct randomised controlled clinical trials with larger sample size and more cupping therapy sessions before arriving at any firm conclusion.

Table 1: Distribution of Patients According to Age, Sex and Chronicity

Age (Years)	Male (n=22)	Female (n=55)	Total (n=77) (%)
20 – 30	1	7	8 (10.4)
31 – 40	9	11	20(26.0)

41 – 50	5	21	26(33.7)
51 – 60	7	16	23(29.9)
Mean±SD			44.7 ± 10.5
Chronicity			
1 – 6 mo	3	20	23(29.9)
7 – 12 mo	10	8	18(23.4)
1 – 2 yrs	8	18	26(33.8)
3 – 5 yrs	1	8	9(11.7)
6 – 8 yrs	-	1	1(1.2)
Mean±SD			1.58 ± 1.3

Table 2: Distribution of Patients According to Temperament and Socio-economic Status

Mizāj (Temperament)	Male (n=22)	Female (n=55)	Total (n=77) (%)
<i>Damawī</i>	13	30	43(55.8)
<i>Balghamī</i>	8	25	33(42.9)
□ <i>afrāwī</i>	-	-	-
<i>Sawdāwī</i>	1	-	1(1.3)
Socioeconomic Status			
High	-	1	1(1.3%)
Middle	20	44	64(83.1%)
Low	2	10	12(15.6%)

Data are presented as Mean±SD and percentage.

Table 3: Distribution of Patients According to Site of Pain

Musculoskeletal Pain	Male (n=22)	Female (n=55)	Total (n=77)	Percentage (%)
Low Back Pain	9	24	33	41.25
Knee Pain	8	12	20	25.0
Neck Pain	4	15	19	23.75
Shoulder Pain	1	4	5	6.25

Data are presented in percentage.

Table 4: Response of *Hijāma bi'l Sharṭ* (wet cupping) Assessed by VAS

Musculoskeletal Pain	n=77	BT	AT	Difference	P value
Low Back Pain	33	6.8±0.6	2.8±1.0	3.9±1.1	<0.05
Knee Pain	20	7.0±0.8	3.5±0.9	3.4±0.8	<0.05

Neck Pain	19	6.7±0.8	3.3±0.9	3.5±0.9	<0.05
Shoulder Pain	5	6.8±0.8	3.4±0.5	3.4±0.5	<0.05

Results are presented as mean±SD and analysed by Student t-test (dependent).

BT= Before Treatment; AT= After Treatment

Table 5: Mean Response of *Hijāma bi'l Sharṭ* (wet cupping) Assessed by VAS

Musculoskeletal Pain	No. of Cases	Mean Response (%) (Mean± S.D.)
Low Back Pain	33	58.2 ±15.3
Knee Pain	20	49.8 ±11.1
Neck Pain	19	51.6 ±12.4
Shoulder Pain	5	50.0 ±5.1
Total	77	53.8 ± 13.5

Results are presented as Mean±SD.

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References

1. Abū al-Qāsim Zahrāwī (2012) *Jarahyat-e-Zahrāwī* (Urdu translation by Kakurwi NAA). CCRUM, New Delhi.; pp:182-87.
2. Ahdhi GS, Subramanian R, Saya GK and Yamuna TV (2016) Prevalence of low back pain and its relation to quality of life and disability among women in rural area of Puducherry, India. *Indian J Pain*; 30:111-5.
3. Akhtar J and Siddiqui MK (2008) Utility of Cupping Therapy (Hijamat) in Unani Medicine, *Indian J Traditional Knowledge*, 7(4): 572-74.
4. Al-Bedah AM, S Tamer, Suhaibani A, Gazzaffi I, Khalil M and Qureshi NA (2016) Safety of Cupping Therapy in Studies Conducted in Twenty One Century: A Review of Literature. *British J Med & Medical Res.*, 15(8): 1-12.
5. Dureja GP, Jain PN, Shetty N, Mandal SP, Prabhoo R, Joshi M *et al.* (2014) Prevalence of chronic pain, impact on daily life and treatment practices in India. *Pain Pract.*, 14(2):E5162.
6. El Sayed SM, Mahmoud HS and Nabo MMH (2013) Methods of Wet Cupping Therapy (Al-Hijamah) in Light of Modern Medicine and Prophetic Medicine, *Altern Integ Med.*, 2:3.

7. El Sayed SM, Mahmoud HS and Nabo MMH (2013) Medical and Scientific Basis of Wet Cupping Therapy (Al-Hijamah): in Light of Modern Medicine and Prophetic Medicine, *Altern Integ Med.*, 2:5.
8. Ibn al-Quff (1986) *Kitāb al-'Umda fi'l Jarāḥa* (Urdu translation by CCRUM). New Delhi. pp.194-98.
9. Ibn Sina (2007) *Al Qanoon Fil Tib.* (Urdu translation by Kantori GH). Vol 2. Idarae Kitab ul Shifa. New Delhi., pp.117-118
10. Leverage RR, Williams RL, Potter M, Fernald D, Unverzagt M, Pace W *et al.* (2011) Chronic Non-Cancer Pain: A Siren for Primary Care – A Report From the PRImary care MultiEthnic Network (PRIME Net). *J Am Board Fam Med*, 24: 551–561.
11. Pergolizzi J (2017) Towards A Multidisciplinary Team Approach In Chronic Pain Management. (www.pae-eu.eu/wp).

सारांश

जोड़ों एवं मांसपेशियों के दर्द के प्रबंधन में हिजामा-बिल-शर्त (वेट कपिंग) प्रभावकारिता के मूल्यांकन करने के लिए नैदानिक अध्ययन : एक प्रकरण श्रृंखला

*हिना रहमान, कमरुद्दीन, मुनव्वर हुसैन काजमी और सय्यदा खदीरुनिसा

दीर्घकालीन दर्द एक वैश्विक सार्वजनिक स्वास्थ्य समस्या है, जोकि विश्व में पीड़ित व्यक्ति की जीवन की गुणवत्ता में और स्वास्थ्य देखभाल पद्धति पर एक बड़े बोझ और प्रमुख निष्कर्षों का कारण है। दीर्घकालीन दर्द की कम से अधिक तीव्रता का 19 प्रतिशत अनुमान व्यस्क यूरोपीय लोगों में पाया गया है, जोकि गंभीरता पूर्वक उनकी दैनिक गतिविधियों, सामाजिक और कामकाजी जीवन में प्रभाव डाल रहा है। हिजामा(कपिंग) यूनानी चिकित्सा पद्धति के अन्तर्गत इलाज-बित्त-तदबीर की कई चिकित्साओं में से एक है जोकि प्राचीनकाल से दर्द को कम करने के लिए प्रचलित है। जोड़ों एवं मांसपेशियों के दर्द की स्थिति में हिजामा-बिल-शर्त (वेट कपिंग) की प्रभावकारिता का मूल्यांकन करने के लिए इससे संबंधित श्रृंखलाओं पर अध्ययन का रूपांकन किया गया। वर्ष 2016-17 के दौरान केन्द्रीय यूनानी चिकित्सा अनुसंधान संस्थान, हैदराबाद में यह अध्ययन चलाया गया। इस श्रृंखला में, 20-60 साल की आयु वाले दोनों लिंगों में से एक के 77 रोगी जिन्हें कम से अधिक जोड़ों एवं मांसपेशियों का दर्द था, जिसमें वजा-अल-कसीर (निचला पीठ दर्द), वजा-अल-रुकबा (घुटने का दर्द), वजा-उल-उनक(गर्दन का दर्द) और वजा-उल-कतिफ(कंधे का दर्द) शामिल थे, को सम्मिलित किया गया। एक हफ्ते में दो कपिंग चिकित्सा सत्र प्रस्तुत किए गए। उपचार के दो सप्ताह के पश्चात् पुनः जाँच के लिए बुलाया गया। विजुअल अनालोग स्केल(वी.ए.एस.) एवं पेशेन्ट ग्लोबल असिस्टमेंट ऑफ रेस्पान्स टू ट्रिटमेंट(पी.जी.ए.आर.टी) द्वारा चिकित्सा का मूल्यांकन किया गया। “स्टूडेंट टी टेस्ट” लगाया गया और पी वेल्यू <0.05 से कम को अर्थपूर्ण माना गया। वी.ए.एस. (पी<0.05) द्वारा मूल्यांकन करने पर हिजामा-बिल शर्त के दो सत्रों के पश्चात् दर्द में अर्थपूर्ण कमी हुई। इस अध्ययन श्रृंखला से पता चलता है कि हिजामा-बिल-शर्त(वेट कपिंग) जोड़ों-मांसपेशियों के दर्द के उपचार में प्रभावशाली है, यद्यपि किसी ठोस परिणाम पर पहुँचने से पहले बड़े सैम्पल साइज़ और अधिक चिकित्सा सत्रों पर नैदानिक यादृच्छिक नियंत्रित परीक्षण करने की आवश्यकता है।

