

## Clinical study on *Waja-ul-Mafasil* and evaluation of efficacy of *Hijamat-Bila-Shurt* in the treatment

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Since, the *Hijamat* therapy is not still scientifically validated, therefore, after reviewing *unani* literature, a case study on *Hijamat-Bila-Shurt* in the management of *Waja-ul-Mafasil* was carried out. In the present study, thirty patients of 20-65 yrs of age were clinically diagnosed and were enrolled for 35 days from the OPD/IPD of NIUM Hospital. Patients were allocated in two groups A & B. Group A, containing 20 patients, was treated with *Hijamat-Bila-Shurt* and *Habbe Suranjan* two tablets twice a day, while group B, containing 10 patients, was treated with *Habbe Suranjan* two tablets twice a day. The duration of application of cups was 30 minutes in each sitting. There was significant improvement in the subjective parameters ( $p<0.05$ ) except muscular weakness in group A. In group B, significant improvement was in joints pain, tenderness and restriction of movement ( $p<0.05$ ) while in other parameters the result was not significant. Based on the results of the study, it has been concluded that *Hijamat-Bila-Shurt* should be advised along with the drug treatment for the management of *Waja-ul-Mafasil*.

**Keywords:** Waja-ul-Mafasil, Hijamat-Bila-Shurt, Cupping, Tadabeer

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*Waja-ul-Mafasil* is an Arabic term which stands for *Waja* – Pain, *Mafasil* – Joints. So the meaning of *Waja-ul-Mafasil* is pain in joints. According to *Rāzi*, *Waja-ul-Mafasil* is a wide term which encompasses pain in joints, *Niqris* (Gout) and *Irq-ul-Nisā* (Sciatica). It may have specific names according to the sites involved as the pain starts from hip and spreads down the length of leg then it is called as *Irq-ul-Nisā*, and when it is in foot, is named as *Niqris*<sup>1</sup>. According to *Ismail Jurjāni*, *Waja-ul-Mafasil* is defined as the pain and inflammation due to the accumulation of secreted materials. In Hindi, it is called as *Gathiya*. But when pain is present in ankle joints and in metatarsophalangeal joints especially in first toe, it is known as *Niqris* (Gout). The pain which occurs in hip joint is called as *Waja-ul-Warik*. When the site of pain is hip joint and its radiation is downwards, it is called as *Irq-ul-Nisa* (Sciatica) and when the pain occurs in the knee joint and joints of upper limb, it is known as *Waja-ul-Mafasil*<sup>2</sup>. According to *Akbar Arzani*, *Waja-ul-Mafasil* is joint pain. It may not be associated with inflammation as

found in *Sue-Mizāj Sāda* and sometimes, associated with inflammation as found in accumulation of *Akhlat-e-Fasida* (Morbid Humours). Further he defined that the pain and inflammation, occurs in the joints of hands and legs, is called as *Waja-ul-Mafasil*<sup>3</sup>.

### Types of *Waja-ul-Mafasil*<sup>4</sup>

#### 1 Based on presence or absence of *Akhlat-e-Fasida*

(A) *Waja-ul-Mafasil Sāda* (B) *Waja-ul-Mafasil Māddi*

#### 2 Based on *Mizāj* (temperament)

(A) *Hār* (B) *Bārid* (C) *Ratab* (D) *Yābis* (E) *Hār Ratab* (F) *Hār Yabis* (G) *Bārid Ratab* (H) *Bārid Yabis*

#### 3 Based on the type of *Madda* (material) involved

(I) *Damvi* (Sanguineous) (II) *Safrāvi* (Bilious) (III) *Balghami* (Phlegmatic) (IV) *Saudāvi* (Melancholic) (V) *Reehi* (Pneumatic) (VI) *Ufooni* (Infectious)

#### 4 Based on the number of *Khilt* (humour) involved

(A) *Mufrad* (due to single *Khilt*) (B) *Murakkab* (due to more than one *Khilt*)

#### 5 Based on the severity and duration of the disease

(A) *Hād* (Acute) (B) *Muzmin* (Chronic)

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Some of the physicians have mentioned one more type of *Waja-ul-Mafāsīl* based on severity and duration of the disease to which they termed as *Tahajjur-e-Mafāsīl*<sup>5-7</sup>.

#### 6 Based on the joint involvement

- i. *Waja-ul-Zohar* is used for the pain in deep and superficial muscles and tendons around the vertebral column.
- ii. *Waja-ul-Warik* is the pain in hip joint which does not radiate down wards.
- iii. *Irq-ul-Nisā* is the pain which starts from the hip joint and radiates downward to the thigh, even some times up to the knees and ankles.
- iv. *Waja-ul-Rukba* is a type of pain specifically in the larger joints like knee and hip joints.
- v. *Niqris* is the pain with swelling in ankle joint and other joints of the foot.

Now a days, the word '*Waja-ul-Mafāsīl*' is used by the *Unāni* physicians as a synonymous of arthritis. Arthritis is a vast term used in modern medical science for several types of painful conditions of joints such as rheumatic arthritis, rheumatoid arthritis, gouty arthritis, psoriatic arthritis, juvenile arthritis, osteoarthritis, etc. In *Unāni* System of Medicine, various forms of arthritis are dealt with a single nomenclature that is *Waja-ul-Mafāsīl*. So, based on the characteristic features described by *Unāni Atibbā* in *Waja-ul-Mafāsīl Bārid* is more similar to osteoarthritis, and because of its prevalence and resemblance in clinical features, Osteoarthritis as *Waja-ul-Mafāsīl Bārid*, had been included for the clinical study.

Osteoarthritis is a disorder of diarthrodial joints characterized by pain and functional limitations, radiographically by osteophytes and joint space narrowing, and histopathologically by alterations in cartilage and subchondral bone integrity<sup>8</sup>.

The prevalence of osteoarthritis is very high in elderly people and it is detectable radiographically in 80% of patients above the age of 50 yrs<sup>9</sup>. Knee osteoarthritis is a condition that is much more common in India and accounts as much disability as any of the other chronic condition<sup>8</sup>. The common risk factors for osteoarthritis include being female, increasing age, obesity, family history, trauma and certain occupational exposure<sup>9</sup>. Usual complains of OA are joint pain, morning stiffness, joint swelling,

restriction of movements, tenderness and muscular weakness. The major complications of osteoarthritis are genu varus, genu valgus, Backer's cyst, etc<sup>10</sup>.

In *Unani* system of medicine, there are three modes of treatments—*Ilaj-bil-Tadabeer* (regimenal therapy) and *Taghzia* (Nutrition), *Ilaj-bil-Dawa* (Pharmacotherapy), *Ilaj-bil-Yad* (surgery). *Ilaj-bil-Tadabeer* can definitely regard safer than the other two modes of treatments as nothing goes inside the body encountering the body viscera especially liver and kidney during metabolism and excretion. Therefore, if *Ilaj-bil-Tadabeer* is carried out under the recommended rules and regulations it will definitely prevent the patients from even least possible side effects of the drugs. *Unani* Physicians have also recommended *Ilaj-bil-Tadabeer* or Regimenal therapies which include *Hijamat* or Cupping, *Kai* or Cauterization, *Irsal-e-Alaq* or Leeching, *Fasd* or Venesection, etc. which were commonly practiced and were the main stays of surgical practice in ancient and medieval times<sup>1,11</sup>.

*Hijamat* is one of the *Tadabeer* which is being practiced for many diseased conditions since ancient time. *Hijamat* is of two types, *Hijamat-bil-Shurt* (Cupping with blood letting) and *Hijamat-bila-Shurt* (Cupping without blood letting). Either one can be performed in two ways when vacuum is created by using the fire, it is known as *Hijamat-bil-Naar* and when vacuum is created without using fire, that is known as *Hijamat-bila-Naar*<sup>12-14</sup>.

The principles for each type of *Hijamat* (Cupping) is different, *Hijamat-bil-Shurt* works on the basis of the principle of *Tanqia-e-mavad* (evacuation of morbid matter from the affected areas) whereas, *Hijamat-bila-Shurt* works according to the principle of *Imala-e-Mavad* (diversion of the morbid matter from the diseased parts). This diversion may be to the near (*Imala-e-Qareeb*) or far (*Imala-e-Baeed*) regions<sup>15</sup>.

#### Methodology

The patients were selected from Hospital of National Institute of *Unāni* Medicine, Bangalore, for the assessment of the efficacy of *Hijamat-bila-Shurt* in the management of *Waja-ul-Mafāsīl*. Before starting trial, the research protocol was submitted for ethical clearance. The institutional ethical committee of National Institute of *Unāni* Medicine, Bangalore, has approved the protocol for the study. Every patient of *Waja-ul-Mafāsīl* was, individually, questioned for

detailed history of the disease. They were clinically examined and their hematological, biochemical and radiological investigations were carried out. Clinical symptoms, history and investigations were recorded on prescribed case report form, designed for the study under the direct supervision of supervisor. The clinical study was conducted during the period of September 2006 to June 2007.

### Inclusion criteria

Age between 30-65 yrs, either sex, clinical and/or radiographic evidence of *Waja-ul-Mafasil*, patients of *Waja-ul-Mafasil* agree to follow the protocol of the study.

### Exclusion criteria

**Physiological status**—Patients below 30 yrs and above 65 yrs, pregnancy and lactation.

**Pathological status**—Diabetes mellitus, anemia (Hb% less than 10gm %), liver diseases, renal failure, ischaemic heart disease (IHD), other types of arthritis (rheumatoid arthritis, tubercular arthritis, infective arthritis, psoriatic arthritis, etc.)

Assessment of *Mizaj* (Temperament) was done on the basis of *Alamāt Ajnās Ashra*, mentioned in classical Unani literature. The selection of subjects was done on the basis of general physical examination and systemic examinations, the patients diagnosed clinically were enrolled in the study and further evaluated for laboratory and radiological finding. The design for the study was open standard controlled randomized clinical study. Thirty patients were enrolled in the study for 35 days and randomly allocated by using computer generated random table into two groups comprising 20 patients and 10 patients in group A and group B, respectively. *Habbe Suranjan* is used as the standard control drug, which was prepared in the pharmacy of NIUM under the supervision of chief pharmacist.

### Sittings of *Hijāmat*

The patients allocated in group A were cupped once in a week and every patient underwent 6 such sittings of *Hijamat-bila-Shurt* during the course of therapeutic regimen, as depicted in the following Table 1:

**Study procedure:** The subjects fulfilling the inclusion criteria were allocated randomly in any one of the two groups after obtaining the informed consent. Group A was treated with *Hijāmat-bilā-Shurt*

once in a week + *Habbe Suranjan* two tablets thrice a day and Group B was given *Habbe Suranjan* thrice a day only.

### Assessment of the efficacy

The assessment of patients was done according to the subjective parameters (Joints pain, morning stiffness, joints swelling, restriction of movements, tenderness and muscular weakness) and the objective parameters (X-Ray and ESR). As the subjective parameters differ in severity from patients to patients, an arbitrary grading, starting from 0 grade upto 4 grades was improvised for appropriate assessment and statistical evaluation to evaluate the efficacy of the procedure. The clinical assessment of the groups was carried out after every 14 days and at the completion of the protocol duration while the radiological and lab investigations were done before and after the treatment. The basal clinical findings were compared with the findings observed at 14<sup>th</sup> day, 28<sup>th</sup> day and 35<sup>th</sup> day. The difference if any observed was recorded in percentage and taken as the improvement caused by the respective treatment. However, the percentage of improvement noted at the termination of treatment in group A and group B were compared with each other and the percentage scored by the group B was deducted from the percentage scored by group A to find the net improvement caused by the *Hijamat-bila-Shurt*.

Statistical analysis was restricted to those patients who completed the full duration of study and followed the protocol. Nonparametric test (Friedman test), Chi square test and Paired t test were used to analyze the data. The confidence level were set to be  $p < 0.05$  for significant difference of the treatments.

### Results

The results regarding the incidence of subjective parameters of *Waja-ul-Mafasil* are as follows:

As shown in Table 1, the mean score of the joints pain before starting the treatment was 2.75 while it was 0.95 at the end of the treatment. The improvement in joints pain at the end of the treatment was 65.45% and improvement was statistically significant at  $p < 0.05$ . The mean score of the morning stiffness before starting the treatment was 1.45 while it was 0.5 at the end of the treatment. The improvement in morning stiffness at the end of the treatment was 65.51% and improvement was statistically significant at  $p < 0.05$ . The mean score of

Table 1—Effect of the therapy on subjective parameters in Group A-N=20

Parameters	Before Treatment	After Treatment	% of Improvement	p Value
Joint Pain	2.75 ± 0.09	0.95 ± 0.13	65.45%	<0.05
Morning Stiffness	1.45 ± 0.15	0.5 ± 0.16	65.51%	<0.05
Joint Swelling	1.75 ± 0.12	0.65 ± 0.13	62.85%	<0.05
Restriction of Movement	1.45 ± 0.15	0.5 ± 0.11	65.51%	<0.05
Tenderness	2.1 ± 0.1	0.75 ± 0.12	64.28%	<0.05
Muscular Weakness	0.7 ± 0.2	0.5 ± 0.15	28.57%	>0.05

Table 2—Effect of the therapy on subjective parameters in Group B N=10

Parameters	Before Treatment	After Treatment	% of Improvement	p Value
Joint Pain	2.7 ± .13	1.9 ± .27	32.14%	<0.05
Morning Stiffness	2.1 ± .23	1.5 ± .16	28.57%	>0.05
Joint Swelling	2.3 ± .24	1.5 ± .16	34.13%	<0.05
Restriction of Movement	1.8 ± .24	1.2 ± .13	34.13%	<0.05
Tenderness	2.2 ± .13	1.6 ± .26	27.27%	>0.05
Muscular Weakness	0	0	0	0

the joints swelling before starting the treatment was 1.75 while it was 0.65 at the end of the treatment. The improvement in joint swelling at the end of the treatment was 62.85% and improvement was statistically significant at  $p < 0.05$ . The mean score of the restriction of movements before starting the treatment was 1.45 while it was 0.5 at the end of the treatment. The improvement in restriction of movement at the end of the treatment was 65.51% and improvement was statistically significant at  $p < 0.05$ . The mean score of the tenderness before starting the treatment was 2.1 while it was 0.75 at the end of the treatment. The improvement in tenderness at the end of the treatment was 64.28% and improvement was statistically significant at  $p < 0.05$ . The mean score of the muscular weakness before starting the treatment was 0.7 while it was 0.5 at the end of the treatment. The improvement in muscular weakness at the end of the treatment was 28.57% and improvement was not statistically significant ( $p > 0.05$ ).

## Discussion

In the present study, the efficacy of *Hijamat-bila-Shurt* was evaluated over a period of 35 days on the basis of improvement in the subjective parameters. In Group A, the improvement in joints pain, morning stiffness, joints swelling, restriction of movement, tenderness and muscular weakness was 65.45%, 65.51%, 62.85%, 65.51%, 64.28%, and 28.57%, respectively. In Group B, the improvement in joint pain, morning stiffness, joint swelling, restriction of movement and tenderness was 32.14%, 28.57%, 34.13%, 34.13%, and 27.27%, respectively. No patient was found having muscular weakness in group B.

In *Waja-ul-Mafasil*, there is accumulation of morbid humours especially synovial fluid, in the joint space, exerting the pressure on the capsule and creates the pressure symptoms. *Hijamat-bila-Shurt* diverts the morbid humours from the diseased tissues relieving the pressure symptoms. The improvement in pain is due to the diversion of the morbid humours from the affected parts.

The reason behind the morning stiffness is spasm of the synovial membrane and related tendons due to the lack of oxygen, tissue nourishment and it is the coldness which causes spasm in synovial membrane. *Hijamat-bila-Shurt* increases the blood circulation at the site of cupping, fulfilling the requirement of oxygen and other nutrients. When cups are applied at the affected site, blood circulation increases at the site and kinetic energy of blood changes 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.

Local swelling and effusion is generally due to the extravasations of fluid and cells from the blood stream into the intercellular space. *Hijamat-bila-Shurt* directly affect on joint swelling by *Imala-e-Akhlal-e-Fasida* (diversion of morbid humours) from the deeper tissues towards the superficial tissues by reducing the swelling.

Restriction of movement is directly related with pain and swelling. As discussed above, *Hijamat-bila-Shurt* reduces pain and swelling so ultimately reduces the restriction of the movements.

Tenderness is due to the synovitis and synovitis is due to the accumulation of some pro-inflammatory mediators in the articular space or may be due to raised intraarticular pressure. Intraarticular pressure is raised by the accumulation of *Akhlat-e-Fasida* (morbid humours) in the joints cavities. The relief in joints tenderness may be due to the *Imala-e-Akhlat-e-Fasida* (diversion of morbid humours) from the diseased parts.

Muscular weakness is basically due to the poor nourishment of the area and immobilization of the part due to restriction of the movement. As *Hijamat-bila-Shurt* increases the nourishment of the affected muscular area and decreases the restriction of the movement so it increases the muscular strength.

### Conclusion

On the basis of the results, it can be concluded that *Hijamat-bila-Shurt* along with Unani formulation is effective and the safer management of *Waja-ul-Mafasil*. In this preliminary clinical study *Hijamat-bila-Shurt* is found to be safer and effective. However, it can be further taken up on large scale for conduction of phase third clinical trial for the further establishment of the therapeutic efficacy on the modern scientific parameters.

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