

Evaluation of Efficacy of Wet Cupping (*Hejamat-bil-Shurt*) in Cases of Back Pain (*Waja-uz-Zahr*)

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Waja-uz-Zahr (Back Pain) is common articular disease, a specific type of *Waja-ul-Mafasil*, usually occurs due to *soo-e-mizaj* of that part and often associated with accumulation of *fasid madda* (morbid matter) at that specific part of body^{1,11}. In present randomized, open, comparative study, 30 patients with *Waja-uz-Zahr* received orally Unani formulation and 30 patients received wet-cupping procedure on the lower part of back. Three primary outcome measures were considered; Back Pain, Back Stiffness and Difficulty in performing Physical activities. *Hejamat-bil-Shurt* is more effective in the management of Back Pain, Back Stiffness and Difficulty in performing Physical activities in comparison with the oral medication.

Introduction

Pain in the back or backache is a common concern, affecting up to 60-80% of people at some point in their lifetime. Common causes of back pain involve disease or injury to the muscles, bones and nerves of the spine. Although there is no evidence that back pain prevalence has increased, reported disability and absence from work due to back pain have increased significantly over the last 30 years².

Back pain symptoms are the most common cause of disability in patients under 45 years of age³. According to Zakariya Razi, *Waja-ul-Mafasil* is a wide term which encompasses pain in joints. It may have specific names according to the sites involved⁴. *Waja-ul-Mafasil* is

defined as the pain and inflammation due to the accumulation of secreted materials in joints of body. But if pain is present in back (*Zahr*) it is called *Waja-uz-Zahr*. If it is in ankle Joints and in metatarso-phalangeal joints especially in first toe, is known as *Niqras* (Gout). If the pain occurs in hip joint, it is called as *Waja-ul-Warik*. If this pain starts from hip joint and runs down its called *Irq-un-Nasa* (Sciatica), if this pain occurs in the knee joint and joints of upper limb, it is known as *Waja-ul-Mafasil* as stated by Hakim Ismail Jurjani⁵. According to Ghulam Jeelani, *Waja-ul-Mafasil* is a disease in which ligaments of the joints become hard and stop the movements of the joints⁶. According to Hakim Ajmal Khan, if there is pain in all joints of the body; it is called *Waja-ul-Mafasil*⁷. According to Allama Kabeeruddin *Waja-ul-Mafasil* is a type of pain with swelling which occurs in the joints of the body⁸. Ibn Sina has divided the causes of *Waja-ul-Mafasil* in two types: *Asbab-e-Faila* (Causative factor) and *Asbab-e-Munfa'ila*. *Asbab-e-Faila* are *soo-e-mizaj* and *Mawad-e-Fasidah* (morbid material). The alteration in *Mizaj* may be general (in the entire body) or local (in a particular region of the body). The altered *Mizaj* may act as *Multahib* (Inflammatory), *Mubarrid* (Refrigerant), *Mujammid* (Consolidant), *Muyabbis* (Desiccant) or *Munqabiz* (Astringent). These alterations get aggravated when any *Rutubat-e-Gharibah* (abnormal fluid) is also involved. *Asbab-e-Munfa'ila* are related to the structure of that organ which is susceptible for the disease. *Asbab-e-Munfa'ila* are induced by some previous factors, which may be called *Asbab-e-Mu'iddah* or predisposing factors^{9,16}.

In modern medicine for treating Back Pain, the use of non steroidal anti-inflammatory drugs (NSAIDS) and steroids are associated with adverse drug reactions and also these agents neither reverse the pathological process nor disseminate the accumulated *fasid madda*. But in Unani System of Medicine, we have so many formulations which may be effective in this regard without adverse drug reactions as well as having potential of reversing the pathological process of the disease and eliminating the accumulated *fasid madda* from diseased joints of body.

Cupping (*Hijama*) is an ancient method of treatment that has been used in the treatment and cure of many diseases; such as hypertension, rheumatic arthritis, sciatica, back pain, migraine, anxiety and general physical and mental well-being. The aim of Cupping is to extract that blood which is believed to be harmful for the body which in turn rids the body of potential harm from symptoms leading to a reduction in stressful condition. Cupping Therapy has been practiced in most cultures in one form or another. In the UK the practice of Cupping Therapy also dates back a long way with one of the leading medical journals *The Lancet* being named after this practice. A lancet is a piece of surgical equipment that was traditionally utilised to release excess blood i.e. venesection and

to prick boils. The Arabic name for Cupping Therapy is *Al-Hijamah* which means to reduce in size i.e. to return the body back to its natural state. The practice of *Al-Hijamah* has been part of Middle-Eastern cultural practices for thousands of years with citations dating back to the time of Hippocrates (400 B.C.). Of the western world, the first to embrace Cupping Therapy were the ancient Egyptians, and the oldest recorded medical textbook, *Ebers Papyrus*, written in approximately 1550 B.C. in Egypt mentions cupping¹².

Cupping Therapy can be divided into two broad categories: Dry Cupping and Wet Cupping. Dry Cupping Therapy tends to be practiced more commonly in the Far-East, whereas, Wet Cupping is favoured in the Middle East and Eastern Europe. Nowadays in Unani System of Medicine cupping is mainly recommended for the treatment of Back Pain, *Waja-ul-Mafasil*, Shoulder pain, Knee pain and lumber sprains¹³. In Cupping procedures, glass cup is applied to the skin and suction pump attached to the rounded end of cup. The pump is then used to create the vacuum in the glass cup. Due to this vacuum, skin of this region is pulled inside of the glass cup and believed to open up the skin pores, which helps to stimulate the flow of blood, helps to eliminate accumulated *fasid madda*, breaks up obstructions and creates an avenue for toxins to be drawn out of the body along with blood.

Material and Methods

On the basis of clinical examination and investigation, the patients fulfilling the inclusion criteria were included in the study after obtaining written voluntary consent. Those patients, who were failing to fulfill the required inclusion criteria, were excluded from the study. The present study was a randomized open label, comparative trial to evaluate the efficacy, safety and tolerability of wet-cupping in cases of *Waja-uz-Zahr*. 60 male patients aged between 25-50 years with *Waja-uz-Zahr* were diagnosed by clinical presentation and X-Ray findings and treated in OPD as well as IPD sections of NIUM hospital, Bangalore. Patients with history of peptic ulcer, acid peptic disease, concurrent illness, receiving concomitant drug therapy, having history of any drug allergy, having received corticosteroids within one month of this study and pregnant/lactating women were excluded. Routine investigations were carried out including Haemogram, Blood Sugar (R), BT/CT, RA factor, C-RP, Uric Acid, ESR, LFT, RFT, X-Ray of the affected joint and ECG in each patient selected for the study.

The patients were assessed by visual analogue scale, which consists of questions based on three symptoms: (1) Pain, (2) Stiffness and (3) Difficulty in performing Physical activities. For each question the

patient had to mark on a scale between 0 and 10. Say for pain, 0 indicates no pain and 10 indicate maximum pain. Adding up the score of all the questions for particular symptoms gives total score for that symptom. Decrease in score suggests symptomatic relief. The patients were randomly allocated to two groups of 30 patients each.

Group A consist of 30 patients receiving Unani formulation i.e. *Habb-e-Asgandh*¹⁴ (2 T.I.D.) and *Habb-e-Suranjan*¹⁵ (2 T.I.D.). The medicines were given orally and the patients were advised to take them after meals.

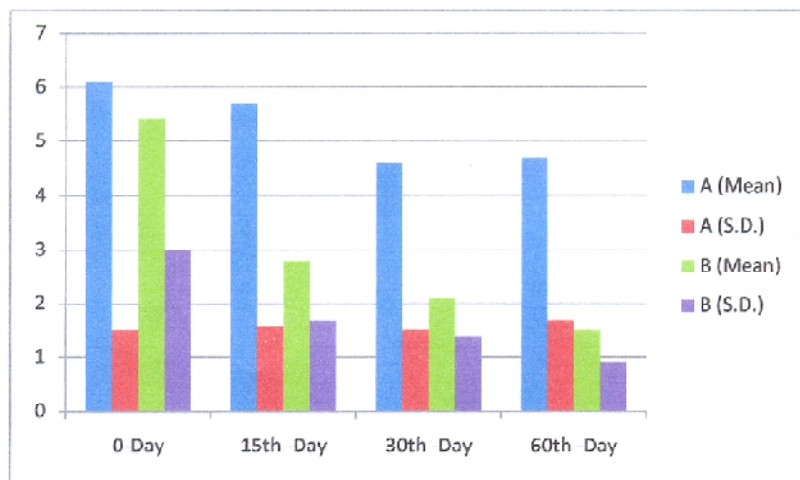
Group B Consisted of 30 patients receiving cupping procedure on 0, 15th and 30th days on the lower part of back 3-5 cms lateral to midline at the level of L2, 3, 4 vertebrae on both sides. First the patient was made to rest in correct position for *Hijamat* and the area to be cupped was exposed properly, then hairs if present on that area, were removed well to fix the cup firmly on the body area. Thereafter the area was sponged with warm water to increase the blood flow to the site and cups were applied to the site. Negative pressure inside the cups was created with the help of vacuum pump and the cups were placed at that site for up to 5-7 minutes, after that these cups were removed and skin was cleaned with spirit and betadine solution. At that specific part of back multiple superficial small incisions were made in the form of pricks with 11 no. sterilized surgical blade. Bleeding started in the form of oozing, on that bleeding part immediately same cups were replaced and optimum vacuum created with suction pump. During this procedure vitals and general condition of the patient were monitored continuously to observe any adverse effect. 80-100 ml of blood was withdrawn during 10-20 minutes of this procedure, and then cups were removed by opening the valve of the cups and pressing the adjacent skin of the cups margins and blood was collected in a measuring pan. After cleaning with Betadine solution, sterilized dressing was done with Betadine ointment on that incised and cupped part of the back. This dressing was removed after 10-12 hours.

The patients were assessed by Visual Analogue Scale (VAS) at 15 days interval (0, 15th, 30th) and at the end of the study (60th day). The drug intervention was for a period of one month and assessment done with VAS, was repeated at the end of study to evaluate the residual effect of treatment. Thereafter the improvement in both groups was compared to each other and more symptomatic improvement in B groups was considered following the effect of *Hijamat*. VAS scores in each group at 15 days interval were compared with the basal scores by paired “t” test. Between groups comparison was done by unpaired “t” test and “p” value less than 0.05 was considered statistically significantly.

Observations and Results

TABLE 1
Data Analysis of Back Pain

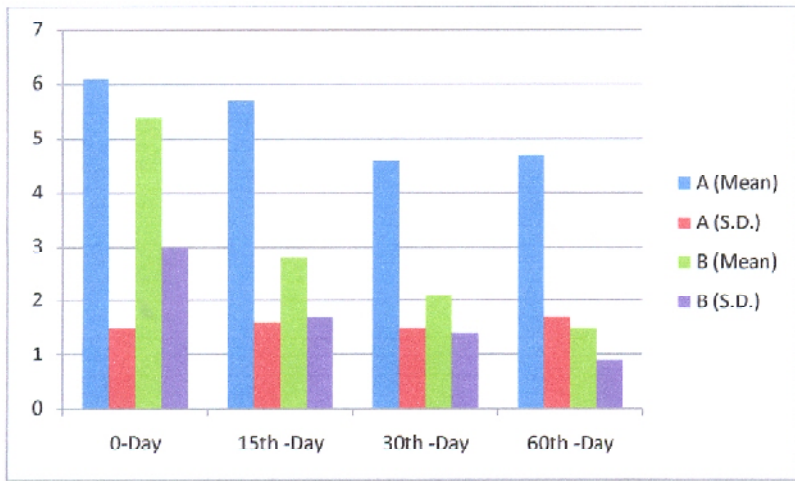
Group	0 Day	15th Day	30th Day	60th Day
A (Mean)	8.8	7.9	6.8	6.9
A (S.D.)	1.4	1.2	.9	0.6
B (Mean)	8.9	2.1	1.2	1.4
B (S.D.)	1.2	1.3	.7	0.8



Graph showing effect on Back Pain in Groups A and B

TABLE 2
Data Analysis of Back Stiffness

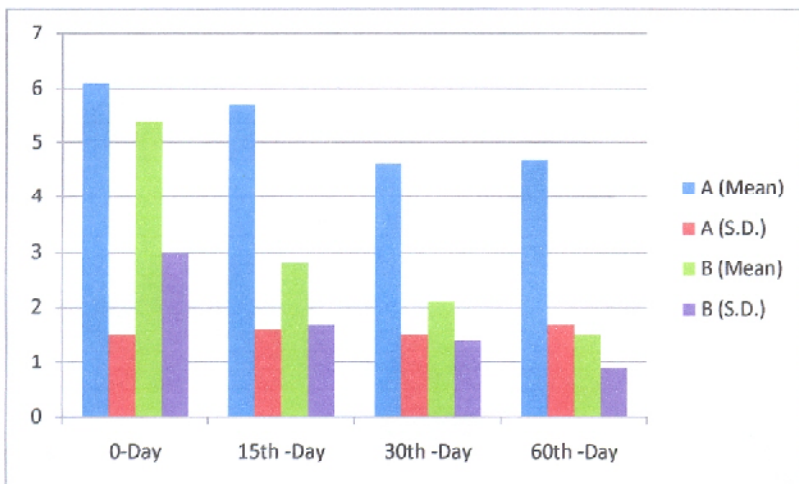
Group	0 Day	15th Day	30th Day	60th Day
A (Mean)	9.0	8.7	7.5	7.0
A (S.D.)	1.8	1.6	1.5	2.9
B (Mean)	7.9	3.2	2.2	1.8
B (S.D.)	1.7	1.8	1.2	1.5



Graph showing effect on Back Stiffness in Groups A and B

TABLE 3
Data Analysis of Restriction of Movement

Group	0 Day	15th Day	30th Day	60th Day
A (Mean)	6.1	5.7	4.6	4.7
A (S.D.)	1.5	1.6	1.5	1.7
B (Mean)	5.4	2.8	2.1	1.5
B (S.D.)	3.0	1.7	1.4	0.9



Graph showing effect on Restriction of Movement in Groups A and B

Demographic characteristics of both groups were comparable. The basal VAS scores for pain, stiffness and difficulty in performing daily activities were compared with the scores at the end of each sitting. In group A, the difference in the VAS scores was statistically significant at the end of first month of intervention as compared to baseline ($p < .05$) and remained so throughout the intervention but after stoppage of treatment again show increasing tendency but significance level was still maintained then. In group B the decrease on VAS score was statistically highly significant at the end of one month of treatment as compared to baseline and also remained so throughout the intervention and even one month after the stoppage of the treatment. Basal VAS scores were comparable in the two treatment groups. The difference in VAS scores between the two treatment groups was highly statistically significant at the end of one month for all the three symptoms. The VAS scores in group B were significantly lower ($p < 0.001$) than group A at the end of 2 months for all the three parameters.

Discussion

Modern medicine typically treats back pain with a combination of physical therapy; activity modification and rest; pain-relieving and anti-inflammatory medications; and in extreme cases, surgery. These treatment options demonstrate mixed efficacy and success. In many cases, an acceptable amount of pain is relieved through typical Western medical treatment techniques. However, in other cases some pain remains; in some cases, typical Western treatments are completely ineffective¹⁰. The physiological mechanisms through which wet-cupping might function remain unknown. It has been suggested that the effects of wet-cupping can be divided into several components, including neural, haematological, immune and psychological effects. In particular, the "pain suppression" mechanism of wet-cupping might be through influence on neurological system. Patients in our study experienced very minimal adverse effects from the wet-cupping treatment. The most significant side effect from wet-cupping therapy was fainting during the wet-cupping (vaso-vagal shock). This was seen only in younger patients (6.6%) ($n=2$) of patients, all in the age group (25-30 years), all of whom had no previous history of bloodletting or wet-cupping. To treat vaso-vagal shock, we asked patients to lie in bed for 5-10 min. Besides the two patients who experienced vaso-vagal shock, we have no evidence of any adverse effect during this study. *Hijamat-bil-Shurt* has been found as more effective in the management of pain. In group B, the improvement was more and this was due to the effect of *Hijamat*. Pain in *Waja-uz-Zahr*

may originate in different ways. It may be inflammatory in nature and may be developed due to the physical effect of swelling and this swelling is due to the accumulation of morbid material in the joint space. *Hijamat-bil-Shurt* can reduce joint pain in different ways. It has already been mentioned in literature that the technique of *Hijamat* mainly involves the sucking and diversion of stagnant morbid materials. As *Hijamat* diverts the morbid material from the disease tissues, so it is beneficial for the management of the pain. This effect of *Hijamat* is coinciding with the statements of Razi (850-923), Akbar Arzani and Ibn Sina (980-1037). The reason behind the stiffness is spasm of the synovial membrane and related tendons due to the lack of oxygen and tissue nourishment. Immobilization of the joint for over the night span leaves the area deficient of blood and becomes ultimately relatively cold. The swelling of the part also contributes in ischaemia by exerting the mechanical pressure over microvasculature. It is the coldness of the part that actually causes spasm in synovial membrane. That is why when the movement of the particular areas is restored; circulation becomes automatically improved making the area relatively warm. This is also the answer as to why the condition gets aggravated in winter and why it is common in *Barid Mizaj* subjects and in elderly people. When wet-cupping is done at diseased parts, blood circulation increases at that site and kinetic energy gets change into thermal energy improving the local temperature. Once the local temperature is maintained the spastic condition gets rectified and the stiffness goes away or comes down. The other possible reason in the improvement of stiffness is *Ikhraj-e-Mavad* and *Imala-e-Mavad* from the diseased parts and this is highly supported by the statements of Ibn Sina (980-1037). Restriction of the movement is directly related with pain and swelling. Swelling in the Joint is due to the accumulation of the morbid humors (*Akhlat-e-Fasida*). *Hijamat* reduces swelling by *Imala-e-Mavad* (Diversion of morbid materials) and *Ikhraj-e-Mavad* and this may be the reason for reducing restriction of the movement and causing stiffness. This finding coincides with the statements of Ibn Sina.

Conclusion

We conclude from the results of present study that wet cupping is more effective and rapidly controls the back pain in younger age group (25-35 years). Wet cupping is associated with greater and short term clinical benefit. No adverse effects were reported from patients after the treatment. Finally, our study was limited by the short follow-up period. We were able to demonstrate the positive effects of wet-cupping for 2 months, but long-term efficacy remains to be tested.

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