

PIVOTAL ROLE OF *HABB-I-GUL-I-AAKH* IN THE MANAGEMENT OF WAJA 'AL ZAHR (LOW BACK PAIN): A REVIEW

Arshi Aqeel¹, Mohammed Sheeraz Mushtaque Ahmed² and Mohd Naved³

¹PG Scholar (MD), Department of Moalajat, Regional Research Institute of Unani Medicine, Kashmir University, Habak, Naseembagh Campus, Hazratbal, Srinagar, J&K 190006

²Reader, Department of Moalajat, Regional Research Institute of Unani Medicine, Kashmir University, Habak, Naseembagh Campus, Hazratbal, Srinagar, J&K 190006

³PG Scholar (MD), Department of IlmulAdvia, Regional Research Institute of Unani Medicine, Kashmir University, Habak, Naseembagh Campus, Hazratbal, Srinagar, J&K 190006

Review Paper

Received: 25.10.2022

Revised: 12.11.2022

Accepted: 24.11.2022

ABSTRACT

In present era, *Waja'al Zahr* (Low back Pain) is the most common problem hindering patient to perform its daily life activities. LBP is currently one of the prime reasons for disability worldwide. The low back pain prevalence and estimate of the point prevalence range from 1.0% to 58.1% and the one-year prevalence of from 0.8% to 82.5% It is mostly prevalent in middle age group population. Individuals who suffer from low back pain may have a wide range of problems like physical, psychological, physiological and so on. People who have previously had low back pain episodes have increased risk of low back pain recurrence of the majority of the population with low back pain have low level of disability resulting in a very high societal burden. First description regarding *Waja 'al Zahr* in Unani System of Medicine (USM) was stated by Buqrat (Hippocrates). According to USM, accumulation of *Kham Madda* (raw morbid matter) in joint structures results in aberrant temperament (*Su 'i-Mijaz*) and its leads to *Waja'al Zahr*. In this review paper, authors tried to discuss about the concept of *Waja 'al Zahr* and its management in both USM and modern medicine.

No. of Pages: 8

References: 34

Keywords: *Waja 'al Zahr*, Unani Medicine, *Su'-i-Mijaz*, Low back pain, *Habb-i-Gul-i-Aakh*.

INTRODUCTION

Waja 'al Zahr (low back pain (LBP) is the most prevalent musculoskeletal condition in developed nations. It is a commonest cause of disability. Almost every person has at least one episode of low back pain during their life. The LBP may be clinically present as acute and chronic pain. It is broadly represented as acute low back pain where the duration is less than one month, subacute from one to three month, and chronic if the duration is more than three month or if pain occur episodically within a six month period.¹ The LBP can arise from anterior structure-disc, muscle, ligaments, vertebral bodies; midline structures-spinal cord; posterior structure-ligaments, sacroiliac joint and facets and also by neural compression. Pain is produced by pressure on this structure from disc protrusion, osteophytes or trauma.² The LBP is the most common cause of disability in ages <45 years; LBP is the second most common cause of visiting a physician in the United States; ~1% of the United States population is disabled because of back pain.³

Waja 'al Zahr is described as a disease in which pain originates from internal and external muscles, ligaments surrounding the lumbar and lumbosacral regions. It is due to *Su'-i-Mizāj*, *Buroodat* and accumulation of raw *balgham* (phlegm).⁴ It is not a definite disease; rather it is an indication that may arise from a variety of causes and many people are not diagnosed properly.⁵ In USM, *Buqrat* (460 BC) was first who stated that if a *balghami mizaj* (phlegmatic temperament) develops numbness and coldness in his/her back and calf muscles reveals the chronic condition of disease.⁶

Etiopathogenesis

- **Congenital:** Abnormal vertebral facets, sacralisation of L5 transverse process, spondylolysis or spondylolisthesis between L5 and S1 vertebrae.
- **Acquired Inflammatory:** Infective, osteomyelitis, e.g. tuberculosis, discitis, epidural abscess, non-infective or rheumatologic, spondyloarthropathies

*Corresponding author: sheeraz.rrium@gmail.com

- (e.g. ankylosing spondylitis), trauma to ligaments, muscles, vertebrae or annulus fibrosus with disc prolapse.
- **Vascular:** Abdominal aortic aneurysm dissection, epidural haematoma, haemoglobinopathies
- **Neoplastic:** Primary tumours of the spine, e.g. multiple myeloma, metastatic
- **Degenerative:** Disc disease, facetarthropathy, spinal canal stenosis
- **Metabolic:** Osteoporotic vertebral fracture, Paget's disease
- **Minor trauma:** strain or sprain, whiplash injury³
- **Mechanical:** Poor posture aggravated by obesity, pregnancy, over work.
- **Referred Pain:** Abdominal viscera (renal, pancreas, posterior duodenal ulcer), pelvic disorders (pelvic inflammatory disease)
- **Other causes:** Soft tissue rheumatism, fibromyalgia, psychogenic/malingering, miscellaneous¹

Types of low back pain:

Local pain	It is caused by stretching of structures that compress or irritate nerve endings (i.e. tears, stretching) located near the affected part of the back.
Pain referred to the back	It originates from the abdominal or pelvic region.
Pain of spine origin	Its cause stiffness in the back or may radiate to the lower limbs or buttock. Diseases of upper lumbar spine radiate to upper lumbar region, groin or anterior thighs. Diseases of lower lumbar spine refer pain to buttocks, posterior thighs, or rarely the calves or feet.
Radicular back pain	It causes radiation of pain from spine to leg in specific nerve root territory. For, e.g. coughing, sneezing, lifting heavy objects, or straining may evokes pain.
Pain associated with muscle spasm	It causes are diverse; accompanied by tense paraspinal muscles and abnormal posture.

Lumbar disc diseases are the commonest cause of low backache. It usually occurs at L4-L5 or L5-S1 levels.³ At the age of 45 to 65 years, more than 70% people experience low back pain which inhibited them to perform daily activities. There is less association with gender regarding neck pain, although tobacco use is an associated risk factor. Physical work-related factors, such as heavy lifting, prolonged sitting and repetitive twisting, increases risk; prospective studies show that psychosocial issues, such as work as noninterest and job dissatisfaction, also are major predisposing factors.⁷

Spinal stenosis causes narrowing of spinal canal producing neurogenic claudication, which is characterized by induction of pain by walking in back, buttock, and/or leg and relieved by sitting. On the other hand, in vascular claudication, symptoms are provoked by standing without walking. Unlike lumbar disc disease, symptoms are relieved by sitting. Focal neurologic deficits common; severe neurologic deficits (paralysis, incontinence) are rare.

Low back strain or sprain used to describe as minor, self-limited injuries associated with trauma. Most common

cause of nontraumatic fracture is osteoporosis; others are osteomalacia, hyperparathyroidism, hyperthyroidism, multiple myeloma, or metastatic carcinoma.

In osteoarthritis (Spondylosis), back pain is influenced by spine movement and associated with stiffness. Increases with age, radiologic findings do not correspond with severity of pain. Osteophytes or combined disc-osteophytes may cause or contribute to central spinal canal stenosis, lateral recess stenosis, or neural foramina narrowing.³

The LBP can present as acute or chronic pain. Acute LBP is one where the duration is less than 1 month, subacute from 1 to 3 months, and chronic if the duration is more than 3 months or if pain occurs episodically within a 6 months period. Mechanical causes of low backache account for the majority (90%) of cases while systemic diseases account for only 10%. Acute LBP has a favourable natural history. Most episodes resolve in a few weeks. In one-third of patients, the LBP may last for a month. Chronic LBP of more than 3 months duration is seen only in a minority.

In USM, *Zakaria Razi* (865- 925 AD) described that *Waja' al-Mufāsil* cause lies in abnormal formation of Chyme (*Rutūbat-i-Mukhatia*) due to *Naqs* (defect) in *Hadm-i-Kabidi* and *Hadm-i-Urūqī*. *Rutūbat-i-Mukhatia* leads to production of abnormal humours, particularly abnormal phlegm. Other etiologies are trauma, disc prolapse and spinal abscess.⁸ The pain may also arise due to accumulation of *Ghāliz Riyāh* in the lumbar and lumbosacral region.⁴ *Ismail Jurjani* (d. 1140 A.D) explained causes of low backache are *Kasrat-i-Jima'*, *Masharikat-i-Reham*, *Du'fwa Laghari-i-Gurda* and excessive strenuous work.⁹ *Ibne Hubal Baghdadi* (1163-1231 A.D) in his book *Al-Mukhtarar-fit* defined LBP as *Pahlukadard*, caused by *Su'-i-Mizaj-Har*, *kasrat-e-Jama*, and also involvement of kidney.¹⁰ According to *Najeebuddin Samarqandi* (13th Century AD), chronic *Waja 'al Zahr* is attributed to *Su'-i-Mizaj-Sada* and *Kham Bhalgham* and pain will disappear by walking and exercise.¹¹ *Akbar Arzani* (1721 A.D) described *Waja 'al Zahr* as *Dard-e-Pusht* and classified it into seven types, which was based on etiology of the disease. He further stated that *Waja 'al Zahr* is caused by *Su'-i-Mizaj Sada*, characterized by pain without heaviness and *Burudat*. This pain is relieved by *Hararat*.¹² *Hakim Ghulam Jeelani* (20th century) described different causative factors of *Waja 'al Zahr*, such as *Takan*, *Laghri*, excessive labour pain, etc. He stated that the main causes of *Waja 'al Zahr* is the *khambalgham*, which gets accumulated in joint spaces.¹³

In USM, according to *Avicenna*, *Waja* (pain) is defined as sudden perception of any uncooperative agent, which is not present in the natural states of a living body.

A perception of incompatibility in the body due to abrupt changes of temperament or *Su'-i-Mizaj-Mukhtalif* (variable impaired temperament) and *Tafarruq-i-Ittiṣal* (loss of continuity). The newly developed abnormal temperament becomes *Har* (hot) or *Barid* (cold) contrary to the natural temperament. The perception of such aberrant temperament is pain. According to *Jalinus* (Galen), *Tafarruq-i-Ittiṣal* is the actual cause of pain, for example cold produces pain through *Tafarruq-i-Ittiṣal* by shrinking and retracting the tissue.¹⁴ *Waja 'al Zahr* is defined as a pain, which is perceived centrally and felt in the entire lower back region affecting daily life activities.¹⁵ In *Tibb-i-Akbar*, *Akbar Arzani*, mentioned *Waja 'al Zahr* as *Dard-i-Pusht* caused by *Su'-i-Mizaj Barid Sada*.¹⁶

Epidemiology

A study conducted in 2010 revealed that the global burden of the LBP was ranked 6 causing disability-related life years and ranked 1 overall for total years

lived with disability. From 1990 estimates, these numbers are increasing considerably. The number of LBP patients will increase significantly with the advent attributed to ageing of the population worldwide.¹⁷ In 2017, the global burden of LBP prevalence was estimated to be about 7.5% of global population, or around 577.0 million people. It has been reported that lifetime prevalence of LBP in developed countries is up to 85%, which makes this complaint second only to the common cold.¹⁸

Alamaat (Clinical features)

In USM, clinical features of *Waja 'al Zahr* are explained on the basis of causative factors:

In case of *Su'-i-Mizaj Barid Sada*:

- Feeling of coldness
- Pain without heaviness
- Pain relieved by hot regimens

In case of *Madda Balgham Kham*:

- Feeling of pain with heaviness in progressive manner
- History of eating cold temperamental foods

In case of *Riyah*

- *Waja Tamaddudi* (pain with tension)
- Migratory pain
- Feeling of slight heaviness
- Pain aggravates by taking those foods which produce flatulence
- Pain relieved by hot temperamental diets and oils

In case of *Hararat Sada*

- Presence of inflammation and local irritation
- Pigmented urine
- Hyperthermia
- Pain relieved by cold temperamental diets

In case of *Imtela-i-Rag*

- *Waja-e-Zarbani* felt along the course of *Rag* (vertically)
- Pain increases during movement
- Feeling of heat sensation locally

In case of *Zoaf-e-Gurda-wa-Laghari*

- *Zoaf-e-Bāh*
- *Dard-e-Qutn*
- Bladder symptoms^{9,16,19}

Management in USM

Unani physicians describe the treatment of *Waja 'al Zahr* is much similar with *Wajā-al-Mufāsil* (arthritis), *Wajā-ul-Warq* (coxalgia), *Hudba* and *Riyah-ul-Afarsa* (Kyphosis)). *Ilajis* mainly based on *ilaj-bil-dawa*

(pharmacotherapy), *ilaj-bil-ghiza* (Dietotherapy) and *Ilaj-bit-Tadbeer* (regimental therapy).

Ilaj-bil-Dawa(pharmacotherapy)

Various Unani drugs like *habb-i-hudar*, *habb-i-asgand*, *habb-i-surjanjan*, *habb-i-asgand*, *Habb-i-Gul-i-Aakh*, *majoonsuranjan*, *iyarijfeeqrah*, *roghan-i-surkh*, *qurs-i-mufaasil*, *arq-i-ushbah*, *habb-i-mafaasil*, *majoonjograjgoogal*, etc. are employed in the management of *Waja'al Zahr*. *Habb-i-Gul-i-Aakh* is one of the famous polyherbal compound drug in the form of

pills, mentioned in National Formulary of Unani Medicine for the treatment of *Waja'al Zahr*. Most of the physicians have reported that it is an effective and safe drug for the treatment of *Wajā-al-Mufāsīl*. It is mainly used to treat the Inflammatory diseases both acute and chronic diseases, especially in case of joint and bone ailment, such as *Wajā-al-Mufāsīl*, *Naqris*(gout), *Wajā-al-Warik*(Hip joint osteoarthritis), etc. Unani scholars recommend *Habb-e-Gul-e-Aakh* and found that it possesses significant analgesic, anti-inflammatory and anti-arthritic activities.²⁰

The ingredients of Unani formulation of *Habb-e- Gul-e-Aakh* as follows

S. No.	Ingredient name	Botanical name of ingredient and parts used
1.	<i>Gul-i-Aakh</i>	<i>Calotropisprocera</i> (flowers)
2.	<i>Barg-e-Bans</i>	<i>Bambusaarundinacea</i> (leaves)
3.	<i>Zanjabeel</i>	<i>Zingiberofficinalis</i> (Rhizome)
4.	<i>Filfisiyah</i>	<i>Piper nigrum</i> Linn (fruits)

The ingredients of *Habb-e-Gul-e-Aakh* will be taken in equal quantity and all will be grounded to fine powder and will be made pills of size 250 mg each.²¹

Scientific studies on *Habb-i-Gul-i-Aakh* standalone and its constituents

- A study done by Ganga B, *et al.* showed that *Habb-i-Gul-i-Aakh* possesses significant anti-inflammatory property as it has revealed significant reduction ($p < 0.01$) in paw oedema of test groups but less than standard. Also, it has analgesic activity as Writhing is decreased in test groups.²⁷
- A study on standardization of *Habb-i-Gul-i-Aakh* done by Ahmad G, *et al.*, showed that it is an effective drug in the management of chronic arthritis.²⁸
- Baig G, *et al.* study indicated that *Habb-i-Gul-i-Aakh* was safe and effective in the treatment of cervical Spondylosis.²⁹
- A study evaluated that *Bambusaarundinacea* leaves, root, seeds and shoot are used as astringent, laxative, diuretics and its extract exhibits anti-inflammatory, antiulcer, antimicrobial and hypoglycemic activity.³⁰
- An *in vivo* study conducted by Muniappan M and Sundararaj T demonstrated that extract of *Bambusaarundinacea* has an anti-inflammatory effect in immunologically-induced paw edema and it has also possesses anti-ulcer activity in albino rats.³¹

- A study done by HW Lem and AC Lee indicated that the *Zingiberofficinalis* not only reduce pain but also reduces functional disability in patients with non-specific low back pain.³²
- Rohini Terry *et al.* study shows that the use of *Zingiberofficinalis* reduced the subjective pain.³³
- A study done by Jun Soo Bang, Da Hee oh, and KyoungSoo Kim explained the anti-inflammatory and anti-arthritic effects of piperine in human interleukin stimulated fibroblast like synoviocytes and in rat arthritic models, respectively.³⁴

Ilaj-bil-Ghiza(Dieto-therapy)

- 1) *IbnSina* advised to take an easily digestible diet (*Ghiza-e-Jamiya*) in *Waja 'al Zahr*. According to him, *Hilyoonis* is the best diet in *Waja 'al Zahr*.
- 2) According to *Razi*, use of *Pudina* (*Menthaarvensis* L.) is useful in *Waja 'al Zahr* caused by *Galeez Riyah*.
- 3) In *Tibb-e-Akbar*, *Arzanistates Parindoka Ghosht* (flesh of birds) and *GarmMasaleh* (hot spices) is should be used in case of *Sue MijazBarid Sada*. He further suggests that *Taqleel-e-Ghiza* is the best in cases of *Waja 'al Zahr* due to raw phlegm. In *Imtela-e-Rag*, *Aab-e-anatursh-wa-Shereen*, *Sharbat lemon*, *Sheeratukhmkhayaren* and *Khurfa* with *Sikanjabeen* to be given.
- 4) *Jurjani* explain that *Aab-e-Nakhud* (black gram) is the best with *Waj* (*Acoruscalamus*) and *Shahed* (Honey).^{8,9,19,4,16}

Ilaj-bit-Tadbeer(Regimental therapy)

- 1) **Dalak(massage):** IbnSinaand Jurjanisuggests, before application of *Roghaniyat*, back should be rubbed with rough clothes. For examples, *Roghan-i-Gul, Roghan-i-Farfiyoon, Roghan-i-Narjeel, Roghan-i-Khuru, Roghan-i-Utraj, Roghan-i-Anjeer, Roghan-i-QurtumRoghan-i-Habb-ul-Ghaar, Roghan-i-Suddab, Roghan-i-Raindi, Roghan-i-Farbiyon, Roghan-i-Qust, Roghan-i-Sosan, Roghan-i-Shibbit, Roghan-i-Baboona, Roghan-i-Farfiyoon, Roghan-i-Narjeel, Roghan-e-Khuru, Roghan-i-Utraj, Roghan-i-Anjeer, Roghan-i-Qurtum*^{4,8,9,16,19}
- 2) **Fasd:** In case of *Imtela-e-Rag, Fasdof Basaleeq, Mabizand Safinveins* should be indicated torelief acute pain.^{4,9,10,16,19}
- 3) **Nutool(irrigation):** *Nutool*should be donewith *JoshandaMunjizBalgham*.¹⁶
- 4) **Hamam:** for *TahleelMadda*.^{9,19}
- 5) **Zimad(liniment):** *Zimad* is prepared by mixing*Muqil, Ushq, Hulba, Baboona, Habb-ul-Ghaar, TukhmAlsi, Jund-baid-astar, Rogan-e-baid-injeer, Jao-Sheer, Sakbeenaj and Farfiyoon*.^{4,8,9,10,16}
- 6) **Hijamat:** Raziindicated that *Hijamat-i-Nariyaand Hijamat-bila-Shart*should be very effective in *Waja' al Zahr. IbneSinaadvice Hijamat-bish-Shartas well as Hijamat-e-Nariyain LBP*.^{8,19}

Treatment (Modern)

Acute low back pain diagnosis:

- Diagnostic triage (non-specific low back pain, radicular syndrome, specific pathology)
- History taking and physical examination
- Neurological screening is done with the help of physical examination (including straight leg raising test)
- Psychosocial factors is considered, if there is no improvement
- X-rays not useful for non-specific low back pain

Treatment of acute low back pain:

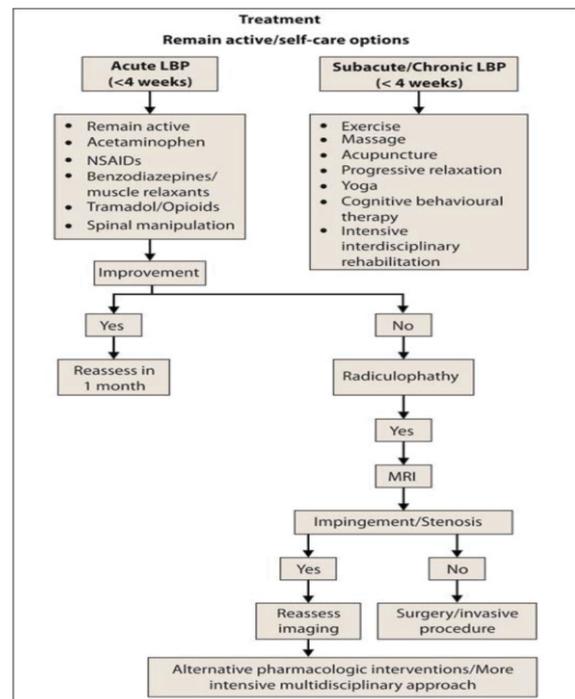
- Patients should be reassured
- Ensure patients should remain active
- Prescribe analgesics if necessary, such as paracetamol and non-steroidal anti-
- Inflammatory drugs (NSAIDs)
- Muscle relaxants or opioids may be given
- Bed rest should be discouraged
- Consider spinal manipulation for pain relief
- Back-specific exercises are not recommended

Chronic back pain diagnosis:

- Diagnostic triage to exclude specific pathology and nerve root pain
- Assessment of prognostic factors, namely work related factors, psychosocial distress, depressive mood, severity of pain and functional impact, prior episodes of low back pain, extreme symptom reporting and patient's expectations
- Imaging is not recommended unless a specific cause is strongly suspected
- Magnetic resonance imaging is best option for radicular symptoms, discitis or neoplasm
- Plain radiography is best option for structural deformities

Treatment of chronic low back pain:

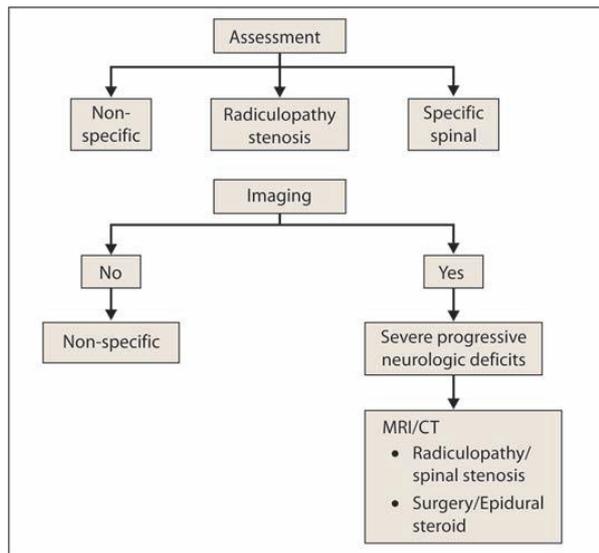
- Cognitive behavior therapy
- Supervised exercise therapy
- Educational interventions and multidisciplinary (biopsychosocial) treatment are recommended
- Short term use of NSAIDs and weak opioids are permissible
- Short courses of manipulation and mobilisation, noradrenergic or noradrenergic-serotonergic antidepressants, muscle relaxants and capsicum plasters.
- Not recommended: Passive treatments like ultrasound and short wave and gabapentin.
- Generally, Invasive treatments are not recommended in chronic non-specific low back pain.²²



Investigation

- Complete blood count
- ESR
- X-ray Lumbosacral spine (AP and Lateral view)
- LFT: serum bilirubin, SGOT, SGPT, Serum, alkaline phosphate.
- KFT: blood urea and serum creatinine
- Urine routine and microscope.
- BS(F)

Additional investigations are computed tomography, magnetic resonance imaging, myelogram, bone scan, bone densitometry and single photon emission computed tomography (SPECT). The CT and MRI have significant importance in evaluating the anatomical details. The MRI is the most preferred investigations, although the CT defines the bony architecture of the spinal canal better than MRI. The MRI differentiates metastatic spinal fractures from osteoporotic lesions. Bone scan is a screening tool for the evaluation of inflammation and infection. In case of bone of osteoporosis, bone densitometry is suggested. The SPECT is performed when a bony abnormality is suspected. Biopsy is indicated in rare situations when the diagnosis of the bone pathology is not clear.¹



Differential Diagnosis

1. **Lumbosacral Strain:** Lumbosacral strain (LS) is the commonest among the young adults due to faulty sitting position. The characteristics of LS are spasmodic pain which increases with activity, tenderness on palpation and limited range of motion.¹⁷
2. **Acute Disc Herniations or Disc Prolapsed:** Disc prolapse is often associated with neurological

symptoms like altered sensation, weakness in the muscles, asymmetric reflexes. The quality of pain is sharp, shooting or burning pain, paraesthesia in leg, decreased with standing, increased with bending or sitting.^{17,23}

3. **Spinal Osteoarthritis:** It is one of the most common findings on plain spine radiographs of patients with low back pain encountered at the ages between 55 and 60 years.²⁴
4. **Ankylosing Spondylosis:** This is a painful stiffness condition of the spine, particularly felt in the early hours of the morning. It is more common in males, age about 15-40 years.^{25,17}
5. **Spinal Stenosis:** This may be caused by a combination of bony overgrowth (e.g. osteophytes formation, Paget's disease), disc protrusion or herniations, or congenital anomalies, such as shortened vertebral pedicles.²⁴
6. **Infection:** Infectious etiology of acute low back pain include osteomyelitis, septic discitis, and paraspinal or epidural abscess, whereas infectious etiologies of chronic low back pain include fungal or tuberculosis infections.²⁶

DISCUSSION

The main purpose of this review paper is to explore the Unani and modern concepts of *Waja 'al Zahr* and its management with special emphasis on *Habb-i-Gul-i-Aakh*. Pain and tenderness in *Waja 'al Zahr* developed due to the accumulation of *Akhlat-e-Fasida* (mainly *Ghair-tabyee-Balgham*) in the joint structures of lumbosacral region that leads to *Su'-i-Mizāj* (*Sue Mizaj Mukhtalif*). This leads to congestion, stagnation and blockage in surrounding structures. Nociceptors present in muscles, tendons, ligaments, joints, etc. are stimulated by the pressure exerted due to accumulation of morbid matter producing pressure symptoms like low back pain and tenderness. Difficulty in movement (walking) may be directly related to pain and stiffness in the lower back. Stiffness may be due to spasm in the joint structure like tendons, capsules etc. due to *Burudator* blockage of *Ghair-tabyee-Balgham*.²⁷ Consequently, *Usool-i-ilaj* given by USM mainly based on *Imala* (Diversion) or *evacuation* (excretion) of morbid matter which accumulates in joint structures.

CONCLUSION

This review is an attempt to gather all the relevant information regarding research on role of Role of *Habb-i-Gul-i-Aakh* in the Management of *Waja 'al Zahr* (Low Back Pain). All the past and recent published data went through to collect the data. *Habb-i-Gul-i-Aakh* is the well known drug of USM for the treatment of *Waja 'al Zahr*.

In the light of scientific study, *Habb-i-Gul-i-Aakh* has been documented for anti-inflammatory, analgesic and anti-arthritis effects. This justifies the unani literature in the context of scientific study. However, further studies are required to determine the mechanism of its pharmacological activities.

CONFLICT OF INTEREST:

Authors declare no conduct of interest.

ACKNOWLEDGEMENT

We authors acknowledged to the Assistant Director (Seema Akbar) and library of RRIUM, Srinagar for providing us valuable support and books. We also thanks all the authors of the books and journals from which we have taken references.

List of Abbreviations

Abbreviations	Definitions
LBP	Low Back Pain
LS	Lumbosacral spine
USM	Unani System Of Medicine
NSAIDS	Non-Steroidal Anti-Inflammatory Drugs
ESR	Erythrocyte Sedimentation Rate
APV	Anterior Posterior View
LFT	Liver Function Test
KFT	Kidney Function Test
BSF	Blood Sugar Fasting
CT	Computed Tomography
MRI	Magnetic Resonance Imaging
SPECT	Single Photon Emission Computed Tomography

REFERENCES

1. **Munjil YP, et al.** API Textbook of Medicine, Vol I, 9th edn. New Delhi: Jaypee Brothers Medical Publisher. 2012, 1813-1814, 1816-17.
2. **Arshid IQ, Siddiqui MA, Sarfarz MD, Nasimul H.** An Overview of *Waja'al-Zahr* and its Management in Unani System of Medicine. International Journal of Advanced Ayurveda Unani. Siddha and Homeopathy. 2013; 2 (1): 125-131
3. **Jameson, Fauci, Kasper et al.** Harrison's Principle of Internal Medicine. Vol, 1st, 20th edn. McGraw-Hill Education. 2018: 90, 91, 92-97.
4. **Sina I.** *Al Qanoon* (Urdu Trans by Kantoori GH). New Delhi: Idara Kitab-us-Shifa. 2010, 165-206, 373-375, 1117-1129.
5. **Hanan SA and Eman SE.** Cupping Therapy (Al-Hijamh): Its impact on persistent non specific lower back pain and client disability. Life Sci. J. 2013; 10(4).
6. **Tabri R. Firdausul Hikmat.** New Delhi: Idara Kitabushifa. 2002, 635.
7. **Goldman I, Schafer AL,** Goldman-Cecil Medicine, 25th edn, Vol 2nd. Philadelphia: Elsevier Saunders. 2012, 2372, 2375.
8. **Razi Z.** Al Hawi Fit Tibb, Vol II. New Delhi: Central Council for Research in Unani Medicine. 1997, 75-85.
9. **Jurjani I. Zakheera Khawazam Shahi** (Urdu Trans by khan HH). Munshi Naval kishor, lucknow. 2010; Vol. 6: 635, 636.
10. **Baghdadi IH,** Kitab-Al-Mukhtar fit Tib. New Delhi: (Urdu translation by Central Council for Research in Unani Medicine), 2004:4.
11. **Samarqandi N,** Moalajat Sharah Asbab Hyderabad: (Urdu translation by Kabiruddin M). Hikmat Book Depot: YNM, 3.
12. **Arzani A,** Meezanut Tibb. (Urdu translation by Kabiruddin M). New Delhi: Idara Kitabushifa; 1943, 207
13. **Jeelani GH,** Makhzanulhikmat. New Delhi: Aijaz publication house, 1994, 264-265.

14. **Avicenna**, The Canon of medicine, New Delhi: (English translation by Department of Islamic studies Jamia Hamdard). Hamdard University. 2007, 205, 206.
15. **Multani HC, Tajul Hikmat**. (Practice of Medicine). Mulk Book Depo, Urdu Bazaar; Lahore. 2010, 47.
16. **Arzani A**, Tibb Akbar. (Urdu translation by Kabiruddin M). New Delhi; Idara Kitab us shifa, 2019, 615-16.
17. **Adebajo, A.**, 2010, ABC of Rheumatology, 4th ed. Blackwell Publishing Ltd., UK, 21-26. Kendall, H.O., 1993, Muscles Testing and Function. 2nd ed. Williams and Wilkins, USA, 349-361.
18. **Wu A, March L, Zheng X, Huang J and Wang X** et al. Global low back pain prevalence and year lived with disability from 1990-17: estimates from the global burden of diseases study 2017. Ann Trans Med 2020; 8(6):299-313.
19. **Kabeeruddin, Al Akseer** New delhi :(Urdu Translation) by Kabiruddin. Vol. 2. Idara Kitab us Shifa. Daryaganj, 2003, 1425-27.
20. **Kabiruddin H M**. Bayaz-e- Kabir. New Delhi: Idara Kitab ushifa, 2014; Vol 2:57.
21. National Formulary of Unani Medicine., 1st edn, Part -3: 15.
22. **Koes B W, van Tulder M W, Thomas S**, Diagnostic and treatment of low back pain, BMJ, 2006; vol(332):1431-32.
23. **Russells RCG.**, 2004: Bailey & Love's Short Practice of Surgery. 24th Ed. London, 564-568.
24. **Canale, T.S.**, 2003: Campbell's Operative Orthopedics. 5th Ed. Elsevier Science, USA. 676-678.
25. **Raftery, A.T.**, 2005: Differential Diagnosis. 2nd Ed. Churchill's Pocket Books, New York, 46.
26. **Ogle, A.A.** Diagnosis and Management of Acute Low Back Pain. Am Fam Physician. 2000. 61 (6) 1779-1786.
27. **Ganga B, Wadud A, Jahan N, Makbul AA**. Anti-inflammatory and Analgesic activity of habbe-gul-i-Aakh, A Polyherbal Unani Formulation in animal model. *Journal of Ayurveda and Integrative Medicine*. 2021; 12(1); 9-12.
28. **Ahmed G, Abid Asma, Ahmed N. Anwar M**. Standardization of *Habbe-e-Gul-e-Aakh* (HGA) :A compound formulation. A scientific study of Unani tonic drugs. 2019.
29. **Baig G M, Quamri A M**. A Randoized open labeled comparative clinical study on the efficacy of hijamat Bila Shurt and *Habb-e-Gul-e-Aakh* in cervical spondylosis 2015; 7(2); 45.
30. **Thamizharasan S, Umamaheswaris, Hari R, Ulagaratchagan V**. Pharmacognostical study of bambusaarundinaecea seeds. Journal of chemical and pharmaceutical research, 2015; 7(6); 428-434.
31. **Muniappan M, Sundararaj T**, Anti-inflammatory and anti-ulcerative activity of Bambusaarundinacea, journal of Ethnopharmacology 2003; 88(2-3); 161-167.
32. **H.W.Lem and A.C.Lee**, Effectiveness of Ginger compress on non specific low back. Journal of fundamental and applied sciences. 2017(4); 1173-1186.
33. **Terry R. Paul P.k. Leala, et al**. The use of Ginger (*Zingiber officinalis*) for the treatment of pain :A Systemic Review of Clinical trails. 2011(12); 1808-1818.
34. **Bang J.S. Hee d. Kim K.S**. Arthritic Research and Therapy the BMC Anti-inflammatory and antiarthritic effect of piperine in human interleukin Stimulated fibroblast like synoviocytes and in rat arthritic models. 2009; 11(2); 49.