ISSN NO.0974-6056

Indian Journal of Unani Medicine

Volume XVIII, Issue 2

DOI 10.53390

July-December 2025

National Environmental Science Academy

206 Raj Tower-1, Alaknanda Community Centre, New Delhi - 110019

Volume 18, Issue 2, 2025

0974-6056
DOI 10.53390

INDIAN JOURNAL OF UNANI MEDICINE

Published by
NATIONAL ENVIRONMENTAL SCIENCE ACADEMY
206, Raj Tower-I, Alaknanda Community. Centre, New Delhi - 110 019
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Indian Journal of Unani Medicine

Volume-18 (Issue : 2) July-December 2025

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **67-71**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18201

CLINICAL EFFICACY OF *SHIBB-E-YAMANI BIRYAN* (ALUMINIUM POTASSIUM SULFATE) (*ROASTED ALUM*) IN UTERINE PROLAPSE

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Review Paper

Received: **20.06.2025** Revised: **27.06.2025** Accepted: **10.07.2025**

ABSTRACT

The protrusion of uterus into or out of the vaginal canal is called as Uterine Prolapse (*Nutu-e- Raham*). Uterine prolapse is falling or sliding of womb (uterus) from its normal position into the vaginal area. Pelvic organ prolapse is one of the common clinical conditions met in day to day gynaecological practice especially among the parous women. The entity includes the decent of the vaginal wall and or the uterus. The choice of treatment available in modern system of medicine is comparatively limited. However surgery is considered to be an effective treatment. On the other hand, *Tibb-e-Unani* claims to possess a number of effective and safe therapeutic agents and various regimens that are commonly used in the management of uterine prolapse. *Qabiz, Habis, Mujaffif* and *Muqawwi Rahem* drugs are commonly used to treat the disease successfully. Therefore, in the present study an attempt has been made to evaluate the efficacy of Unani drug *Shibb-e-Yamani Biryan* (roasted alum) in patients of 1st and 2nd degree of uterine prolapse.

Result & Discussion: The results of the study revealed that the test drug is effective in 43.33% of the patients as the clinical features of uterine prolapse were found to be relieved completely in these patients. Other patients who were not cured completely were found to have symptomatic relief as some of the symptoms improved significantly indicating that the test drug at least has partial relief for all the patients. Uterine prolapse is considered a difficult ailment to be treated completely with drug.

Conclusion: The findings suggested that the test drug is effective in the management of 1st and 2nd degree of uterine prolapse and well tolerated by the patients without any side effects.

No. of Pages: 5 **No. of Tables: 1** **References: 18**

Keywords: *Shibb-e-Yamani Biryan* (roasted alum) Uterine prolapse, *Nutu-e-Rahem.*

INTRODUCTION

Pelvic organs prolapse (POP) is one of the common clinical condition met in day to day gynaecological practice especially among the parous women. The entity includes the decent of the vaginal wall and or the uterus. It is in fact a form of hernia[3]. Prolapse i.e.

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procidentia is derived from the Latin word 'procidere, to fall or downward descent[4]. The condition is mainly due to insufficiency of the pelvic floor and weakening of supportive pelvic muscles, tissues and ligaments[5].

Uterine prolapse happens mostly in postmenopausal and multiparous women. Nulliparous prolapse is seen in 2% and vault prolapse in 0.5% following hysterectomy[6].The global prevalence of uterovaginal prolapse is estimated to be 2-20% in women under age of 45 year[7]. In India, a higher incidence and a more severe degree of Uterovaginal prolapse occurs in women who are delivered at home by dais (untrained mid-wives)[6].

The most important etiological factor in prolapse is atonicity and asthenia that follow menopause. Activating factors such as increased intra-abdominal pressure caused by a chronic cough, chronic constipation, ascitis, tumour formation, lifting heavy weights, straining at stool, obesity these all tend to increase any degree of prolapse which may previously be present, raising the intra abdominal pressure[1,4,6,8,].

The patient may complain of sensation of swelling or fullness in vagina, a dragging discomfort in lower abdomen and pelvis, back ache, vaginal discharge, difficulty in emptying of bowel, urinary symptoms like frequency of micturition, difficulty in micturition, stress incontinence and coital difficulties[4,8].

According to the Unani system of medicine, *Nutu-e-Rahem* (uterine prolapse) is falling or sliding of womb (uterus) from its normal position into the vaginal area[2]. It is a condition in which the uterus descends down into the vaginal cavity or outside the introitus, which is due to the weakness of ligaments or due to the laxity which leads to it's descend[9].

The causes of *Nutu-e-Rahem* are grouped into three headings. They are external, internal and obstetrical and gynaecological[11,17].

The external causes are falling from height on back, lifting and pulling of heavy weight, trauma on pelvic floor, shouting loudly, sneezing and fear that causes weakness in ligaments of uterus, leading to prolapse. The obstetric causes are prolonged labour, delivery of heavy weight baby, forceful pulling of foetus or placenta by untrained dais or spontaneous delivery of baby[2,9,10,11]. The internal cause is *Ratubat-e-Balghami* that accumulates on the ligaments of the uterus and causes their looseness or weakness which leads to the uterine prolapse. It is often seen in old age women and in patients having *Martoob Mizaj*. *Qrha-e-Rahem* also causes laxity and weakness in the ligaments of uterus causing downward displacement of the organ[10].

The choice of treatment available in modern system of medicine is comparatively few, it includes preventive, physiotherapy, pessary and surgical treatment[8] but the only effective method of treating prolapse is surgery. Pessaries are used only for temporary basis[1]. It is a palliative treatment which does not cure Uterovaginal prolapse, it is used as a temporary measure in the early pregnancy, or in patients who hope to have another child, or to postpone operative treatment[12].

Unani system of medicine claims to possess a number of effective and safe drugs that can be used in the management of uterine prolapse.

A large number of single and compound drugs have been included in *Unani* materia medica that possess *Qabiz*, *Habis*, *Mujaffif* and *Muqawwi Rahem* properties are useful in uterine prolapse[9,4]. *Shibb-e-Yamani Biryan* (*roasted Alum*) is one such drug which possesses *Qabiz*, *Habis*, *Mujaffif* and *Muqawwi Rahe*m properties.

It has also described in classical Unani literature that *farzija* of *Shibb-e-Yamani Biryan* (roasted alum), is useful per vaginally in uterine prolapse[14,15].

In the present study an attempt has been made to evaluate the efficacy of Farzija (prepared by powder of *Shibb-e Yamani Biryan*) in quantity of 5 gms in patients suffering from 1st and 2nd degree of uterine prolapse.

MATERIALS AND METHODS

Farzija was prepared with the help of the powder of *Shibb-e-Yamani Biryan* (roasted alum), in a quantity of 5gms .The test drug was procured from local market of Malegaon, District Nashik, Maharashtra and it was roasted to become *Biryan* in the Saidla department. The permission of Institutional Ethics Committee (IEC) was taken prior to the initiation of the clinical trial.

The patients visited the OPD of Ilmul Qabalat wa Amraz-e-Niswan during 2016-2017, were screened for the 1st and 2nd degree uterine prolapse on the basis of clinical signs and symptoms compatible with the classical description of the disease. After taking the

informed consent, 30 diagnosed patients of reproductive age group were included in this study. They were informed about the disease, examination performed and type of treatment given. On the basis of computer randomized technique, the patients was selected for clinical trail. Since surgery is the only treatment in the modern system of medicine, so, there were no standard controls.

The patients were treated with (intravaginal pessary) *Farzija of shibbe-e-Yamani Biryan* of 5gms daily for 8hours three months except menses. The patients were advised to follow up once a week for 3 months during treatment and once in 15 days for 1 month after treatment.

The progress of each patient was recorded systematically in the Case Record Form (CRF). At every visit the patients were carefully interviewed and their statement about the sensation of something coming down per vagina, vaginal discharge, dyspareunia, frequency of micturition, stress incontinence and backache were recorded. After general and systemic examination each patient underwent per vaginal examination in lithotomy position so as to assess the degree of prolapsed and the improvement if any. USG (Ultrasonography) of abdomen and pelvis was done on first and last day of treatment to confirm the diagnosis and assess the improvement.

All the symptoms and signs were graded on pointer scale and the changes were noted in CRF on every follow up. The findings or clinical observations were tabulated on a computerized format. Finally recorded information were analyzed using Dunn's multiple comparison tests to determine the significance and arriving at a conclusion.

Inclusion criteria:

- Married women.
- Reproductive age group.
- Patient with the first and second degree of utero vaginal prolapse.

Exclusion criteria:

- Patient with procidentia, congenital elongation of the cervix, cervical fibroid, polyp, and the chronic inversion of the uterus.
- Pregnant women.
- Patients with any systemic illness and malignancy.
- Patients other than uterine prolapse.

RESULTS AND DISCUSSION

On the basis of different parameters i.e. subjective and objectives, the data was analysed and assessed for the effect and efficacy of test drug *Shibbe-e- yamani* in the patient of uterine prolapse. The test drug was studied by observing clinical signs and symptoms, per vaginal examination and ultrasonographic studies. The findings of clinical features have been tabulated, analyzed and compared with the baseline findings. (Table.1)

Table 1: Effect of *Farzija* on uterine prolapse.

Clinical Features	Table 1: Effect of *Farzija* on uterine prolapse.					
	Baseline		Post Treatment		Improvement	
	No	%	No	%	No	%
Per vaginal (uterine prolapse)	30	100	17	56.66	13	43.33
Sensation of something coming down	30	100	17	56.66	13	43.33
Vaginal Discharge	29	96.66	14	48.27	15	51.72
Dyspareunia	27	90.00	16	59.25	11	40.74
Frequency of Micturition	23	76.66	12	52.17	11	47.83
Stress Incontinence	16	53.33	06	37.50	10	62.50
Low back pain	30	100	25	83.33	05	16.67

On the day of registration per vaginally all patients (100%) have diagnosed uterine prolapsed as 19 (63.3%) and 11(36.6%), with the degrees of I and II respectively. After the treatment the 13(43.3%) patients have been completely cured while as 15(50%) and 2(6.6%) were observed in I and II degree respectively.

Prior to treatment sensation of feeling of something coming down were found in 30 (100%) of cases. but after treatment it was remain in 17(56.66%) and improvement were observed in 13 (43.33%).

On the day first, the vaginal discharge was present in 29 (96.66%) of cases. while after treatment only 14 (48.27%) patients remain and 15 (51.72%) improvement were observed.

On the day of registration prior to treatment dyspareunia was found in cases out of 27(90.00%) patients. After treatment it was remain in 16 (59.25%) cases and improvement was observed in 11 (40.74%) of positive complain patients.

On the day zero, frequency of micturition was found 23 (76.66%) of the cases. Whereas after treatment it was significantly reduced and found in, 12 (52.17%) in positive complains patients and improvement was observed 11 (47.83%).

Before treatment stress incontinence was observed in 16 (53.33%) of the cases. Whereas after treatment it was reduced and remain in 6 (37.50%) and improvement was observed in 10 (62.50%) of the cases.

On the day of registration Low back pain was found in 30 (100%) of the cases before starting the treatment. Whereas after treatment it was found in 25 (83.33%) of the cases and improvement was observed in 5 (16.67%) of the cases.

The result of the study revealed that *Farzija* is effective to relieving the clinical features of uterine prolapse. All the parameters were found to be significantly improved suggesting that the local application of *Farzija* (pessary) per vaginally in the management of first and second degree of uterine prolapse is quite effective.

Relief in clinical features of uterine prolapse such as degree of prolapse, sensation of something coming down pervaginally, vaginal discharge, dyspareunia, frequency of micturition, stress incontinence and backache is due to qabiz, habis and mujaffif properties of the test drug. Complete cure was observed in 13(43.33%) of patients in farzija (Pessary). Other patients though were not cured completely but got significant symptomatic relief as shown there symptomatic parameters.

Shibb-e-Yamani possesses Qabiz[10,] Habisuddam[16], Mujaffif-e-ratubat properties[18]. It also possesses caustic, haemostatic, antispasmodic and antiseptic propertis[15]. It constricts uterine wall after delivery[18]. It is externally used in a number of diseases such as uterine and anal prolapse[15].

The results of the study revealed that the test drug is effective in 13(43.3%) of the patients as the clinical features of uterine prolapse (*Nutu-e-Rahem*) were found to be relieved completely in these patients. All the parameters were found to be significantly improved in 13(43.3%) of the cases suggesting that the use of Farzija in uterine prolapse is effective in sizeable number of patients. Other patients who were not cured completely were found to have symptomatic relief as some of the symptoms improved significantly indicating that the test drug at least has partial relief for all the patients. Uterine prolapsed is considered a difficult ailment to be treated completely with drug and regimenal treatment. However, even a symptomatic relief is also considered important as it improves the quality of life significantly. Test drug by curing 13(43.3%) of the patient and inducing partial relief to other patients indicated that it can be used in the management of uterine prolapsed. The study also revealed that uterine prolapse is more prevalent in the patients having Balghami Mizaj (70%). Therefore a combined therapy of farzija along with the oral administration of other drugs that can correct the qualitative and quantitative anomalies of phlegm may be recommended for a better result.

Response to treatment.

Response	(Farzija)	
	No	%
Cured	13	43.33
Not cured	17	56.66

Conclusion

On the basis of above observations, it can be concluded that drug is very effective in relieving the clinical features of uterine prolapse. Test drug is well tolerated by the patients without having any side effects. Therefore, the present study scientifically substantiates the therapeutic use of *Farzija* (pessary) per vaginally in uterine prolapse. However, for the

exact mechanism of action of the test drugs, more elaborative and extensive studies should be done for further research.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **72-77**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18202

TREATMENT OF DIFFUSE HAIR FALL (*INTITHAR AL-SHA'R*) THROUGH UNANI MEDICINE: A CASE STUDY

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Review Paper

Received: **23.06.2025** Revised: **05.07.2025** Accepted: **18.07.2025**

ABSTRACT

Background:
Hair loss, particularly Telogen Effluvium (TE), is a common and distressing condition often triggered by systemic stressors such as febrile illness. It significantly affects an individual's appearance and quality of life, especially among women. In the Unani system of medicine, hair fall is referred to as *Intithr al-Sha'r* and is primarily attributed to *ghalba-e-Safrawi mizaj* and dryness (yubusat) of the scalp.

Case Presentation:
A 24-year-old female presented with diffuse hair fall for the past three months following a febrile illness. Clinical findings and scalp examination were consistent with Telogen Effluvium. Baseline assessments revealed a Hair Shedding Visual Analog Score (HSVS) of 10 and a Dermatology Life Quality Index (DLQI) of 16. No systemic pathology was identified on laboratory investigations.

Intervention:
The patient was treated with a Unani regimen for 60 days including:
- Oral Itrifal Ustukhuddus (10 g at bedtime),
- A topical compound oil (containing *Roghan Amla*, *Roghan Baiza-e-Murgh*, *Roghan Zarareeh*, and decoction of *Parsiyoshan*), applied thrice weekly.

Results:
Significant clinical improvement was observed the **HSVS** reduced from **10 to 1 and DLQI** improved from **16 to 1.** No adverse effects were reported, and post-treatment lab values remained within normal range, indicating the safety and efficacy of the treatment.

Conclusion:
This case highlights the potential of holistic Unani management in addressing Telogen Effluvium effectively. The intervention not only reduced hair shedding but also improved the patient's quality of life, supporting the integration of Unani therapies in clinical dermatology.

No. of Pages: 6	No. of Fig.: 1	No. of Tables: 4	References: 16

Keywords: Telogen Effluvium (TE), *Intithār al-Sha'r, ghalba-e-Safrāwī,* Hair Shedding Visual Analog Score (HSVS), Dermatology Life Quality Index (DLQI).

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Introduction:

Hair is considered a vital component of human identity and beauty (1). Beyond enhancing physical appearance, it serves as a reflection of an individual's overall health and well-being. (2)Structurally, hair is composed of keratin, a protein synthesized by epithelial cells, and includes elements such as carbon, nitrogen, sulfur, and oxygen. On average, human scalp hair grows approximately 15–30 mm per month, with a normal daily shedding of 70–100 hairs. However, excessive and prolonged hair shedding may indicate an underlying pathological condition such as alopecia.

Alopecia, or hair loss, is a prevalent dermatological disorder with significant psychosocial implications, including depression, anxiety, low self-esteem, and impaired self-image. Recognized for over two millennia, alopecia affects around 0.2% to 2% of the global population. It may present as localized or diffuse hair loss and range in severity from mild shedding to complete loss of scalp (alopecia totalis) or body hair (alopecia universalis). Among the many types, Diffuse Hair Loss (DHL)—notably *Telogen Effluvium (TE)*—is most frequently observed in clinical settings. TE is characterized by a premature shift of hair follicles from the anagen (growth) phase to the telogen (resting) phase of the hair cycle, resulting in excessive hair shedding, typically 2–3 months after a triggering event. This condition may be acute or chronic and is more frequently reported by women due to greater psychological sensitivity to hair loss. The hair cycle comprises four phases: Anagen (Growth phase): 2–8 years, Catagen (Transition phase): 4–6 weeks, Telogen (Resting phase): 2–3 months, Exogen (Shedding phase): coincides with the end of telogen(3). Disruption of this cycle due to internal or external factors—such as high-grade fever, acute illness, stress, anemia, hormonal changes (e.g., pregnancy, menopause), nutritional deficiencies, rapid weight loss, certain medications (e.g., chemotherapy), and exposure to harsh cosmetic procedures—can lead to diffuse hair loss.(4) Currently, there is no definitive treatment available in conventional medicine for hair thinning. Although corticosteroids and FDA-approved Minoxidil are commonly employed to manage hair loss, their use is often associated with adverse effects such as itching, erythema, and skin rashes. Some emerging cosmetic approaches—such as Stemoxydine and a combination formulation containing caffeine, niacinamide, panthenol, dimethicone, and acrylate polymer (CNPDA)—have shown potential, but their clinical efficacy remains unproven. Therefore, there is a pressing need to investigate alternative therapies that may effectively reduce hair shedding while minimizing the risk of adverse drug reactions.(5,6)

In the Unani system of medicine, hair loss is described as *Intithar al-Sha'r*(7), a term metaphorically likening hair fall to the shedding of leaves from a tree(1). According to Unani theory, this condition results primarily from inadequate or poor-quality production of *bukharat-i-dukhaniryya* (smoky vapors), which are crucial for maintaining the moisture and strength of hair roots. The accumulation or stagnation of these vapors in the skin's pores (*masamat*) leads to *yubusat* (dryness), weakening the hair follicles and resulting in hair fall.(8) Multiple factors contribute to *Intithar al-Sha'r* in Unani medicine, including *Mutkhalkhul al-jild* (disintegration of skin structure), *khushki wa kasafat al-jild* (dry and coarse scalp), *ghalba-e-Safrawi mizaj* (dominance of bilious temperament), *du'f al-quwwat* (weakened vital faculties), and *taghayyur-e-mizaj* (temperamental imbalance). Systemic issues such as *humrat* (inflammation), *iztirab-e-nafsani* (psychological stress), indigestion, and poor dietary practices further aggravate the condition.(5) The Unani therapeutic strategy focuses on correcting the underlying *suw' mizaj* (abnormal temperament) and restoring equilibrium through *Ilaj bil Ghiza* (dietotherapy), *Tadbir* (regimental therapy), and *Ilaj bil Dawa* (pharmacotherapy)(8). Traditional formulations such as *Itrifal Ustukhuddus*, *Roghan-e-amla, roghan-e-bazae murge*, and *parsioshah* are utilized to strengthen the scalp, detoxify the body, and nourish both the nervous system and hair roots—believed to be central to hair health. Given the multifactorial etiology of hair loss and its impact on physical and psychological health, this case study investigates the management of a case of *Intithar al-Sha'r* (Telogen Effluvium) attributed to *ghalba-e-Safrawi mizaj*, employing a holistic Unani regimen comprising topical therapies, oral medications, and lifestyle interventions tailored to the patient's temperament.

Case Presentation

A 24-year-old female presented to the *Amraze Jild-Wa-Tazeeniyat (Dermatology and Cosmetology) OPD* at A & U Tibbia College, Karol Bagh, with a primary complaint of excessive hair fall persisting for the past three months. The patient reported a history of febrile illness approximately five months ago, after which she

noticed a significant increase in hair shedding.vShe denied any history of nutritional deficiencies, thyroid disorders, polycystic ovary syndrome (PCOS), or unexplained weight loss. There was no family history of androgenetic alopecia. Her height was 152 cm and weight 56 kg, giving a BMI of 24 kg/m². Vital signs were within normal limits: heart rate 86/min, blood pressure 120/80 mm Hg, temperature 98.6°F, and respiratory rate 18/min. Systemic examination of the cardiovascular, respiratory, abdominal, and renal systems was unremarkable. Pallor was present, but there were no signs of jaundice or cyanosis. The patient also reported reduced appetite, constipation, and decreased frequency and volume of urination. Neurological examination revealed that the patient was well-oriented to time, place, and person, with intact higher mental functions (memory, speech, and intelligence). Cranial nerves I–XII were intact. Superficial reflexes (plantar, abdominal, and Wartenberg's sign) and deep tendon reflexes (biceps, triceps, knee, ankle, finger flexion, and supinator) were within normal limits. Cardiovascular system (CVS) evaluation showed a palpable apex beat in the 5th intercostal space without tenderness. On auscultation, S1 and S2 were heard clearly with no added sounds or murmurs. The respiratory system examination showed bilateral symmetry of the chest with normal air entry and resonance. The abdomen was scaphoid in shape with no distension, scars, or venous engorgement. On percussion, mild dullness was present but without fluid thrill or shifting dullness. Bowel sounds were noted at 5–7 per minute. On local scalp examination, hair loss was diffuse, characterized by generalized thinning without visible lesions, scaling, or widening of the central parting. The hair was medium in length, black in colour, and oily in texture. A positive *Hair Pull Test* was observed at multiple sites on the scalp, indicating active hair shedding. No abnormalities were noted in the nails, eyebrows, eyelashes, or body hair. This clinical presentation was consistent with Telogen Effluvium, most likely triggered by the recent febrile episode.

Table 1: Compound Formulation for Topical Use with Their Composition and Preparation.

Unani Name	Prt Used	Quantity
Joshanda Parsiyoshan	Whole plant	50g
Roghan Amla	Fruit	100 ml
Roghan Baiza-e-Murgh	Egg yolk (oil)	100 ml
Roghan Zarareeh	Seed (base oil)	100 ml

Note (Method of Preparation):
10 grams of Parsiyoshan was boiled in water to prepare a decoction. This decoction was then mixed with Roghan Amla, Roghan Baiza-e-Murgh, and Roghan Zarareeh. The mixture was gently heated until the water content completely evaporated, forming a medicated oil for topical use. The oil was stored in a clean glass bottle and applied on the scalp thrice a week.

Table 2: Therapeutic Functions of Ingredients Used in Hair Fall.

Unani Name	Scientific Name	Function in Hair Fall
Parsiyoshan	*Adiantum capillus-veneris* L.	Hair growth-promoting effect`,(9,10)
Roghan Amla	*Emblica officinalis Gaertn.*	provides nourishment to hair follicles thereby improving overall hair growth. (11)Munbaṭṭi shayr(12),Mubarrid wa Muqawwī Sha'r (coolant and hair tonic), prevents premature greying(13)
Roghan Baiza-e-Murgh	Hen's egg yolk oil	helps strengthen hair and promotes blackening, as well as rapid hair growth. Munbite shar(13,14) is rich in protein, minerals, fatty acids, vitamin A, D, E, and K. It gets easily absorbed into the scalp.(15) It is rich in lecithin. Lecithin is an important ingredient in many cosmeceutical products used for hair and skin.(16)

Roghan Zarareeh	*Sesamum indicum* L. (Til)	A strong skin irritant increases blood circulation at the site, helping to remove harmful substances and improve nutrition, which enhances blood flow to the scalp.(16)
Itrifal Ustukhuddus	*Sesamum indicum* L. (Til)	Promotes hair growt,Strengthens roots, Removes Fuzlāt-e-Dimāgh,Purifies brain (Tanzeef-e-Dimāgh),Tones digestion (Taqwiyat-e-Mi'da wa Anā), Relieves constipation,Maintains hair color,Prevents greying, Reduces hair fall(13)

Mechanism of Action in Hair Fall:

- **Tanqiyah-e-Dimagh (Detoxification of the brain):** Ingredients like *Itrifal Ustukhuddus* support nervous health and help in eliminating morbid matter from the brain (Fuzlat-e-Dimagh), thereby reducing stress-induced hair fall.
- **Taqwiyat-e-Usul-e-Sha'r (strengthening hair roots)**: Oils nourish the follicles, reducing telogen effluvium.
- **Tanqiyah wa Tarteeb (detoxifying and moisturizing)**: Prevents dryness (Yubūsat) which causes root weakening.
- **Manshiyat-e-Numu (growth promoters)**: Promote healthy regrowth of hair.

Diagnostic Assessment
Diagnosis was made based on physical examination and patient history. To quantify the severity and impact of hair loss:

- **Hair Shedding Visual Analog Score (HSVS)** was used to assess hair shedding severity.
- **Dermatology Life Quality Index (DLQI)** was used to evaluate the impact of hair loss on quality of life.

Hair Shedding Visual Analog Score (HSVS) Scale:

Score	Hair Shedding Description
0	No visible hair shedding
1–3	Mild shedding (noticed only while combing/washing)
4–6	Moderate shedding (noticeable on pillow/floor)
7–9	Severe shedding (hair falls in clumps)
10	Very severe shedding (constant shedding, distress)

Dermatology Life Quality Index (DLQI) Scale:

Total score: 0–30 (Higher score = more impact on quality of life)

Score	Effect on Patient's Life
0–1	No effect at all
2–5	Small effect
6–10	Moderate effect
11–20	Very large effect
21–30	Extremely large effect

In my case report:

- HSVS reduced from 10 → 1 → From very severe shedding to minimal shedding
- DLQI improved from 16 → 1 → From very large effect on life to no effect

Baseline laboratory investigations—including

Hemogram, **Liver Function Test (LFT)**, and **Kidney Function Test (KFT)—**were performed before and after treatment to rule out any systemic pathology and assess safety. Standardized scalp photographs were taken before and after the intervention to document treatment response.

Intervention and Follow-up
After obtaining informed consent, the patient was treated for 60 days with the following Unani regimen:

- **Oral**: *Itrifal Ustukhuddus*, 10 grams once daily at bedtime with warm water.
- **Topical application** (thrice weekly on alternate nights):
  - o *Roghan Zarareeh*
  - o *Roghan Amla*
  - o *Roghan Baiza-e-Murgh*

o *Parsioshah*
(All mixed in equal quantity in a single bottle and applied to the scalp.)

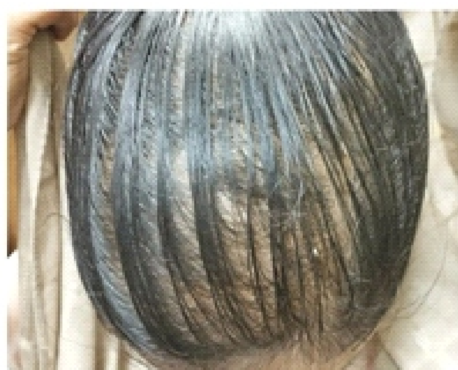
Hair Care and Dietary Recommendations
The patient was advised the following supportive care:

1. Wash hair only with clean, cold water.
2. Avoid warm or hot water for hair washing.
3. Regularly oil the scalp.
4. Comb hair only after it has dried post-wash.
5. Minimize use of heating tools (e.g., straighteners, blow dryers).
6. Avoid tight hairstyles and tight braiding, especially at bedtime.
7. Consume a healthy, nutrient-rich diet including egg yolk, milk, yogurt, leafy vegetables, nuts, and fruits rich in essential fatty acids.

Observations and Results
Treatment outcomes were assessed at 15-day intervals over three follow-ups. The following improvements were observed:

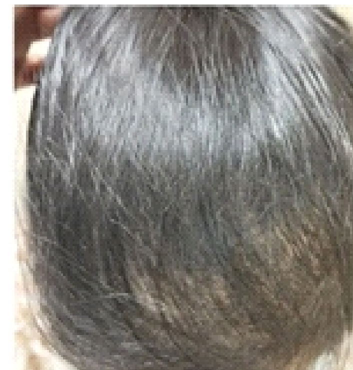
- **HSVS** decreased from **9 at baseline to 1** by the end of treatment.
- **DLQI** improved significantly from **17 to 1**, indicating restoration of the patient's confidence and quality of life.

No adverse effects were reported throughout the course of treatment. Repeat laboratory investigations remained within normal limits, confirming the safety and tolerability of the Unani interventions.



Before

at 30 days



60 days

Discussion
Hair loss, particularly Telogen Effluvium, often presents a diagnostic and therapeutic challenge due to its multifactorial etiology. While modern medicine offers pharmacological treatments, they may be limited by side effects and patient compliance. In this case, a Unani-based therapeutic strategy was employed, emphasizing temperament correction, scalp nourishment, and nervous system support.

The combination of *Itrifal Ustukhuddus* and topical medicated oil addressed both internal and external causes of hair fall. Itrifal Ustukhuddus acted as a brain and nerve tonic (*Muqawwī Dimāgh wa A'sab*), helping to alleviate stress-induced factors. The topical oils (*Roghan Amla*, *Roghan Zarareeh*, *Roghan Baiza-e-Murgh*) combined with *Parsiyoshan* decoction provided direct nourishment to hair roots, improved scalp circulation, reduced dryness (*yubūsat*), and promoted hair regrowth.

The objective scores—HSVS and DLQI-demonstrated significant and measurable clinical benefits, with HSVS dropping from 10 to 1 and DLQI from 16 to 1 over 60 days. These improvements affirm the efficacy of the regimen in treating acute TE. Furthermore, no side effects were observed, reinforcing the safety of this traditional approach.

The holistic care, including dietary and hair hygiene guidance, likely supported the therapeutic outcome. This case underscores the relevance of Unani concepts like *mizāj*, *suw' mizāj*, and *Tadbīr* in managing modern dermatological conditions and supports further exploration through larger clinical trials.

Conclusion:
The successful management of Telogen Effluvium in this case using a holistic Unani regimen highlights the potential of traditional therapies in addressing hair loss

effectively and safely. The combination of *Itrifal Ustukhuddus* (oral) and compound medicated oil (topical), prepared using classical Unani ingredients like *Parsiyoshan*, *Roghan Amla*, *Roghan Baiza-e-Murgh*, and *Roghan Zarareeh*, significantly reduced hair shedding and improved the patient's quality of life, as reflected by the decline in HSVS and DLQI scores. This integrative approach which addresses not just physical symptoms but also underlying temperamental imbalances (*ghalba-e-safrāwī mizāj*), proves to be both effective and well-tolerated. The absence of side effects and normalization of laboratory parameters further supports the safety profile of the treatment. Overall, this case emphasizes the clinical value of Unani medicine in dermatology and suggests the need for further research through larger, controlled studies to validate its efficacy in managing diffuse hair loss conditions such as Telogen Effluvium.

Conflict of Interest: The authors declare that there are no conflicts of interest associated with this study.

Statement of Informed Consent: The patient involved in the study provided informed consent prior to participation.

Financial Support and Sponsorship: No financial support or sponsorship was received for this study.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **78-84**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18203

MANAGEMENT OF QUROOH-E-ASEERUL-INDIMAAL (*NON-HEALING ULCER*) WITH A UNANI FORMULATIONS: AN OPEN-LABEL PILOT STUDY

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Pilot Study

Received: **06.07.2025** Revised: **18.07.2025** Accepted: **31.07.2025**

ABSTRACT

Background: Non-healing ulcers are a significant clinical challenge, often associated with diabetes, peripheral vascular disease, or chronic infection. Conventional treatments are often expensive and prolonged. Unani medicine offers time-tested remedies that may expedite healing naturally.

Objective: To evaluate the efficacy of topical application of Unani formulation composed of *Kundur (Boswellia serrata), Sibr zard* (*Aloe barbadensis), Amba haldi* (*Curcuma aromatic), Gulnar (Punica granatum Linn), Mur maki (Comiphora myrrh)* and *Mazoo (Quercus infectoria*) and Raw Meshed Papaya (Carica papaya) in managing non-healing ulcers.

Methods: A single-arm open-label clinical study was conducted on 30 patients for 45 days. The Unani formulation was applied topically and healing was assessed using wound surface area reduction, granulation tissue formation, and pain reduction.

Results: 73.3% improvement seen at the end of 45 days of the study (P <0.001).

Conclusion: The studied Unani formulations demonstrated potential as a cost-effective, safe, and efficacious treatment for non-healing ulcers.

No. of Pages: 7	No. ot Tables: 4	No. of Figures: 7	References: 14

Keywords: Unani medicine, *Qurooh-e-Aseerul-Indimaal*, Non-healing ulcer, *Zaroor*, Unripe Papaya, honey and wound healing.

1. Introduction

Chronic or non-healing ulcers are wounds that fail to proceed through an orderly and timely reparative process. They affect millions globally, especially among diabetics and those with peripheral arterial disease (PAD). Non-healing ulcers increase morbidity and can lead to amputation if left untreated [1]. The Literature of Unani system medicine, describes the *Quruh* (ulcers) and *Qurooh-e-Aseerul-Indimaal* (non-healing ulcer) and recommends numbers of formulations for *Tahleel* (cleansing) and *Taqwiyat-e-Laham* (tissue regeneration) [2]. Non-Healing Ulcer can be treated efficiently with the Unani drugs having *Mundammil-e-Qurooh* (healings drugs), *Mujaffif* (desiccant), *Khatim* (siccative), *Muhallil* (Anti-inflammatory) and *Daaf-e-Taaffun* (antimicrobial) actions [8,9]. This study aims to clinically evaluate the effectiveness of a Unani-based topical formulation in healing chronic ulcers.

2. MATERIALS AND METHODS

2.1 Study Design and Setting:

- A prospective, open-label pilot study

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conducted in the Department of Ilmul Jarahat (Surgery) at HSZH Government (auto.) Unani Medical College & Hospital, Bhopal, MP.

2.2 Inclusion Criteria:

- Age 18–60 years
- Non-healing ulcer for more than 6 weeks

2.3 Exclusion Criteria:

- Ulcers with active gangrene
- Immunocompromised patients
- Pregnant/lactating women
- Not willing to participate.

2.4 Intervention:

Local Treatment:

- Topical application of Test drug comprising of *Kundur (Boswellia serrata), Sibr zard* (*Aloe barbadensis), Amba haldi* (*Curcuma aromatic), Gulnar (Punica granatum Linn), Mur maki (Comiphora myrrh) and Mazoo (Quercus infectoria*) in a form of fine powder called as "zaroor" in USM dialect.
- Dressing of ulcer with Mashed unripe papaya and honey for De-sloughing.
- Wound cleansing with lukewarm *Zarishk* decoction
- Surgical debridement to remove dead and devitalized tissue

Methods of dressing

- The patients were screened on the basis of inclusion and exclusion criteria to obtain the sample Size (n=30).
- The Protocol of the study was followed up to 45 days.
- Informed written consent was obtained from every patient before the enrolment in the study.
- Initially the Dressing was done with Mashed unripe papaya and honey for the purpose of De-sloughing once healthy granulation tissue appeared on ulcer floor the dressing changed to second Test drug comprising of *Kundur (Boswellia serrata), Sibr zard* (*Aloe barbadensis), Amba haldi* (*Curcuma aromatic), Gulnar (Punica granatum Linn), Mur maki (Comiphora myrrh) and Mazoo (Quercus infectoria*) in a form of fine powder called as "*Zaroor*" in USM dialect.
- The test drug was dusted over the wound and dressings changed on every next day and fresh dressing done subsequently.
- Cleaning of the wound was done with lukewarm *Zarishk* decoction.
- The Debridement of the wound was done as per the need to remove the dead and devitalized tissue.
- Assessment was done on every 15th day of the study i.e. on 0th day, 15th day, 30th day, 45th day of the study.

2.5 Evaluation Parameters:

- Ulcer size reduction (in cm^2)
- Granulation tissue presence
- Duration of epithelialization
- Wagner's grade of ulcer
- Pain score (VAS)

Method of calculation of wound area

- To measure the wound area, tracing paper was placed over the wound to outline its size and shape.
- The tracing was then transferred onto the graph paper, where the longest length and widest breadth of the wound were measured in centimeters.
- The total wound area (in cm^2) was calculated by multiplying the maximum length by the maximum breadth.

Method of calculation of granulation

- Healthy red granulation tissue was considered as a positive healing indicator.
- Its area was determined by multiplying the maximum length and width of the healthy granulation region.
- The percentage of granulation tissue was obtained by dividing the granulated area by the total wound area, then multiplying by 100.

Method of calculation of epithelialisation

- The area of new epithelial growth was determined by subtracting the current wound area from the wound area recorded during the previous assessment.
- The percentage of epithelialization was calculated by dividing the new epithelialized area by the previous wound area and multiplying the result by 100.

Method of calculation of pain

- The pain was calculated at different point of time with help of Pain score (VAS)

2.6 Statistical Analysis:

- Data analyzed using paired t-test; $p < 0.05$ considered significant.

3. Results

RESULT

At the beginning of the study, all 30 patients presented with non-healing ulcers. Within the first 15 days, all patients showed a positive response to the treatment and their ulcers progressed into the healing phase. By the end of day 30, complete healing was observed in 9 patients (30%), while the remaining 21 patients (70%) continued to show signs of healing. By the end of the 45-day, 21 patients (70%) had fully healed ulcers, and the remaining 9 patients (30%) were still in the healing process. Initially, 25 patients (83.3%) had Wagner's grade-II ulcers and 5 patients (16.7%) had grade-I ulcers. After treatment, 21 patients (70%) had improved to grade-0 ulcers, and 9 patients (30%) had grade-I ulcers. This shift corresponded to an 83.3% improvement by day 45 ($P < 0.001$).

The mean ulcer size before treatment was 56.18 ± 91.86 cm^2, which significantly reduced to 9.60 ± 21.10 cm^2 after treatment. Most patients experienced healing between days 25 and 40, with the average healing time recorded as 31.29 ± 9.02 days. The average percentage of healthy granulation tissue at baseline was 35.16 ± 30.11%, which increased to 99.64 ± 1.50% by day 45. Epithelization also showed marked improvement, rising from a baseline of 0.57 ± 3.11% to 86.82 ± 23.40% at the end of the study. Overall, a statistically significant improvement of 73.3% was observed by day 45 ($P < 0.001$).The average duration of symptoms among participants was 22.03 ± 36.86 months.

Table 1: Area of wound (in cm^2) at different point of time.

Area of wound(in cm^2)	Before Treatment	After Treatment	Day '0'	Day '15'	Day '30'	Day '45'	% difference
0	0 0%	21 -70%	0 0%	0 0%	12 -40%	21 -70%	70.00%
Jan-20	13 -43.30%	4 -13.30%	13 -43.30%	21 -70%	11 -36.70%	4 -13.30%	-30.00%
21-40	6 -20%	2 -6.70%	6 -20%	3 -10%	3 -10%	2 -6.70%	-3.30%
41-60	3 -10%	1 -3.30%	3 -10%	2 -6.70%	0 0%	1 -3.30%	-6.70%
61-80	3 -10%	1 -3.30%	3 -10%	1 -3.30%	1 -3.30%	1 -3.30%	-6.70%
81-100	0 0%	1 -3.30%	0 0%	0 0%	1 \(3.3%)	1 -3.30%	3.30%
>100	5 -16.70%	0 0%	5 -16.70%	3 -10%	2 -6.70%	0 0%	-16.70%
Total	30 -100%	30 -100%	30 -100	30 -100	30 -100	30 -100%	-
The value of $P<0.001$: highly Significant, Paired proportion test used, 70% Improvement							

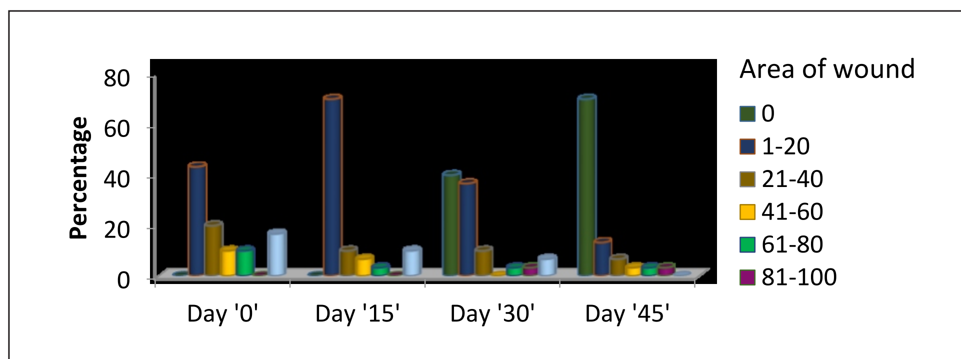

Figure 1: Area of wound (in cm^2) at different point of time.

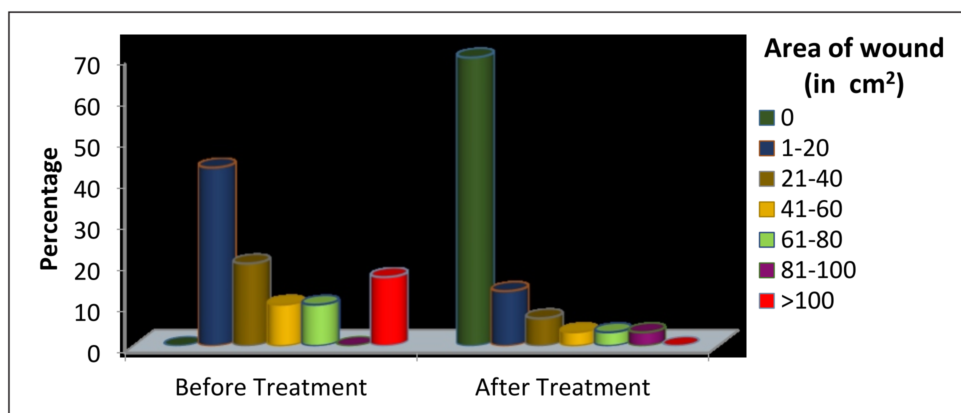

Figure 2: Area of wound.

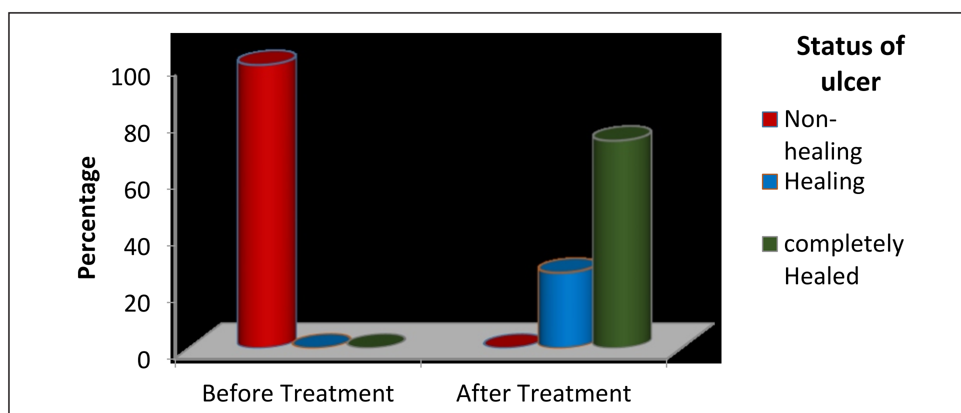

Figure 3: Status of ulcer

Table 2: Mean of healthy Granulations tissue (%) at different point of time.

	Min-Max	Mean ± SD
Before Treatment	0.00-91.25	35.16±30.11
After treatment	92.30-100.00	99.64±1.50
Day 0	0.00-91.25	35.16±30.11
Day 15	25.53-100.00	89.74±17.08
Day 30	42.00-100.00	95.09±12.45
Day 45	92.30-100.00	99.64±1.50

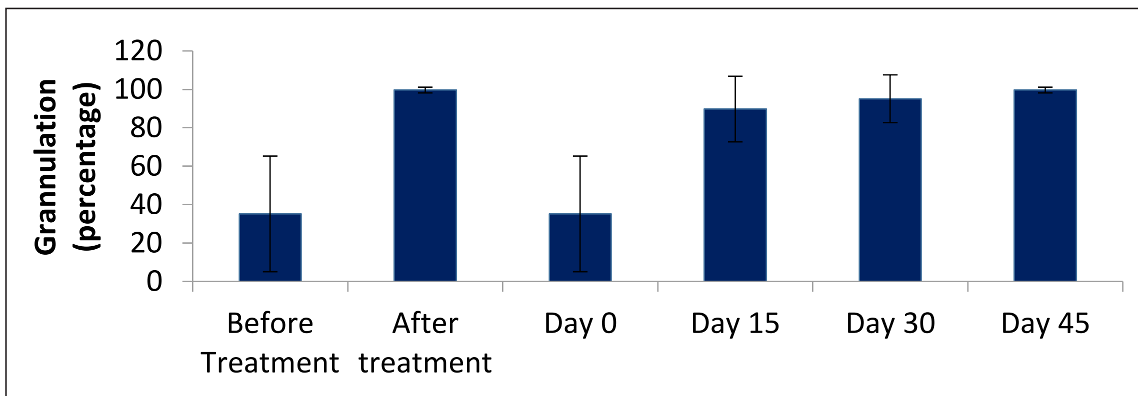

Figure 4: Mean Granulations tissue (percentage) at different point of time.

Table 3: Mean Epithelization (percentage) at different point of time.

Epithelization (percentage)	Min-Max	Mean ± SD
Before Treatment	0.00-17.05	0.57±3.11
After treatment	31.09-100.00	86.82±23.40
Day 0	0.00-17.05	0.57±3.11
Day 15	11.11-80.95	51.63±20.05
Day 30	11.66-100.00	65.11±29.37
Day 45	31.09-100.00	86.82±23.40
The P value < 0.0001: highly significant		

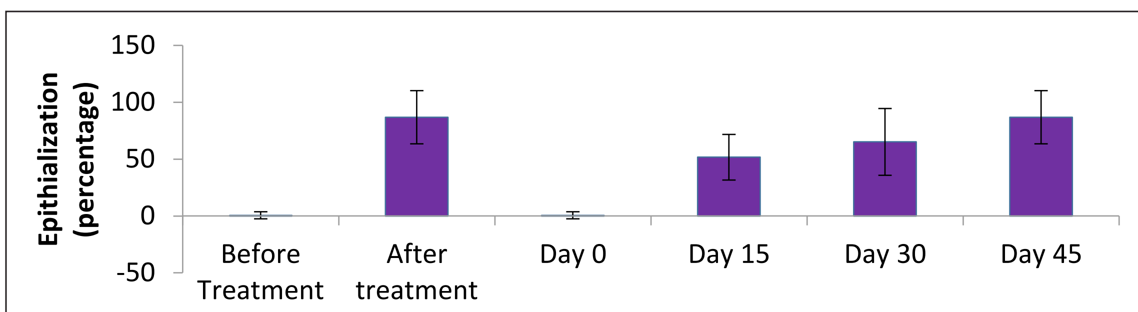

Figure 5: Epithelization.

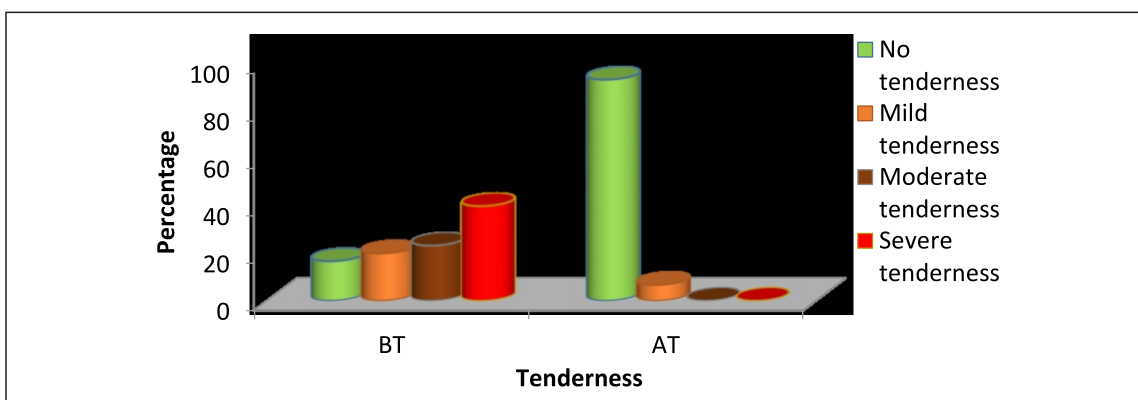

Figure 6: Tenderness Before and after the treatment.

Table 4: Days of relief in pain.

Days of relief in pain	No. of patients	%
<12	12	40.0
12-24	14	46.7
>24	4	13.3
Total	30	100.0

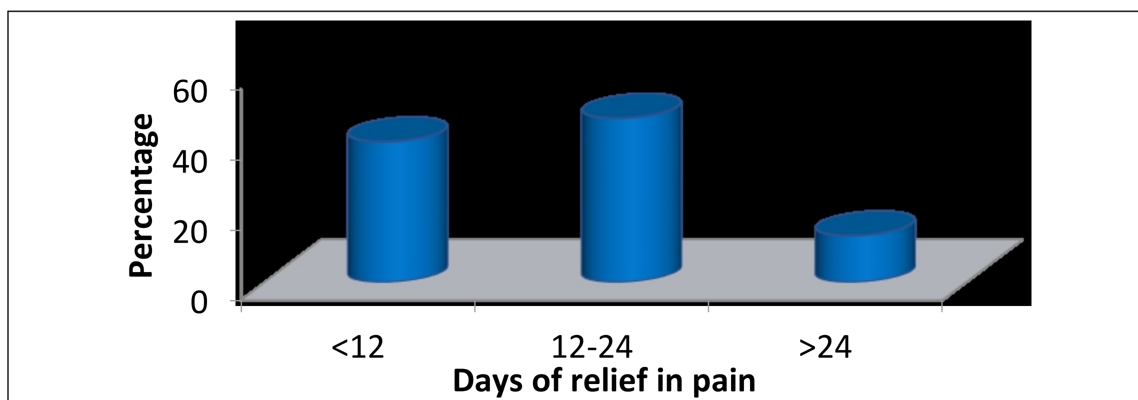

Figure 7: Days of relief in pain.

4. Discussion

The efficacy of the test drugs in this study aligns with Unani principles of *Tanqiya*, *Tahleel*, and *Taqwiyat-i-Mizaj*. [8]. The wound healing effects of this formulation can be attributed to the combined actions of its constituent drugs, which possess properties such as *Muhallil* (anti-inflammatory), *Daf-i-Ta'ffun* (antimicrobial), *Mujaffif* (desiccant), *Mundamil-i-Qurooh* (wound healing), and *Munmbit-i-Leham* (flesh-forming). These therapeutic actions are largely due to the presence of phytoconstituents like curcumin (known for its anti-inflammatory properties), as well as monoterpenoids, sesquiterpenoids, and curcuminoids (which exhibit antimicrobial, antioxidant, and free radical scavenging activities). Additionally, compounds such as heerabolene, eugenol, furanosequiterpenes, monoterpenes, tannins, terpenoids, sterols, and flavonoids contribute to cytoprotective, anti-inflammatory, antioxidant, and tissue healing effects [9,10]. *Carica papaya* contains papain, a proteolytic enzyme that breaks down necrotic tissue without harming viable tissues. It works by cleaving peptide bonds in denatured proteins, making it easier to remove slough and promote a clean wound bed, which is essential for effective healing.[11,12]. Papain, not only clears the wound bed but also stimulates fibroblast activity. Flavonoids, saponins, and alkaloids in papaya that enhance angiogenesis, collagen synthesis, and fibroblast proliferation. [13.14].

Conclusion

The Unani formulation showed promising results in managing non-healing ulcers with no side effects. It may serve as a viable, cost-effective alternative or adjunct to modern wound care therapies.

Limitations

The limitations include small sample size and lack of control group. Further randomized controlled trials are required.

Conflict of interest: There exist no conflict of interest amongst the authors.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **85-90**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18204

MANAGEMENT OF EARLY HYPOTHYROIDISM (QILLAT-I-DARQIYYAT) WITH A UNANI REGIMEN: A CASE REPORT

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Case Study

Received: **16.07.2025** Revised: **22.07.2025** Accepted: **10.08.2025**

ABSTRACT

Background: Hypothyroidism is a prevalent endocrine disorder characterized by insufficient thyroid hormone production, leading to various systemic effects such as fatigue, indigestion, mood disturbances, and metabolic slowing. While conventional treatment includes hormone replacement therapy, Unani medicine offers alternative approaches. Hypothyroidism symptoms align closely with those of "*Su-e-Mizaj Barid Maddi*" in Unani texts, indicating potential for traditional interventions.

Objectives: To evaluate the effectiveness and safety of a Unani regimen comprising *Sufoof-e-Hazim*, *Arq Badiyan*, and *Hab Kabid Naushadri* in managing early hypothyroidism symptoms and improving thyroid function.

Methods: A 60-year-old male with symptoms of indigestion, disturbed sleep, and generalized weakness was treated at the Regional Research Institute of Unani Medicine, Srinagar. Diagnostic investigations confirmed early hypothyroidism (TSH: 9.7 μIU/mL). A 60-day Unani treatment regimen was administered with biweekly follow-ups assessing clinical symptoms, vitals, and therapy tolerance. Thyroid function was re-evaluated at the end of the treatment.

Result: The patient showed significant clinical improvement, including better digestion, sleep quality, and energy levels. Follow-up Thyroid Function Test revealed a reduction in TSH to 3.6 μIU/mL, suggesting endocrine improvement. No adverse effects were observed, supporting the regimen's efficacy and safety in managing early hypothyroidism through Unani medicine.

No. of Pages: 6	**No. ot Tables: 3**	**No. of Figures: 1**	**References: 37**

Keywords: Hypothyroidism, Unani Medicine, Su-e-Mizaj Barid Maddi, Thyroid Function Test, Qillat-e-Ifraz-e-Darqiya.

1. Introduction

Hypothyroidism, a common thyroid hormone deficiency, can cause serious health issues and death if untreated. Diagnosis relies on biochemical markers due to varied, non-specific symptoms.[1] It results from genetic abnormalities, gland removal, destruction, or autoimmune damage, leading to reduced hormone signaling and affecting mood, cognition, and metabolism.[2] Clinical presentations range from severe myxedema to asymptomatic/ subclinical forms with mildly elevated thyrotropin levels, affecting 4-15% of developed countries' populations.[3] Overall prevalence is 3.8-4.6%, with women more affected. Conventional treatment

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involves hormone replacement therapy.[4-9] In Unani medicine, "Qillat-e-Ifraz-e-Darqiyya" describes hypothyroidism, caused by thyroid gland abnormalities and reduced hormone production.[10]

Hypothyroidism has diverse causes and symptoms.[11] Untreated or chronic hypothyroidism can lead to co-morbidities like anemia, hypertension, hypercholesterolemia, diabetes, obesity, myopathy, migraine, depression, and anxiety.[12] While not directly described in Unani medicine, symptoms of "Su-e-Mizaj Barid Balghami" (disturbed phlegmatic temperament) in Unani literature are similar to modern hypothyroidism symptoms.[13-16]

Unani physicians, including Hippocrates, Galen, Zakaria Razi (865–925 AD), Ali Ibn-e-Abbas Majoosi (983 AD), Ibn-e-Sina (980–1037 AD), Ismail Jurjani (1040–1136 AD), Ibn-e-Hubal Baghdadi (1121–1213 AD), Ibn-e-Rushd (1126–1128 AD), and Ibn-e-Zohr (1094–1162), recognized glands and related pathologies.[17-18] Unani philosophy links health and illness to humoral and temperamental balance. Diseases arise from imbalances in humors or temperament, influenced by various factors.[19] "Su-e-Mizaj Barid" (cold temperament) occurs with cold organ imbalances, showing signs like excessive sleep, appetite loss, and pale skin. Hypothyroidism symptoms resemble "Su-e-Mizaj Barid Maddi," including plethoric appearance, salivation, fatigue, appetite loss, sleepiness, and cold skin, attributed to abnormal phlegm excess.[20] Clinical manifestations of "Su-e-Mizaj Barid Maddi," detailed by Unani scholars, align with hypothyroidism symptoms.[21-32]

MATERIAL AND METHODS

The study was conducted in 2025 at the Regional Research Institute of Unani Medicine, Srinagar, affiliated with the University of Kashmir. Results were published while maintaining patient confidentiality in line with prior consent. The patient was treated with a combination of Sufoof-e-Hazim, Arq Badiyan, and Hab Kabid Naushadri, each prescribed with specific dosages and therapeutic intentions.

Case History

A 60-year-old male presented to the Regional Research Institute of Unani Medicine, Srinagar, University of Kashmir, with complaints of indigestion, hyperacidity, disturbed sleep, and generalized weakness for the past several months. He reported persistent indigestion with a sensation of fullness after meals, frequent belching, and bloating, along with hyperacidity, particularly after consuming spicy or heavy foods. The patient also experienced difficulty sleeping, marked by frequent nighttime awakenings, and complained of generalized weakness and morning fatigue. Occasionally, he experienced mild headaches without associated nausea or photophobia. There was no history of diabetes, hypertension, cardiac illness, or gastrointestinal ulcers. He was not on any regular medication prior to the onset of symptoms and denied any history of substance use.

Table 1: Laboratory Investigations.

Test	Result	Interpretation
TSH	9.7 μIU/mL	Elevated
Free T3, Free T4	Low-normal	Suggestive of early hypothyroidism
Complete Blood Count (CBC)	Within normal limits	
Fasting & Random Blood Sugar	Normal	
LFT/KFT	Normal	
ECG	Normal sinus rhythm	

As shown in Table 1, the laboratory investigations revealed a significantly elevated TSH level (9.7 μIU/mL) with low-normal Free T3 and T4, which is suggestive of early hypothyroidism. Other routine investigations including CBC, blood sugar levels, liver and kidney function tests, and ECG were within normal limits, indicating no systemic illness or metabolic disturbance apart from thyroid dysfunction.

Table 2: Clinical Examination Findings.

Parameter	Findings
General Appearance	Mildly pale, no icterus or edema
Vitals	BP: 122/78 mmHg, Pulse: 74 bpm, Afebrile
Weight	Slightly increased, no recent loss
Abdominal Examination	Mild epigastric tenderness, no organomegaly
Neurological Exam	Normal, no focal deficits
Cardiovascular System	Normal heart sounds, no murmurs
Respiratory System	Clear breath sounds
Sleep Assessment	Difficulty initiating sleep, frequent nighttime waking
Mental State	Mild lethargy, no signs of depression

Table 2 Highlights the findings from the clinical examination. The patient appeared mildly pale, but there were no signs of edema, jaundice, or acute systemic involvement. His vitals were stable, and both cardiovascular and respiratory examinations were unremarkable. Notably, sleep assessment indicated insomnia with frequent nighttime awakenings, aligning with his complaints of disturbed sleep. Mental and neurological assessments were within normal limits, excluding any neuropsychiatric contribution to his symptoms.

Therapeutic intervention

Prescribed Unani Combination Therapy (Duration: 60 Days)

Table 2: Clinical Examination Findings.

Medicine	Formulation Type	Dosage	Purpose / Therapeutic Actions	Reference
Sufoof-e-Hazim	Polyherbal powder	5 grams twice daily after meals	Improves digestion - Relieves flatulence and bloating - Acts as an appetizer	[33]
Arq Badiyan	Herbal distillate	30 ml twice daily after meals	Digestive, gastroprotective, hepatoprotective - Antispasmodic and carminative - Diuretic and anorectic-Effective in fatty liver, improves HDL	[34]
Hab Kabid	tablet/pill	2 tablets	Supports liver function - Promotes overall	[34]
Naushadri		twice daily with lukewarm water	digestive wellness	

Follow up and outcome measures

The therapy was followed for a duration of 60 days, with follow-ups conducted at regular intervals every 15 days to monitor the patient's clinical progress. Throughout the treatment period, the patient demonstrated steady improvement in symptoms without any adverse effects such as indigestion, nausea, or other complications, confirming the safety and tolerability of the prescribed Unani regimen. At each follow-up, the patient's vitals were recorded, and regular monitoring of the thyroid function was recommended to assess the therapeutic effectiveness. At the end of the 60-day treatment period, a repeat Thyroid Function Test (TFT) was performed, which showed improvement in thyroid levels, indicating a positive response to the treatment.

RESULTS

Reported marked clinical improvement. Symptoms of indigestion, hyperacidity, disturbed sleep, and

generalized weakness had notably subsided. The patient experienced better sleep quality, improved digestion, and increased overall energy levels.

A repeat Thyroid Function Test (TFT) conducted on the 60th day revealed a significant reduction in TSH levels from 9.7 μIU/mL to 3.6 μIU/mL, bringing it closer to the normal reference range. Free T3 and Free T4 levels remained within low-normal limits, indicating a favorable endocrine response. No adverse effects or complications were reported throughout the treatment period, and vital signs remained stable across all follow-ups. These findings suggest that the combination therapy was both effective and well-tolerated, contributing positively to both digestive wellness and thyroid function regulation (Chart 1).

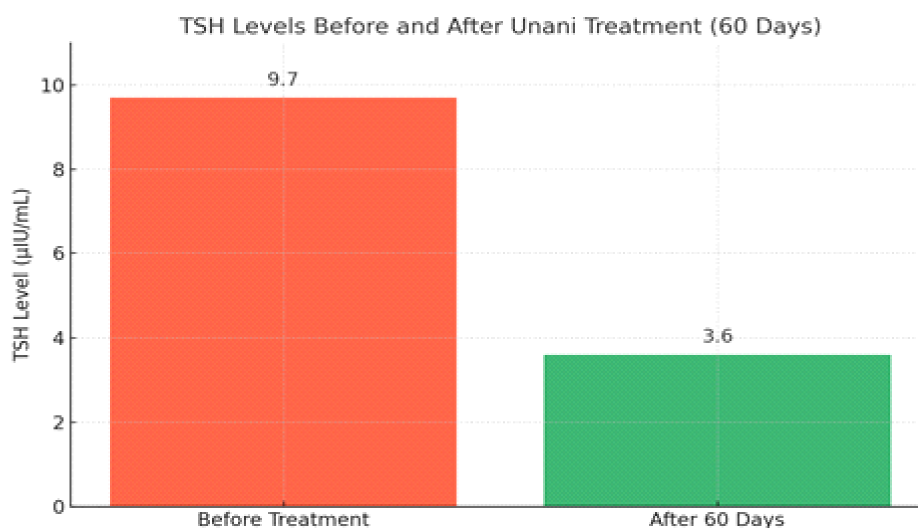

Chart 1: Showing the significant reduction in **TSH levels**from **9.7 μIU/mL before treatment** to **3.6 μIU/mL after 60 days** of Unani therapy.

DISCUSSION

This case underscores the therapeutic potential and safety of a classical Unani regimen—Sufoof-e-Hazim, Arq Badiyan, and Hab Kabid Naushadri—in the management of early hypothyroidism accompanied by digestive disturbances. The patient exhibited notable symptomatic improvement and a marked reduction in TSH levels from 9.7 μIU/mL to 3.6 μIU/mL within 60 days, without any adverse effects. The clinical benefits observed may be due to the synergistic action of the formulations, each grounded in Unani principles. Sufoof-e-Hazim, mentioned in Al-Qanoon fi'l-Tibb and Makhzan al-Adwiyah, functions as a Hāzim (digestive) and Muqawwi-i-Meda (stomach tonic), promoting gastric function and relieving dyspepsia. Arq Badiyan, described in Bayaz-e-Kabir and Qarabadin-e-Azam, acts as a Mufttih (deobstruent) and Mufarrih (exhilarant), relieving bloating and digestive distress, and may exert mild Moaddil-i-Hormonal effects. Hab Kabid Naushadri, a well-known liver tonic in Unani medicine, supports hepatic detoxification and T4 to T3 conversion, crucial for thyroid function. By addressing Asbab such as Su-e-Hadm, Zo'f-i-Kabid, and Imtila, this regimen reflects the holistic approach of Unani medicine in restoring metabolic and hormonal balance, meriting further scientific evaluation.

CONCLUSION

The case highlights the potential benefits of Unani medicine in the management of early hypothyroidism accompanied by digestive disturbances. The combination therapy of Sufoof-e-Hazim, Arq Badiyan, and Hab Kabid Naushadri was effective in relieving symptoms such as indigestion, hyperacidity, disturbed sleep, and generalized weakness, while also significantly reducing TSH levels from 9.7 to 3.6 μIU/mL. The treatment was well-tolerated, with no reported side effects during the 60-day duration. These findings suggest that traditional Unani formulations may offer a safe, holistic, and effective approach to support thyroid health and improve quality of life in patients with subclinical or early-stage hypothyroidism.

Future Suggestions

Further research with larger sample sizes and longer follow-up periods is recommended to validate these findings. Controlled clinical trials comparing Unani therapy with conventional treatments could provide stronger evidence for its efficacy and safety. Additionally, exploring the pharmacological actions of individual Unani ingredients may help understand their role in thyroid regulation and digestive support.

Declaration of patient consent

The authors affirm that duly executed patient consent forms, authorizing the dissemination of clinical data within this publication, have been obtained. While meticulous measures will be employed to safeguard patient confidentiality, absolute anonymity cannot be assured. The patient acknowledges that their full names and initials will be withheld.

ACKNOWLEDGEMENT

The authors express their sincere gratitude to Dr. Irfat Ara, Deputy Director of the Regional Research Institute of Unani Medicine, Srinagar, and to the Library staff for their invaluable support and for providing extensive literature that greatly aided in the preparation of this case report.

Conflict of Interest

None

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **91-93**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18205

THE LIVER AS THE BODY'S MATBAKH (KITCHEN): A COMPARATIVE STUDY OF KABID IN UNANI MEDICINE AND HEPATIC FUNCTION IN MODERN SCIENCE

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Review Paper

Received: **07.08.2025** Revised: **20.08.2025** Accepted: **05.09.2025**

ABSTRACT

This paper aims to explore the role of the liver, referred to as Kabid (liver) in Unani medicine, comparing its conceptualization and function in both Unani and modern biomedical sciences. The Kabid, often termed the "Matbakh" (kitchen) of the body in Unani medicine, plays a central role in digestion, metabolism, and detoxification. In modern science, hepatic function is equally revered due to the liver's vital role in metabolic regulation, toxin removal, and synthesis of biochemicals essential for digestion. By drawing parallels between the two systems of understanding, this paper attempts to create a bridge between traditional and modern medicine, focusing on the relevance of ancient concepts in the context of modern science. The study will also examine how the integrative approach can enhance liver health management.

No. of Pages: 3 **References: 15**

Keywords: Kabid, Liver,Matbakh, Kitchen, Digestion Detoxification, Metabolism, Blood purification,

INTRODUCTION

The Kabid (liver) is considered one of the most crucial organs in both Unani and modern medical sciences. In Unani medicine, it is described as the central organ for metabolism and purification, much like the kitchen of the body where all processing of nutrients and toxins occurs (8, 7). Modern biomedical sciences mirror this understanding but with a more detailed physiological and biochemical perspective (3, 5). The Kabid's (liver's) functions in metabolic homeostasis, detoxification, bile production, and synthesis of critical proteins highlight its importance in overall health. This research paper aims to juxtapose these two perspectives, highlighting similarities, differences, and potential areas of convergence between Unani and modern biomedical understandings of hepatic function.

1. Unani Concept of Kabid

1.1 Digestion

Eminent Unani scholars, including Ibn Sina (Avicenna), Ibn al-Nafis, and Hakim Ajmal Khan, view the Kabid (liver) as the center of the second stage of hazm thani (digestion). In this stage, digested food is further processed in the Kabid (liver) to be converted into various essential components like dam (blood), bile, and nutrients that nourish the body (7, 11). These scholars emphasize the Kabid's (liver's) critical role in transforming and distributing nutrients, ensuring that balance and health are maintained within the body's systems.

1.2 Metabolism

The Kabid (liver) is regarded as the primary organ for processing the four humors (akhlaat): dam (blood),

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balgham (phlegm), safra (yellow bile), and sauda (black bile). The Kabid (liver) ensures that these humors remain in balance, a crucial aspect of Unani health philosophy (8, 14).

1.3 Detoxification and Blood Purification

Detoxification is another essential function attributed to Kabid (liver) in Unani medicine. Harmful substances in the blood are neutralized in the Kabid (liver) before they can cause harm to other organs (2).

2. Hepatic Functions in Modern Science

Modern medicine acknowledges the liver as a complex and multifunctional organ that plays a central role in:

2.1 Metabolism

In modern biomedicine, the Kabid (liver) is primarily responsible for carbohydrate, protein, and fat metabolism. It regulates blood sugar levels by storing glycogen and synthesizing glucose during fasting states (9, 10).

2.2 Detoxification

The Kabid (liver) metabolizes drugs, alcohol, and other toxins, transforming them into less harmful substances that can be excreted through urine or feces. This parallels the Unani understanding of detoxification (13).

2.3 Protein Synthesis and Bile Production

The Kabid (liver) synthesizes important proteins such as albumin, clotting factors, and enzymes. It also produces bile, which aids in the digestion and absorption of fats (12).

3. Comparative Analysis: Kabid and Hepatic Function

3.1 Metabolism in Unani and Modern Science

Both systems emphasize the Kabid's (liver's) central role in metabolism. However, while Unani focuses on humoral balance, modern science dives deeper into specific biochemical pathways. For example, the concept of glucose storage and release aligns with Unani's broader understanding of nutrient management by the Kabid (liver) (8, 12).

3.2 Detoxification Processes

Detoxification in Unani medicine, explained through the lens of humoral theory, corresponds with the modern understanding of hepatic detoxification. Both traditions acknowledge that Kabid (liver) dysfunction can lead to a buildup of toxins in the body, though modern science explains this in terms of enzyme activity and metabolic pathways (13).

3.3 Blood Purification

In Unani medicine, the Kabid (liver) filters impurities from the blood, akin to the modern biomedical understanding of its detoxification role. However, the physiological processes such as the action of the cytochrome P450 enzymes provide a more detailed modern explanation of this function (15).

4. The Importance of Integrative Approaches

Given the overlapping understandings of Kabid (liver) function in both Unani and modern biomedical sciences, integrating the two systems may provide comprehensive solutions for liver health. Traditional Unani treatments involving diet, herbal remedies, and lifestyle adjustments can be evaluated and combined with modern treatments for liver diseases, including hepatitis, cirrhosis, and fatty liver disease (7).

5. Conclusion

The Kabid (liver) holds a significant place in both Unani and modern medicine, serving as the body's central hub for metabolism, detoxification, and purification. While Unani medicine provides a holistic view of the liver's function based on humoral theory, modern biomedicine explains its roles in molecular and physiological terms. Integrating the wisdom from both traditions could provide more effective liver disease management strategies, respecting both ancient insights and modern advances.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **94-96**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18206

THERAPEUTIC EVALUATION OF ḤIJAMAH BIL SHART IN QILLAT SH'AR (ANDROGENETIC ALOPECIA): A CASE STUDY WITH UNANI AND BIOMEDICAL INSIGHTS

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Case Study

Received: **10.08.2025** Revised: **22.08.2025** Accepted: **10.09.2025**

ABSTRACT

Qillat sh'ar (Androgenetic alopecia, AGA) is a progressive, patterned form of hair loss predominantly influenced by genetic predisposition and hormonal factors. Current pharmacological treatments, such as minoxidil and finasteride, offer variable results and are often associated with undesirable side effects. This has led patients to seek alternative therapeutic options. In the Unani system of medicine, *hijāmah bil shart* (wet cupping) is a regimental therapy aimed at eliminating morbid humors, purifying the blood, and stimulating local tissue regeneration. This case study presents the outcome of *hijāmah bil shart* in a 34-year-old male patient diagnosed with AGA. The intervention involved four sessions over 45 days and was assessed through traditional Unani and modern biomedical lenses. Significant improvement was noted in hair texture, reduced shedding, and overall scalp health, without any adverse effects. The findings suggest that *hijāmah bil shart* may serve as a safe, cost-effective, and supportive therapeutic modality for androgenetic alopecia.

No. of Pages: 3 **No. of Fig.: 1** **References: 11**

Keywords: Androgenetic alopecia, *ḥijāmah bil shart*, Unani medicine, *Qillat sh'ar*, wet cupping, hair loss.

INTRODUCTION

Hair loss is a common dermatological complaint that often extends beyond cosmetic concerns, impacting self-esteem and contributing to psychological conditions such as anxiety and depression[1]. Among various types of alopecia, androgenetic alopecia (AGA) is the most prevalent form, affecting nearly half of all men by the age of fifty and a significant proportion of women post-menopause[2]. The condition is marked by progressive miniaturization of scalp hair follicles under the influence of dihydrotestosterone (DHT), especially in genetically predisposed individuals[3]. Clinically, men exhibit frontal hairline recession and vertex thinning, while women typically present with diffuse crown thinning without frontal hairline involvement[4].

In the Unani system of medicine, AGA is recognized as *Qillat sh'ar*, resulting from an imbalance in *mizaj* (temperament) and *akhlat* (humors). Classical Unani texts by scholars such as Ibn Sina and Razi attribute hair loss to *burudat* (coldness) and *yubusat* (dryness), leading to the accumulation of *maddah fasidah* (morbid material) within the *masamat* (pores) of the scalp, thus impairing follicular nourishment[5,6]. One of the key interventions in Unani medicine is *Ilaj bil-Tadbir* (regimental therapy), with *hijamah bil shart* (wet cupping) being widely practiced for its blood-

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purifying and stimulant effects. This case study investigates the efficacy of *hijamah bil shart* in a patient with AGA, interpreted through both Unani and biomedical frameworks.

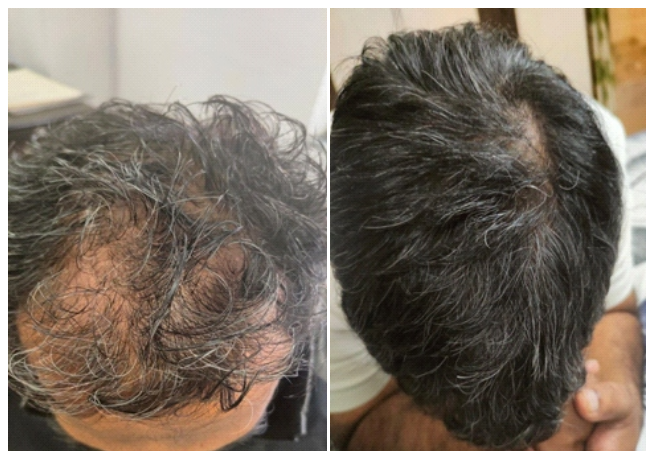
Methodology

A 34-year-old male presented to the Ilaj bil-Tadbir OPD at Ajmal Khan Tibbiya College with a complaint of progressive hair thinning and excessive shedding over the previous two years. The patient had previously used minoxidil, corticosteroids, and intralesional injections, with minimal therapeutic benefit. A hair transplant was recommended, but I declined due to financial limitations. Clinical examination revealed vertex thinning and a receding frontal hairline consistent with Norwood–Hamilton Grade III androgenetic alopecia. The hair was black, of medium length, and oily. A positive hair pull test indicated ongoing active shedding. Other body hair, including eyebrows and eyelashes, appeared normal, and no signs of scalp inflammation, scaling, or scarring were observed. Baseline laboratory investigations, including complete blood count (CBC), erythrocyte sedimentation rate (ESR), bleeding time (BT), clotting time (CT), and screening for HIV, HBsAg, and VDRL, were within normal physiological limits. Informed consent was obtained before initiating treatment.

The therapeutic protocol consisted of four sittings of *hijamah bil shart* conducted on Days 0, 15, 30, and 45. Each session was carried out under aseptic conditions. The affected areas of the scalp, specifically the vertex and frontoparietal regions, were marked and cleaned with 70% isopropyl alcohol (surgical spirit). Superficial incisions were then made using a sterile surgical blade. A suction mechanism employing 3–4 disposable plastic cups connected to a vacuum pump was used to extract a small volume of blood. Each session lasted approximately ten minutes. After the cupping procedure, the scalp was cleaned with a povidone-iodine solution and dressed appropriately. The patient was advised to follow a light, non-stimulating diet and to avoid the use of hair oils or chemical-based hair products for three days following each session.

Results

By the third session of *hijamah bil shart*, the patient subjectively reported a noticeable reduction in hair shedding, which indicated an early therapeutic response. Following the completion of all four sessions, a marked improvement was observed in overall scalp health. The patient described the hair as thicker, more resilient, and healthier in texture. A significant decline in both the frequency and volume of hair fall was noted compared to baseline. The entire treatment was well-tolerated without any complaints of local irritation, infection, or scarring. During a follow-up period of four weeks post-treatment, continued improvement in hair volume and scalp comfort was observed, suggesting both immediate and sustained therapeutic benefits. No adverse effects were recorded at any point during or after the treatment.



Discussion

The favorable therapeutic outcome observed in this case following the application of *ḥijāmah bil shart* (wet cupping) can be attributed to a combination of interwoven explanations derived from both the Unani system of medicine and modern biomedical sciences. From the Unani standpoint, androgenetic alopecia (AGA) is conceptualized as a pathological consequence of *burūdah* (coldness) and *ysubūsat* (dryness) in the scalp region. These altered temperamental conditions lead to a weakening of *ḥarārat-e-gharīziyyah* (innate vital heat), which is essential for sustaining optimal tissue function, nourishment, and regeneration of hair. The reduction in innate heat not only impairs metabolic activity at the local level but also facilitates the accumulation of *mawad fāsidah* (morbid material) within the *masāmāt* (pores) of the scalp, thereby obstructing nutrient delivery to the hair follicles. In such case, *ḥijāmah bil shart* serves a dual purpose: it acts as a means of evacuating these accumulated impurities and simultaneously revitalizes the local *tabīʿat* (nature or vital principle), thereby aiding the restoration of a normal *mizāj* (temperament). As the balance of humors is restored and the obstructed pores are cleared, local circulation improves, and the essential

nutritive substances can reach the hair follicles more efficiently. This process is believed to facilitate the regrowth of hair, improve hair texture, and reduce ongoing shedding [5,7].

From a contemporary biomedical perspective, wet cupping is known to induce a form of controlled localized trauma. This micro-injury triggers a cascade of cellular and molecular responses, including the activation of mast cells, which release histamine, as well as the upregulation of vascular endothelial growth factor (VEGF). VEGF plays a key role in angiogenesis and enhances microcirculation by promoting the formation of new capillaries and increasing vascular permeability. As a result, the oxygen and nutrient supply to the affected scalp area is significantly improved, which is crucial in reversing the process of follicular miniaturization that characterizes AGA. Additionally, the process of cupping may remove localized interstitial fluid and pro-inflammatory mediators, thus mitigating oxidative stress and chronic inflammation, both of which are increasingly recognized as contributors to hair follicle dysfunction and apoptosis [8,10].

Furthermore, the systemic effects of wet cupping should not be overlooked. Several studies suggest that cupping may influence neuroendocrine pathways, particularly the hypothalamic-pituitary-adrenal (HPA) axis. By modulating stress hormone levels such as cortisol, cupping may exert beneficial effects on psychogenic factors that exacerbate hair loss. Psychological stress has been shown to alter the hair growth cycle by prolonging the telogen phase and precipitating hair shedding; therefore, any intervention that ameliorates stress may have an indirect but meaningful impact on hair regrowth[11]. Taken together, these mechanisms offer a plausible explanation for the therapeutic improvements observed in this patient and provide a compelling rationale for further research. Larger controlled trials with standardized protocols are necessary to validate these findings and to better elucidate the multi-faceted action of *ḥijāmah bil shart* in the management of androgenetic alopecia.

Conclusion

This case study highlights the potential of *ḥijāmah bil shart* (wet cupping) as a supportive, non-pharmacological therapy for androgenetic alopecia. Rooted in the principles of Unani medicine and supported by plausible biomedical mechanisms, wet cupping may offer a safe, effective, and economical intervention for patients who do not respond to or cannot access conventional therapies. However, larger-scale clinical trials are necessary to substantiate its efficacy and define standard treatment protocols.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **97-106**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18207

MODERN ADVANCES AND UNANI INSIGHTS IN THE MANAGEMENT OF VARICOSE VEINS: A COMPARATIVE REVIEW

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Case Study

Received: **31.08.2025** Revised: **16.09.2025** Accepted: **29.09.2025**

ABSTRACT

Varicose veins (Dawali) are a chronic vascular condition characterized by dilated, tortuous, and elongated veins, most commonly affecting the lower limbs due to valve incompetence and venous hypertension. Modern medicine identifies multiple contributing factors, including prolonged standing, hormonal imbalances, pregnancy, and genetic predisposition. Symptoms vary from cosmetic concerns to significant discomfort and complications such as chronic venous insufficiency, ulcers, and thrombophlebitis. The CEAP classification system is widely used to categorize the disease clinically and anatomically. In Unani medicine, varicose veins are considered to result from the accumulation of *saudavi maadda* (black bile) and are managed through holistic therapies aimed at balancing the humours. Treatments include *fasd* (bloodletting), *Irsal-e-Alaq* (leech therapy), herbal formulations (e.g., *Habb-e Asgand*, *Majoon Ushba*), massage, and dietary regulation. Unani remedies focus on detoxification, circulation enhancement, and tissue healing. In addition, modern treatments such as compression therapy, sclerotherapy, endothermal ablation, and surgical procedures are discussed. Integration of modern diagnostics with traditional Unani methods offers a comprehensive and cost-effective approach to managing this prevalent condition. The paper highlights the potential of Unani medicine in treating varicose veins effectively and safely, with fewer side effects, particularly in regions with limited access to surgical interventions.

No. of Pages: 10	No. of Tables: 2	References: 28

Keywords: Varicose veins, Unani medicine, Dawali, Leech therapy, Venous insufficiency, Herbal treatment.

INTRODUCTION

A vein is described as varicose when it becomes dilated, elongated, and tortuous. Common sites of varicosity include the superficial venous system of the lower limbs, involving either the long saphenous vein, the short saphenous vein, or both; the gastro-esophageal junction, where esophageal varices develop; the hemorrhoidal veins, leading to piles; and the spermatic veins, resulting in a varicocele.[1]

Varicose veins are abnormally dilated, elongated, and twisted veins, typically found in the legs, where faulty valves cause a reversal of blood flow. These veins become permanently enlarged and follow a tortuous path, leading to disrupted and pathological circulation. Several factors increase the risk of developing varicose veins, including a family history of the condition, being female, occupations involving prolonged standing, immobility, and increased intra-abdominal pressure—such as that caused by athletic activities, tight clothing, pregnancy, elevated progesterone levels, and hormonal imbalances involving estrogen and progesterone. Additional contributing factors include chronic constipation and wearing high-heeled shoes. The condition affects approximately 35% of the population, with 10% experiencing severe varicose veins, 8% developing chronic venous insufficiency (CVI), and 2% progressing to leg ulcers.[2]

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Varicose veins are often called the "penalty for standing upright," because blood in the legs has to flow upward to the heart, working against gravity. This makes the legs more likely to develop vein problems. In many people, varicose veins don't cause any symptoms. However, increased pressure in the abdomen—often seen in women due to repeated pregnancies—can make them worse. When complications occur, they may become serious enough to require hospital treatment.[3]

Material and Methods

A thorough literature review was carried out using databases such as PubMed/Medline, Science Direct, Google Scholar, SciFinder, Scopus, and Web of Science. Relevant keywords like intermittent varicose veins (VVs), neovascularization, epidemiology, causes, clinical features, signs and symptoms, risk factors, disease process, diagnosis, impact on quality of life, and global burden of VVs were used to gather information. Articles were selected based on full-text availability, and studies involving congenital disorders or animals were excluded. Only original research articles, reviews, mini-reviews, and case reports written in English were considered for this study.

Aetiology

Varicose veins in the lower limbs are often seen as a consequence of humans standing upright, which forces the veins to pump blood upward against gravity. Superficial veins are particularly vulnerable because they are supported by loose fatty tissue, making them more prone to becoming varicose. Varicose veins are classified into three types: primary, secondary, and congenital.

1. Primary varicose veins are the most common and usually result from faulty valves in the veins. These valve problems can be either present from birth (congenital) or acquired later, often due to vein inflammation or clotting (thrombosis).

- A damaged saphenofemoral valve leads to varicosity in the long saphenous vein.
- A faulty saphenopopliteal valve affects the short saphenous vein.
- Valve failure in the perforator veins can cause varicosity in either or both saphenous systems.

2. Secondary varicose veins occur due to blockage or pressure in the deep veins, often caused by:

- Physical pressure from pregnancy or pelvic tumors like uterine fibroids, ovarian cysts, or cancers of the cervix, uterus, ovary, or rectum.
- Deep vein thrombosis (DVT), which can damage the valves.
- Hormonal changes, especially in women who have had multiple pregnancies, due to progesterone.
- Acquired arteriovenous fistulas, either from injury or surgical procedures like dialysis access.
- Cavernous haemangiomas, which are abnormal clusters of enlarged veins.
- Retroperitoneal lymph node swelling or fibrosis.
- Iliac vein thrombosis.

3. Congenital varicose veins are rare and usually appear in individuals under 20 years old. These are often caused by congenital arteriovenous fistulas or cavernous haemangiomas. [1]

Epidemology

Varicose veins are a widespread vascular disorder, affecting between 10% and 30% of the global population, with prevalence varying based on age, gender, occupation, and geographical location. Research shows that women are more commonly affected (up to 25%) than men (10–15%), and the likelihood of developing the condition rises significantly after the age of 50 (Aslam et al., 2022). There are also clear regional differences—for example, rates are particularly high in Italy (up to 77.3%) and Saudi Arabia (over 60%), while countries like Spain report much lower rates, around 5.6% (Aslam et al., 2022; StatPearls, 2023). Key risk factors include pregnancy, obesity, standing for long periods, a sedentary lifestyle, and a family history of the condition. Job-related risks are also important, with healthcare workers showing a pooled prevalence of about 25%. The condition is observed more frequently in Caucasians than in Asians, suggesting a role of both ethnic background and genetic predisposition.[4,5]

Classification

Varicose veins are classified according to their symptoms, causes, anatomical site, and the underlying disease process. The CEAP classification is the most commonly used system for this purpose. The CEAP Classification (Clinical-Etiology-Anatomy-Pathophysiology), developed by the American Venous Forum, is the internationally recognized gold standard for categorizing chronic venous diseases, such as varicose veins.[6,7,8]

Clinical classification	
C0	No visible or palpable signs of venous disease
C1	Telangiectasies or reticular veins
C2	Varicose veins
C3	Edema
C4a	Pigmentation and eczema
C4b	Lipodermatosclerosis and atrophie blanche.
C5	Healed venous ulcer
C6	Active venous ulcer
S	Symptomatic, including ache, pain, tightness, skin irritation, heaviness, and muscle cramps, and other complaints attributable to venous dysfunction
A.	Asymptomatic
Etiologic classification	
Ec	Congenital
Ep	Primary
Es	Secondary (postthrombotic)
En	No venous cause identified
Anatomic classification	
As	Superficial veins
Ap	Perforator veins
Ad	Deep veins
An	No venous location identified
Pathophysiology classification	
Pr	Reflux
Po	Obstruction
Pr,o	Reflux and obstruction
Pn	No venous pathophysiology identifiable

The clinical classification of varicose veins based on their appearance includes several types:

- **Thread veins** (also known as dermal flares, telangiectasia, spider veins, or hyphen veins) are tiny surface veins measuring 0.5–1 mm. These appear as red or purple web-like patterns, typically around the ankles, and are more commonly seen in women.
- **Reticular varices**, ranging from 1–4 mm in diameter, are slightly larger and located in the subdermal or subcutaneous layers.
- **Varicose veins** are visibly enlarged, palpable veins greater than 4 mm in diameter, usually found within the saphenous vein system.
- In some cases, a combination of these vein types may be present.

Additionally, varicose veins are categorized by size: small varicose veins are less than 4 mm wide, while large varicose veins exceed 4 mm.

Corona phlebectatica refers to clusters of blue telangiectasias seen on the inner side of the foot below the ankle bone. The presence of more than five of these

is a strong indicator of potential skin changes related to venous disease.[2]

Clinical Features

The symptoms of varicose veins can vary widely, and some individuals may not experience any symptoms at all. When present, symptoms may affect one or both legs and include localized discomfort such as pain, burning, itching, and tingling at the site of the affected veins. General symptoms often involve aching, heaviness, cramping, throbbing, restlessness, and leg swelling, which typically worsen toward the end of the day, especially after standing for long periods. These symptoms usually improve with leg elevation or rest. Women are more likely than men to report symptoms in the lower limbs. As the CEAP classification progresses from C0 to C6, both the frequency and severity of symptoms tend to increase.

While varicose veins can cause discomfort and cosmetic concerns, they rarely lead to serious complications. However, signs of more advanced venous insufficiency may include skin discoloration, eczema, infection, inflammation of superficial veins (thrombophlebitis), venous ulcers, loss of soft tissue, and lipodermatosclerosis—a condition where chronic inflammation leads to fibrosis and shrinkage of the skin and subcutanous tissue, causing the lower leg to narrow.

Visible signs of varicose veins include:

- Veins that appear swollen, twisted, or bulging
- A blue or dark purple color
- Throbbing or muscle cramps
- Itchy or irritated rashes
- Darkening and thickening of the skin
- Leg swelling
- Prolonged bleeding from minor injuries
- A feeling of heaviness or tiredness in the legs
- Tenderness near the affected veins
- Lipodermatosclerosis, where fat under the skin near the ankle hardens and the skin tightens
- Venous eczema, presenting as red, dry, itchy skin
- Atrophie blanche, characterized by irregular white scar-like patches near the ankles

Restless legs syndrome, causing an uncontrollable urge to move the legs.[9, 4, 10]

Common Predisposing Factors for Formation of Varicose Vein

A variety of internal and external factors contribute to the risk of developing varicose veins. These include age, sex, pregnancy, body weight and height, ethnicity, diet, bowel habits, occupation, posture, previous episodes of deep vein thrombosis (DVT), genetic predisposition, and climate. Additional factors identified in research include heredity, jobs requiring long periods of standing or sitting, wearing tight clothing, use of raised toilet seats, physical inactivity, smoking, and oral contraceptive use. Tight undergarments can lead to increased venous pressure in the upper legs. A low-fiber diet may cause constipation and straining during bowel movements, while elevated toilet seats discourage natural squatting, further contributing to straining. These factors are all believed to cause or worsen venous hypertension, which is closely associated with the onset and progression of chronic venous insufficiency.[11]

Pathogenesis

Blood flow in the veins depends on healthy valves and muscle movements to push blood back to the heart against gravity. Normally, blood flows from the superficial veins into the deep veins and then upward toward the heart, moving from the lower part of the body to the upper part. Valves in the superficial, deep, and perforating veins help keep blood moving upward and stop it from flowing backward. When these valves stop working properly—especially in the legs—pressure from the deep veins can flow back into the superficial veins through the saphenofemoral junction (SFJ) and perforating veins, causing the veins to stretch and become varicose. Studies using imaging like ultrasound have shown that faulty valves can be found throughout the leg in people with varicose veins. The most common area affected is in the branch veins below the knee, especially in the great saphenous vein. Higher pressure in the veins is linked with more severe symptoms of the condition.[12]

Venous hypertension can result from several factors, including malfunctioning venous valves, structural changes in the vein walls, inflammation, and alterations in shear stress. Varicose veins develop due to a combination of these pathophysiological processes. Reflux caused by valve failure, blockage of venous inflow, or inadequate calf muscle pump function can all lead to venous hypertension. This reflux, which contributes to venous insufficiency, may

affect either the superficial or deep venous systems. In cases with significant perforator vein incompetence, the pressure from deep veins—especially during calf muscle contraction—can be transmitted directly to the superficial veins, leading to valve failure in those areas. Structural changes in the vein wall contribute to further weakening and dilation. Histological studies of varicose veins have shown an imbalance in collagen production (increased type I collagen, reduced or disrupted type III collagen), abnormal arrangement of smooth muscle cells, and changes in elastin fibers—factors that all play a role in the progression of the disease.[13]

Unani Concept

Varicosity is a condition where the veins in the legs and feet become enlarged due to the excessive buildup of blood. According to Unani medicine, this buildup may be caused by saudavi maadda (black bile), ghair saudavi maadda, or balgham ghaleez (thick phlegm). The term “varicose” comes from a Greek word meaning “grape-like” and was first used medically by Hippocrates around 460 BC. Historical records of varicose veins date back over 3,500 years, with the earliest mention found in the Ebers Papyrus of ancient Egypt, which advised against surgical removal due to the risk of fatal bleeding. Hippocrates instead recommended treatments like compression and cauterization rather than excision. Later, physicians such as Paulus Aegineta promoted ligation techniques centuries before they became mainstream, and bloodletting with leeches was widely practiced in ancient Greece, Rome, and the Arab world. Over the centuries, treatments progressed slowly, with minimal focus on appearance until more recent times.

In Unani medicine, the symptoms of Dawali (varicose veins) are believed to result from the accumulation of saudavi blood in the lower limbs. To alleviate these symptoms, it is essential to eliminate the morbid matter. Traditional Unani treatments for Dawali have included emesis (vomiting), purgation, and bloodletting, with fasd (venesection) being the most commonly used method to remove the diseased humors and manage the condition.[14] Bloodletting is believed to remove excess or harmful humours from the body, thereby helping to purify the blood, relieve pressure, and restore the natural balance of bodily fluids. In surgical conditions, it is used to reduce inflammation, pain, and swelling by improving circulation and clearing stagnant blood. Unani physicians have historically emphasized the timing, method, and selection of specific veins for bloodletting based on the patient's temperament and disease state. When performed correctly, it is considered a safe and effective procedure within the framework of Unani healing practices.[15]

Prevention

Lifestyle Changes: Limit long periods of walking, standing, or sitting, as avoiding prolonged standing can help ease varicose vein symptoms. Try not to sit with legs crossed, although this might be difficult in some cultural situations.

Avoid wearing high heels for extended times; low-heeled shoes help strengthen the calf muscles, which assist in moving blood through the veins.

Losing weight can improve circulation and reduce pressure on the veins, helping to relieve symptoms.[14]
. Improving blood circulation and muscle strength may reduce the chance of developing varicose veins. The methods used to ease varicose vein symptoms can also help prevent them. Consider these tips:

Follow a diet rich in fiber and low in salt.[16]

Complications of Varicose Veins

1. **Chronic Venous Insufficiency (CVI)**: If varicose veins are not treated, they may cause complications such as Chronic Venous Insufficiency (CVI). This condition occurs when blood pools in the veins for a long time, which can damage vein function and result in symptoms like swelling in the legs, changes in the skin, and pain.
2. **Chronic Venous Insufficiency (CVI):** Open sores or ulcers, typically found around the ankles, can develop due to poor blood flow and high pressure in the veins.
3. **Superficial Thrombophlebitis:** Inflammation and blood clots can occur in a superficial vein, leading to redness, pain, and swelling.
4. **Deep Vein Thrombosis (DVT):** Although it is less frequent, varicose veins can raise the risk of deep vein thrombosis (DVT), a serious condition where blood clots develop in the deeper veins.
5. **Bleeding:** Varicose veins near the surface of the skin may burst, leading to bleeding either on their own or after an injury.
6. **Skin Changes (Lipodermatosclerosis & Hyperpigmentation):** Chronic vein problems can lead to the skin becoming thickened,

darkened, and developing eczema because of poor circulation. [17]

Treatment

There are various treatments for varicose veins, including conservative care, foam sclerotherapy, thermal techniques, and surgery. However, these methods have limitations, with varicose veins recurring in 26% to 60% of cases after surgery. This highlights the need for alternative approaches, such as herbal medicines, to slow down the progression and help manage the condition. Therefore, polyherbal drugs present a promising option for treating and controlling varicose veins.[18]

Traditional treatments for varicose veins involved compression therapy using special stockings and surgical methods like vein stripping, cryosurgery, and ambulatory phlebectomy. However, more effective non-surgical options are now available that promote faster and better healing. These include treatments such as sclerotherapy or foam sclerotherapy and endothermal ablation. Additionally, there are many natural remedies used to treat varicose veins, including horse chestnut seed extract, Centella asiatica, apple cider vinegar, butcher's broom, garlic, amla, grape seed extract, and citrus fruits.[19]

Physical Therapy for Varicose Veins: Exercise and yoga help strengthen muscles and enhance blood circulation, reducing pain and promoting healthy veins. Activities such as walking, cycling, and swimming also help tone muscles and improve blood flow. Elevating the legs with pillows while resting can further aid circulation. Additionally, massage therapy using oils like olive, mustard, castor, or citrus applied in an upward motion can stimulate blood flow and drainage. Losing weight may also relieve symptoms, especially in individuals who are overweight.

Compression therapy: This therapy involves using special compression stockings that apply pressure to the calves, squeezing the enlarged veins. This reduces the size of the veins, helping to improve blood flow back to the heart.[20]

Non-surgical Treatments like

Sclerotherapy: Spider veins, also known as angiiectasis, are treated with a method that uses sclerosing agents like sodium salicylate, polidocanol, or chromated glycine, which are injected with fine needles. After the procedure, patients are advised to wear compression stockings to help tighten the treated veins. Possible side effects include scarring at the injection sites, the development of small new veins called neovascularization (which can take months to a year to fade), swelling, and in severe cases, small ulcers.

Ultrasound guided foam sclerotherapy: This method works by damaging the inner lining of the vein to cause blockage and scar tissue in the enlarged veins. The sclerosing agent is used in foam form because it covers a larger area inside the vein walls. Possible side effects include bubble embolism and inflammation of the veins (thrombophlebitis).[18,20]

Endothermal Ablation: This treatment uses energy from radiofrequency and lasers to close off the damaged veins, promoting faster healing. It consists of two main methods.

Radiofrequency ablation of the Varicose Veins: The affected veins are treated by inserting a radiofrequency catheter with sheath electrodes and heating them using a bipolar generator at a temperature of around 85 ± 3 °C.

Endovenous Ablation: This technique closes the vein by inserting a catheter into the saphenous vein at the saphenofemoral junction (below the knee) and guiding a laser fiber through it. It has a 98% success rate in treating venous insufficiency. Reported side effects include limb stiffness, pain, and bruising.[21]

Surgical Treatments

Surgery has traditionally been a common treatment for varicose veins, particularly when the greater saphenous vein is involved. However, studies suggest it may not always be the most effective or only treatment option available.

Ligation: Tying off the affected vein through a small surgical incision to prevent abnormal blood flow.

Phlebectomy: This procedure involves removing superficial veins through small incisions in the skin and is typically done by a dermatologist on an outpatient basis. After surgery, patients are advised to continue wearing compression stockings for a certain period. Mild swelling and inflammation may occur temporarily.

Vein Stripping: This surgical method involves treating the damaged veins by inserting specially designed

wires through an incision in the saphenous vein to "strip" or remove them. The procedure is performed under general anesthesia and is referred to as bilateral surgery. Possible side effects include bleeding, bruising, and infections.

These surgical treatments offers several advantages, including a reduced risk of complications like ulcers, an 88% ulcer healing rate, and a low recurrence rate of 13% over 10 months. However, it also carries some risks, such as the potential for vein recurrence and increased pressure in nearby veins.[19]

Unani Treatment

In Unani medicine, numerous single and compound remedies, along with bloodletting techniques, are used to treat and manage "Dawali" (varicose veins). These approaches are considered safe and affordable. Unani treatment takes a holistic view, focusing on improving blood circulation and restoring balance among the body's humours. While specific herbal formulations may vary based on a person's constitution and symptoms, several commonly used herbs are frequently prescribed for managing varicose veins. [22] These include as

Table 1: Herbal Medicines used for treating Varicose Veins.

Herbal Medicines	
Herb	**Description**
Habb-e Asgand	Known as Ashwagandha or *Withania somnifera,* this herb has revitalizing properties that may help support blood circulation and improve vascular health.
Qurs-e Zeequn Nisa	A Unani formulation containing multiple plant ingredients such as *Zingiber officinale* (ginger) and *Cyperus scariosus* (nagarmotha) is believed to possess anti-inflammatory effects and promote blood circulation.
Majoon Ushba	This Unani herbal paste is thought to improve blood circulation and reduce swelling, often including ingredients such as *Terminalia chebul*a.

Table 2: Drug regimen for treating Dawali (Varicose Vein)

Following drug regimen are followed for treatment of Dawali	
Ilaj bid Dawa (Pharmacotherapy)	**Ilaj Maqami (Local management)**
Matbookh saba	Bandage of leg spiralling from below to upward using tila
Habb afteemoon	Tila used with medicines like Turmus and Turfa with Roghan zaitoon
Afteemoon with ma'ul jubn	Tila Ma'in Kala, Aqaqiya, Gond Babool
Ma'ulJubn	Natool of extract of Turmus
Quabiz Zimadat	Itrifal-e- Sagheer with Zanjabeel orally
Nuskhatila (Sibr, Aqaqiya, Mur, Ramik,UsaraLehya-tu Tees)	PodinaNahri, Sana Makki, Harmal, Bartang, Magz Tukhm Bed AnjeerWa Shahad, Useful Orally And Locally as Zimad

In the Unani system of medicine, Irsal-e Alaq (leech therapy) and Tanqiya-e Sauda (removal of black bile) are effectively used to manage varicose veins. A treatment plan combining Irsal-e Alaq with Itrifal Sagheer and Zanjabeel has been shown to significantly reduce symptoms like pain, heaviness, swelling, skin changes, and vein enlargement. This approach, based on the principles of Tanqiya (cleansing) and Ta'deel (balance), is considered safe and effective for treating Dawali (varicose veins). To eliminate the morbid matter causing the condition, oral administration of Itrifal Sagheer with Zanjabeel along with Joshanda Aftimoon is commonly used. The main treatment goal in Dawali is to remove the accumulated Madda (morbid matter), especially the Sauda (melancholic matter), which deposits in the veins of the lower legs. Leeches (Irsal-e Alaq) are also applied to help evacuate this harmful substance and aid in the healing process.[23,24,25]

Leech therapy[26,27]

Leeches, known as Alaq in Arabic, are worms classified under Hirudinea, with around 300 species worldwide. Some species, such as Hirudinaria granulosa found in India, possess medicinal qualities. Traditionally, leech therapy has been used to treat a variety of health issues. Leeches latch onto the skin, draw blood, and release saliva that contains more than 100 active substances. One important ingredient, hirudin, helps stop blood from clotting. Additionally, their saliva provides pain relief and has antibacterial and anti-inflammatory properties. In varicose veins, leeches help by:

- Removing congested blood
- Improving blood circulation
- Reducing swelling and pain
- Preventing clot formation
- Enhancing tissue healing

Studies suggest leech therapy may relieve symptoms and prevent complications of varicose veins. It is also used for other conditions like arthritis, phlebitis, migraines, and hypertension. Overall, leech therapy is a natural method that supports blood flow and healing in varicose veins.

Bioactive ingredients found in Leech saliva

Leech saliva contains several pharmacologically active substances with proven benefits, including:

a. **Hirudin:** A protein from *Hirudo medicinalis* that strongly inhibits thrombin, making it the most powerful natural thrombin inhibitor used to prevent postoperative blood clots without significant side effects.

b. **Destabilase:** An enzyme with glycosidase activity that helps dissolve blood clots.

c. **Hyaluronidase:** This enzyme reduces viscosity, enhances absorption, and increases connective tissue permeability; it's being studied to boost the effectiveness of chemotherapy drugs.

d. **Carboxypeptidase-A:** Increases blood flow at the site of injury, aiding the healing of varicose ulcers by improving circulation.

e. **Calin:** Prevents blood clotting by blocking the binding of Von Willebrand factor to collagen and inhibits platelet aggregation.

f. **Eglin:** Small proteins like Eglin C show promise in treating inflammation-related diseases by preventing neutrophil infiltration into inflamed vessels and have been effective in experimental shock models.

g. **Bdellins:** Inhibit enzymes such as trypsin, plasmin, and sperm acrosin.

h. **Hirustasin:** Also known as Hirudo antistasin, it inhibits coagulation factor Xa and possesses anti-metastatic properties.

I. **Guamerin:** A novel inhibitor of human leukocyte elastase.

j. **Gelin:** Similar to Eglin, it inhibits enzymes like elastase, cathepsin G, and chymotrypsin.

Hydrotherapy: A warm sitz bath is a type of hydrotherapy, is an effective and noninvasive treatment for simple varicose veins, but it demands strong patient commitment to be successful.[10]

Herbal cream

Herbal creams are natural skincare products made from plant parts such as seeds, roots, leaves, and flowers. They are increasingly popular worldwide, with about 80% of people using herbal medicine, due to their gentle, healing, and nourishing qualities. These creams are favored for being safer and causing fewer side effects compared to synthetic products. Herbal antiseptic creams, in particular, help calm and heal skin problems like rashes, sores, heat rashes, and mild infections without irritation. They usually contain essential oils, vitamins, and plant extracts that provide hydration, reduce inflammation, fight microbes, and offer antioxidant effects. Herbal creams are categorized based on their function (such as cleansing or massage), the type of emulsion (oil-in-water or water-in-oil), and their specific purposes like night creams, hand creams, or skin protectants. Overall, they offer a natural, safe, and effective way to support skin health.[16]

Natural venoactive drugs

Venoactive drugs, which work through various mechanisms, are often an effective and safe treatment option for patients with chronic venous conditions. Many of these medications are derived naturally from plant extracts.

Diosmin: 7-disaccharide derivative of diosmetin, works by enhancing venous tone and lymphatic flow while improving the elasticity of blood vessels. It is commonly available as a micronized purified flavonoid fraction (MPFF), such as Daflon, which contains about 90% diosmin and 10% other active

flavonoids like hesperidin, diosmetin, linarin, and isoorhoifolin derived from Rutaceae aurantiae. Diosmin also helps reduce swelling by decreasing blood vessel wall permeability and boosting capillary blood flow. Additionally, it has anti-inflammatory and antioxidant effects, supports vessel elasticity, inhibits leukocyte adhesion, platelet activation, and complement system activity, and reduces COX-1 enzyme activity.

Hesperidin: Hesperidin possesses anti-inflammatory, antioxidant, and antimicrobial properties. Its anti-inflammatory action is linked to blocking the p38 MAPK signaling pathway and reducing the production of pro-inflammatory cytokines. This flavonoid also decreases platelet aggregation and boosts the levels of antioxidant enzymes such as catalase (CAT) and superoxide dismutase (SOD). Additionally, hesperidin inhibits inflammatory mediators like NF-B, iNOS, and COX-2, while activating the ERK/Nrf2 signaling pathway to enhance the cell's antioxidant defenses.

Coumarin: Coumarin derivatives exhibit a wide range of pharmacological and therapeutic effects, including anti-inflammatory, antioxidant, antiviral, antibacterial, anticoagulant, anti-edema, and anticancer properties. Esculetin, a coumarin derivative, helps neutralize free radicals produced during lipid peroxidation and enhances antioxidant enzyme levels like CAT, SOD, and GPX.[28]

Conclusion

varicose veins (Dawali) represent a widespread vascular disorder that affects a significant portion of the global population, particularly women and individuals with certain lifestyle and occupational risk factors. Modern medical science attributes the condition to valve dysfunction, venous hypertension, and structural changes in the vein walls, while Unani medicine links it to an imbalance of bodily humours, particularly the accumulation of *saudavi* matter. Both systems offer a range of treatment options—from conservative management and surgical interventions to herbal remedies, bloodletting, and leech therapy. Unani medicine emphasizes holistic healing through detoxification, restoration of humoral balance, and the use of natural therapies, offering a safe, cost-effective, and culturally rooted alternative for managing varicose veins. Integrating modern diagnostic tools with traditional Unani principles may provide a more comprehensive approach to prevention, symptom relief, and long-term management of this chronic condition. This paper aims to serve as a complete resource for understanding the current state of knowledge and clinical practice surrounding varicose vein.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **107-117**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18208

WAJAʿ AL-MAFASIL (RHEUMATOID ARTHRITIS): CAUSES AND MANAGEMENT IN PERSPECTIVE OF UNANI MEDICINE - A REVIEW

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Review Paper

Received: **10.09.2025** Revised: **25.09.2025** Accepted: **10.10.2025**

ABSTRACT

Rheumatoid Arthritis (RA) is a chronic, systemic autoimmune disorder marked by persistent synovial inflammation, progressive joint deformities, functional disability, and systemic complications such as cardiovascular involvement, osteoporosis, and fatigue, which collectively reduce quality of life and productivity. Globally, RA affects approximately 0.5–1% of the population, with a higher prevalence among women, particularly between the ages of 30 and 50 years, and remains a major contributor to long-term morbidity. In the Unani system of medicine, conditions resembling RA are classified under *Wajaʿ al-Mafāṣil* (وجع المفاصل), literally meaning "pain of the joints." Classical physicians like Ibn Sina, Zakariya Razi, and Jurjani described its causes, clinical features, and treatment in detail, emphasizing humoral imbalance and temperament. This review integrates Unani and modern biomedical perspectives, highlighting similarities and differences in etiology, pathogenesis, clinical presentation, and therapeutic approaches, while also suggesting integrative strategies for more effective and holistic patient care.

No. of Pages: 11	**No. of Tables: 5**	**References: 38**

Keywords: Varicose veins, Unani medicine, Dawali, Leech therapy, Venous insufficiency, Herbal treatment.

INTRODUCTION

Rheumatoid Arthritis (RA) is a chronic, systemic autoimmune disorder characterized by persistent synovial inflammation, progressive joint destruction, pain, stiffness, deformities, and systemic complications. It affects approximately 0.5–1% of the global population, with a female-to-male ratio of about 3:1, and peak incidence between 30 and 50 years of age [1,2,3]

RA is associated with long-term disability, decreased quality of life, increased morbidity, and considerable socioeconomic burden, making it one of the most disabling musculoskeletal conditions worldwide. [4,5,6] The condition is progressive and often relapsing, significantly impairing work capacity and productivity.

In the Unani system of medicine, joint disorders resembling RA are discussed under the term Waja' al-Mafsil (وجع المفاصل), literally meaning "pain of the joints." This terminology encompasses a wide spectrum of joint diseases, several of which share striking similarities with the clinical manifestations of RA. [7,8]

Classical Unani scholars provided detailed accounts of its etiology, pathogenesis, symptomatology, and

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therapeutic principles. Zakariya Razi in Kitāb al-Hawi, Ali Ibn Abbas Majoosi in Kamil al-Sanāʿa, Ibn Sina (Avicenna c. 980 – 22 June 1037) in Al-Qanun fi'al-Tibb, and Akbar Arzani in Ṭibb-ī-Akbar highlighted humoral imbalance (Sū'-ī-Mizāj), derangement of digestion (Sū'-i-Haḍm), defective elimination, and accumulation of Mawād-ī-Fāsida (morbid matter) as key underlying causes. [9,10,11,12]

Buqrat (Hippocrates c. 460 – c. 370 BC) first described a chronic joint disease beginning around 35 years, starting in small joints and progressively affecting larger ones, leading to joint destruction.[13]

Ibn Hubal al-Baghdadi (1121–1213 AD), in *Kitab al-Mukhtarāt fī al-Ṭibb*, provided an elaborate description of *Wajaʿ al-Mafāṣil* (arthritis). He explained that *Wajaʿ al-Mafāṣil* and *Niqris* (gout) arise in individuals with a quantitative imbalance of humours. This results primarily from thick, viscous *Balgham* (phlegm) mixing with sharp *Safrā* (bile). At times, these diseases may also develop due to *Sawda, Sū'-i-Mizāj* (abnormal melancholic temperament), *Sāda* (simple imbalance), or *Riyāḥ* (pathological winds).[14]

Ali Ibn Abbās al-Majūsī described *Wajaʿ al-Mafāṣil* as an inflammatory condition of the joints, potentially involving multiple sites such as the hips, wrists, and hands.[11]

Shaikh Ibn Sīnā stated that the pain of *Wajaʿ al-Mafāṣil* arises from a gaseous humour exerting pressure on the nerves and muscle fibres. He further mentioned that sometimes it's *Mādda* that belongs to the category of *Rīm* (pus).[9]

Ismail Jurjani described *Waja al-Mafasil* as a disorder resulting from the deposition of *Mawad-i-Fāsida* (morbid substances) within the joints and body cavities, which subsequently give rise to pain and inflammatory changes.[15]

In 1680, rheumatism was treated with Cinchona (Peruvian bark), which contains the anti-malarial compound quinine. Later, in 1763, willow bark was introduced as a remedy for rheumatism.[16]

In *Tibb-i-Akbar*, Akbar Arzani (17th century AD) described a condition characterized by pain and inflammation of the joints of the hands and legs, identifying it as *Waja al-Mafasil*.[12]

Sāhib-i-Kāmil described that *Waja al-Mafasil* sometimes occurs in the jawbones, ears, and vertebrae, and at times it is so complex that its cause cannot be determined.[11]

Modern management of rheumatoid arthritis commonly involves NSAIDs and corticosteroids for pain relief, DMARDs like methotrexate for disease modification, and biologics in resistant cases, alongside physiotherapy and lifestyle measures. While effective, long-term use of these drugs can cause serious side effects, organ toxicity, and drug dependency. In contrast, Unani medicine explains joint vulnerability as a result of weak digestive power and structural looseness, leading to abnormal humours and recurrent inflammation. Unani regimental and detoxification therapies are generally safe and offer a reliable alternative to conventional drugs, minimizing adverse effects and dependency. Integrating both approaches could provide more comprehensive, patient-centred care, with Unani treatments reducing the need for continuous pharmacological intervention, while modern therapies address disease progression. Such an integrative model has the potential to optimize outcomes, improve safety, and offer a practical substitute for allopathic drugs, though clinical research is needed to validate these combinations.

2. MATERIALS AND METHODS

This paper is based on a comprehensive review of both classical Unani literature and modern biomedical publications. Classical sources consulted include Al-Qānūn fi'al-Tibb of Ibn Sina, Kitāb al-Hāwi of Zakariya Razi, Zakīra Khwārizm Shāhī of Jurjani, Kāmil al-Sana'a of Ali Ibn Abbas Majūsī, and Tibb-i-Akbar of Arzani, along with standard compendia, manuscripts, pharmacopoeias, and other Unani treatises that describe the historical background, etiology, pathogenesis, and therapeutic principles of Waja; al-Mafasil (Rheumatoid Arthritis). For the modern perspective, a systematic search of published research papers, review articles, clinical guidelines, and standard textbooks was carried out. Electronic databases such as PubMed, Scopus, and Google Scholar were explored to identify contemporary studies on rheumatoid arthritis, particularly regarding epidemiology, immunopathogenesis, diagnosis, and treatment. Data from reputed journals and theses from Unani institutions were also considered. The collected material was critically analysed, compared, and synthesized to highlight similarities, differences, and integrative possibilities.

3. Unani Perspective of Wajaʿ al-Mafāṣil

3.1 Terminology and Historical Background

Wajaʿal-Mafāṣil is documented extensively in classical Unani literature. Zakariya Razi in *Kitāb al-Hāwi*, Ibn Sina in *Al-Qānūn fi'al-Tibb*, and Jurjani in *Zakhira Khwārizm* Shāhī described joint disorders as systemic conditions with both local and general manifestations. Their descriptions of chronic, recurrent joint pain with swelling and deformity correspond closely to modern RA. [9,10,15]

3.2 Etiology and Pathogenesis

Unani scholars have provided comprehensive explanations regarding the etiology and pathogenesis of Waja' al-Mafaṣil. The most significant factor is Su'-i-Mizaj (abnormal temperament), which may be Sāda (simple, non-material) or Māddi (material, due to accumulation of morbid matter), both of which disturb the natural balance of humours.[17,18,19] The generation of Mawad-i-Fāsida (morbid matter) is attributed to weak digestion (Quwwat-i-Hadima), faulty metabolism, and improper humoral formation, which subsequently lodge in joints and initiate inflammation. Failure of proper excretion, termed Istifragh deficiency, results in retention of waste products that accumulate in peripheral sites such as the joints. In addition, processes of Tahallul (tissue degeneration) and Takhalkhul (loosening or cavitation) predispose joint spaces to infiltration by abnormal humours. [7,17] Ibn Sina emphasized that joints are structurally weak and inherently prone to humoral deposition, which explains their recurrent vulnerability to chronic inflammatory conditions 9]

3.3 Classification of *Wajaʿ al-Mafasil* Based on Dominant Humour [9,11,15]

Table 1: Describes the classification of *Wajaʿ al-Mafāṣil* according to the clinical features, aggravating factors and relieving measures.

S. No.	Humour Type	Clinical Features	Aggravating Factors	Relieving Measures
1.	*Wajaʿ al-Mafāṣil Damawi* (Sanguine)	Red, hot, swollen joints, heaviness	Heat, rich foods	Bloodletting, cooling therapies
2.	*Wajaʿ al-Mafāṣil Safrāwī (Choleric)*	Acute, hot burning pain, intense inflammation	Anger, spices, heat	Cold applications, soothing
3.	*Wajaʿ al-Mafāṣil Balghami* (Phlegmatic)	Cold, stiff joints, mild	Warmth, stimulants swelling, chronicity in damp climates	Cold, humidity
4.	*Wajaʿ al-Mafāṣil Sawdāwi* (Melancholic)	Dry, dusky, hard joints, long-standing stiffness	Cold, stress	Moist heat, nervines

3.4 Predisposing Factors (*Asbāb-ī-Muaidda*) [9,10,11,15]

- Cold and damp climate
  Sedentary lifestyle
- Excessive greasy and moist foods
- Emotional disturbances
- Genetic predisposition (*Mawrūsi*)
- Chronic diseases: indigestion, gonorrhoea, syphilis
- Suppression of natural evacuations

3.5 Clinical Features [11,15]

- Persistent, symmetrical joint pain
- Morning stiffness and swelling
- Progressive deformity
- Systemic fatigue and weakness

Galen noted: *"Once the joints become inflamed, it seldom returns to its previous state* [20]

4. Modern Medical Perspective

4.1 Definition and Epidemiology

Rheumatoid Arthritis (RA) is defined as a systemic autoimmune disease characterized by chronic synovitis, progressive cartilage and bone destruction, and systemic manifestations. It affects approximately 0.5–1% of the global population, with a female predominance of nearly 3:1 and peak onset between 30–50 years of age. RA contributes substantially to long-term disability, reduced life expectancy, and socioeconomic burden. [4,5,6]

4.2 Etiology

The etiology of RA is multifactorial. Genetic predisposition, especially the presence of HLA-DR4 and HLA-DRB1 alleles, increases susceptibility. Environmental factors such as smoking, infections (e.g., Epstein-Barr virus), and air pollution are well-established triggers. Hormonal influences, including oestrogen and prolactin, explain the female predominance of the disease. The central mechanism is autoimmunity, with the production of autoantibodies such as Rheumatoid Factor (RF) and Anti-Cyclic Citrullinated Peptide (Anti-CCP) antibodies [5,6,21]

4.3 Pathogenesis

The immunopathogenesis involves activation of CD4+ T-cells and macrophages, which release pro-inflammatory cytokines (TNF-α, IL-1, IL-6). These drive the formation of pannus, an invasive hypertrophic synovium, which destroys cartilage and erodes bone. Proteolytic enzymes further contribute to tissue degradation. Deposition of immune complexes amplifies the inflammatory cascade. [5]

4.4 Clinical Features

RA typically presents with symmetrical polyarthritis involving small joints of the hands and feet. Morning stiffness lasting more than one-hour, joint swelling, pain, and deformities such as swan-neck and boutonnière are common [5]. Extra-articular manifestations include subcutaneous nodules, vasculitis, interstitial lung disease, anaemia, and cardiovascular involvement.[21]

4.5 Diagnostic Criteria

The ACR/EULAR 2010 classification criteria emphasize clinical joint assessment, duration of symptoms, serological markers (RF, Anti-CCP), inflammatory markers (ESR, CRP), and imaging studies to confirm diagnosis [22].

5. Comparative Insights

Table 2: Unani vs. Modern Medicine: terminology etiology, pathogenesis Symptoms, diagnosis and Treatment.

Aspect	Unani Medicine (Wajaʿ al-Mafasil)	Modern Medicine (RA)
Terminology	*Wajaʿ al-Mafaṣil* (pain of the joints) described by Razi, Ibn Sina, and Jurjani. [9,10,15]	Rheumatoid Arthritis, classified as an autoimmune connective tissue disease. [22]
Etiology	Humoral imbalance (*Su'-ī-Mizāj*), weak digestion (Du'f-ī-*Quwwat-ī-Hādimā*), accumulation of *Mawād-ī-Fāsidā* (morbid matter), defective excretion.[15]	Multifactorial: autoimmunity, genetic predisposition (HLA-DR4, HLA-DRB1), environmental triggers (smoking, infections). [5,19]
Pathogenesis	Accumulation of abnormal humours in joints, defective elimination, *Tahallul* (degeneration), and chronic inflammation. [11,15]	Multifactorial: autoimmunity, genetic predisposition (HLA-DR4, HLA-DRB1), environmental triggers (smoking, infections). [5,19]
Symptoms	Pain, stiffness, swelling, systemic weakness, and humour-dependent migratory joint pain. [9,10]	Symmetrical polyarthritis, morning stiffness >1 hour, nodules, fatigue, systemic features. [5,8,13]
Diagnosis	Clinical assessment of *Mizāj*, humour dominance, lifestyle and diet. [10,11,12]	Serology (RF, Anti-CCP), ESR, CRP, imaging (X-ray, MRI). [4,5
Treatment	*Ilāj bi'l-Tadbir*: Hijama, Fasd, Dalk (massage), Hammam (steam bath with herbs); *Ilāj bi'l Dawa*: Suranjan, Asgand, Guggul, Azaraqi; compound formulations like Ma'jūn Suranjan, Habb-i-Asgand. [9,10,11]	NSAIDs, corticosteroids, DMARDs (methotrexate, hydroxychloroquine), biologics (TNF-α, IL-6 inhibitors), physiotherapy, exercise, lifestyle modifications. [19,13,22]

6. Management Approaches [23,24,25]

6.1 Unani Management

***Ilaj bi'l Tadbir* (Regimental Therapy):**
In Unani medicine, regimental therapies restore humoral balance, relieve pain, and improve joint health. Key measures include Faṣd, Ḥijama, Dalk, Ḥammām, and others, outlined below in tabular form. (Table 3)

Table 3: Regimental Therapies (Ilāj bi'l Tadbīr) in Waja' al-Mafāsil [26,27,28,29,30,31].

Regimental Therapy	Description	Therapeutic Benefits in Waja˓ al-Mafasil
Fasd (Venesection)	Controlled removal of blood through specific veins.	Evacuates morbid humours, relieves congestion, reduces inflammation and joint pain.
Hijama (Cupping Therapy)	It Can be dry (without bleeding) or wet (with scarification).	Removes localized morbid matter, improves circulation, reduces stiffness, and alleviates joint discomfort.
Dalk (Massage)	Application of medicated oils such as Ravghan Suranjan, Ravghan Bābūna, Ravghan Malkangni, etc.	Provides anti-inflammatory, analgesic, and muscle-relaxant effects; improves peripheral blood flow; reduces fatigue.
Hammam (Steam Bath)	Use of steam, sometimes combined with herbal decoctions.	Opens pores, promotes detoxification, relaxes muscles, improves joint flexibility, and reduces stiffness.
Natul (Irrigation Therapy)	Pouring of warm medicated decoctions or oils over affected joints.	Relieves pain, reduces inflammation, and improves the mobility of joints.
Takmid (Fomentation)	Application of warm or cold compresses with herbal powders or decoctions.	Soothes pain, reduces swelling, and alleviates stiffness in affected joints.
Riyadat (Exercise/Physical Activity)	Light, condition-specific exercises.	Strengthens muscles, maintains joint mobility, prevents deformity, and improves overall function.
Tanqiya (Evacuation Therapies)	Methods like emesis, purgation, and diuretics to expel morbid humours.	Maintains humoral balance, prevents accumulation of waste matter, and reduces recurrence of joint symptoms.

Ilaj bi'l Ghidha (Dietotherapy):
Unani physicians have emphasized that regulation of diet is essential in the management of *Waja' al-Mafasil*. Patients are instructed to consume light, easily digestible, and strengthening foods, while avoiding greasy, fried, and heavy meals, which generate morbid humours and aggravate joint pain. [32,33] Vegetables, barley soup, lentils, and moderate use of warming spices are recommended to improve digestion and maintain humoral balance. Lifestyle regulation, including fixed meal timings, sufficient sleep, and avoidance of anxiety, is also considered necessary for reducing the severity of *Waja' al-Mafāṣil* [34,35,36]

Majūsī stated that patients must abstain from excessive consumption of difficult-to-digest foods, intoxicants, and frequent sexual intercourse. He prohibited eating Halwa and moist fruits, advised exercise before meals and after digestion, and recommended frequent cleansing of the body through emesis and diuretics.[24]

Hakim Ajmal Khan advised avoiding cold and flatulence-producing foods such as pumpkin, spinach, potato, milk, rice, butter, and ice. Instead, he recommended green gram lentils, pigeon pea lentils, egg yolk, figs, and raisins for relieving *Waja‘ al-Mafāṣil*.[32]

Ilaj bi'l Dawā' (Pharmacotherapy):

Single Drugs (Mufradāt):

In Unani medicine, various single drugs are employed for musculoskeletal and joint disorders due to their anti-inflammatory, analgesic, and strengthening properties. The detailed list of useful *Mufradāt* is provided below. (Table:4)

Table 4: Single Drugs (Mufradāt) Useful in *Waja‘ al-Mafāṣil* [36,37]

S. No.	Unani Name	Botanical Name	Part Used	Therapeutic Uses
A.	**Plant-origin drugs**			
1.	Ajwain Desi (Carom seeds)	*Trachyspermum ammi* L.	Seeds	Relieves pain, reduces inflammation, useful in stiffness.
2.	Azārāqī (Nux vomica)	*Strychnos nux-vomica* L.	Seeds	Used in *Falij Laqwa, Waja’ al-Mafaṣil, Waja’ al-Zahr, Du ‘f-i-A'sab and Du ‘f-i-Bah* (sexual debility)
3.	Asgand (Winter cherry)	*Withania somnifera* Dunal.	Root	Strengthens muscles & bones, useful in *Waja ‘ al-Mafasil* I and weakness
4.	Alsi (Flaxseed)	*Linum usitatissimum* L.	Seeds, oil	Possesses anti-inflammatory properties, relieves joint stiffness and pain, and is also used in the management of pneumonia and pleurisy
5.	Shahm Hanzal (Colocynth pulp)	*Citrullus colocynthis* Schrad.	Pulp of fruit	A strong purgative, useful in gout, arthritis, sciatica, constipation, *Falij, Laqwa* (facial palsy), leprosy, and filariasis.
6.	Babuna (Chamomile)	*Matricaria chamomilla* L.	Flowers and oil	Possesses anti-inflammatory properties; its Ravghan (oil) is used for massage in Waja ‘ al-Mafasil (joint pain)
7.	Bisfa'ij (Polypody)	*Polypodium vulgare* L.	Rhizome	It has purgative action for Sauda and Balgham, removes morbid humours, is useful in *Sar*', *Mālankhūliyā*, *Waja‘ al-Mafāṣil,* leprosy, *Qūlanj,* and flatulence
8.	Bozidan (Indian Pellitory)	*Pyrethrum indicum*	Root	Tonic for nerves and joints, it also possesses aphrodisiac properties, and is used in *Waja’ al-Mafaṣil*, gout, and Zu’ *f al-Bah*
9.	Bedinjir (Castor Plant)	*Ricinus communis* L.	Seeds, Oil, Leaves	Seeds are used in *Waja al-Mafāṣil, Fālij, Laqwa* (facial palsy), *Rasha, Qūlanj, Istisqa', and Surfa.*
10.	Zaqum (Milk bush)	*Euphorbia resinifera* Berg.	Latex and leaves	Its Ravghan is applied by massage in *Waja’ al-Mafaṣil, Falij, Laqwa, and Ra'sha,* while its purgative latex is used in *Waja al-Mafaṣil, Atshak, Istisqa’,* and leprosy.

11.	Ja‘ifal (Nutmeg)	*Myristica fragrans* Houtt.	Fruit	Its Ravghan, prepared with Muqawwi Bah drugs, is applied as a paste in headache, *Waja‘ al-Mafaṣil, and Falij.*
12.	Jalapa (Jalap root)	*Ipomoea purga* Hayne.	Root tuber	Due to its purgative effect on phlegm, it is used in chronic constipation, *Falij, Laqwa,* joint pain, sciatica, *Nazla and Zukam*.
13.	Jundbedastar (Castoreum)	*Castoreum* (from Beaver)	Secretion (castoreum)	Due to its nervine tonic effect, it is used in *Waja' al-Mafaṣil Falij, Laqwa, Ra'sha, Istirkha'* (flaccidity), and *Khadar* (numbness).
14.	Chilghoza (Pine nut)	*Pinus gerardiana* Wall.	Seeds (nuts)	Aphrodisiac, spermatogenic, and also used in *Waja ‘ al-Mafasil*, paralysis, facial palsy, and backache.
15.	Cobchini (Indian birthwort)	*Smilax china* L.	Root	It acts as a blood purifier and is also used in various forms of mania, as well as in nervine and joint disorders.
16.	Habb al- Salatin	*Croton tiglium* L.	Seeds	Strong purgative, clears morbid matter causing Waja‘al-Mafasil and Istisqa.
17.	Habb al-Nil (Pharbitis seeds)	*Ipomoea nil* L.	Seeds	purgative of morbid humours causing *Waja‘ al-Mafāṣil*, and also used in constipation and *Istisqa*' (dropsy).
18.	Hina (Henna)	*Lawsonia inermis* L.	Flowers and seeds	Analgesic, anti-inflammatory, relieves burning pain in hands and feet.
19.	Haldi (Turmeric)	*Curcuma longa* L.	Rhizome	It exhibits anti-inflammatory and antioxidant properties, helping to reduce swelling and relieve stiffness of joints.
20.	Madar (Indian Calotrope)	*Calotropis procera* (Linn.) R.Br. ex. Ait.	Root bark, latex, leaves	Latex used in *Waja‘ al-Mafaṣil,* Ascites, Asthma and *Su'al*
21.	Sarshaf (Brassica)	*Brassica nigra* (Linn.) Koch.	Seeds, oil	It is beneficial for joint pain, and its oil is particularly effective in relieving joint stiffness and improving mobility.
22.	Suranjan (Sweet colchicum)	*Colchicum luteum* Baker.	Corm	It acts as an anti-inflammatory and analgesic agent, and is regarded as a chief remedy for joint diseases such as gout, sciatica, and joint disorders.
23.	Sehjana (Drumstick tree)	*Moringa oleifera* Lam.	Flowers, leaves, gum resin, and fruit	It is used in cold and phlegmatic disorders such as *Fālij* (paralysis), *Laqwa* (facial palsy), *Waja' al-Mafāṣil* and backache.
24.	Ghariqun (Agaric fungus)	*Agaricus albus* L.	Dried fungus	It acts as a purgative and eliminator of morbid matter, and is used in *Waja ‘ al-Mafasil,* sciatica, gout, epilepsy, cough, and obstructive jaundice.

25.	Kabikaj (Celery-leaved buttercup	*Ranunculus sceleratus* L.	Root / leaves	It acts as a vesicant and is used in conditions such as Quba (Ring worm), Vitiligo, neuropathy, and *Waja ‘ al-Mafaṣil.*
26.	Luffah (India Atropa)	*Atropa belladonna* Auct.	Leaves root	It possesses analgesic and antispasmodic properties and is applied as a paste in *Waja’ al-Mafasil,* gout, and various nervine pains.
27.	Lehsun (Garlic)	*Allium sativum* L.	Bulb	After being boiled with Ravghan Kunjad (sesame oil), it is applied in the form of a paste for Waja ‘ al-Mafasil and other painful conditions
28.	Malkangni (Staff tree)	*Celastrus paniculatus* Willd.	Seeds, oil	Being anti-phlegmatic, it is used in conditions such as joint disorders, paralysis, facial palsy, backache, and sciatica.
29.	Muqil (Indian bdellium)	*Commiphora mukul* (Hook. Ex stock)	Gum resin	It acts as a purgative of phlegmatic matter and is used in conditions such as paralysis, *Laqwa, Waja; al-Mafāṣil,* gout, and sciatica.
30.	Methi (Fenugreek)	*Trigonella foenum-graecum* L.	Seeds	It acts as a tonic for the nerves, body, and sexual Vigor and is used in cold and phlegmatic disorders such as *Waja ‘ al-Mafasil*, backache, and *Zu'f-ī-Asab* (nervine weakness).
31.	Maida Lakdi (Soft bollygum)	*Litsea glutinosa* (Lour.) C.B Rob.	Wood / bark	It has anti-inflammatory properties and, when used with honey, is beneficial in conditions such as backache, *Waja’ al-Mafaṣil* sciatica, gout, muscle spasm and sexual debility
32.	Qust	*Saussurea lappa (Decne)* Sch.-Bip.	Root	It possesses expectorant and tonic properties and has traditionally been prescribed in the management of Waja’ al-Mafaṣil, and Du ‘f-i-Bah (sexual debility).
B.	**Plant origin drugs**			
1.	Gaudanti (Celestine)	*Calcined gypsum*	Mineral substance	It is used with caution in cases of joint pain, swelling, and chronic joint diseases.
2.	Sammul Far (Arsenic)	Arsenic	Mineral powder	It acts as atonic for nerves and sexual Vigor and is used in anaemia, facial palsy, Waja ‘ al-Mafasil, sciatica, and backache.
C.	**Animal Origin Drugs**			
1.	Jundbedastar (Castoreum)	Castoreum (from Beaver)	Secretion (castoreum)	Due to its nervine tonic effect, it is used in *Waja'al-Mafāsil Fālij, Laqwa, Rasha, Istirkhā*' (flaccidity), and *Khadar* (numbness).

Compound Formulations (Murakkabat):
Unani medicine prescribes various compound formulations and topical oils that alleviate arthritis, joint pain, stiffness, inflammation, and sciatica by combining multiple drugs for enhanced efficacy and improved circulation, which are as follows. (Table: 5)

Table 5: Compound Formulations Used in Waja ' al-Mafāsil (RA) and Related Disorders in Unani Medicine [33,38].

S. N.	Compound Formulation	Therapeutic Indications
1	Habb-ī-Suranjān	Wajaʿ al-Mafasil, Gout [33,38]
2	Habb-ī-Suranjān Mualyyin	Wajaʿ al-Mafasil, Gout, Sciatica [38]
3	Habb-ī-Asgandh	Wajaʿ al-Mafasil, Wajaʿul-Zahr (Backache) [33]
4	Habb-ī-Azraqi	All Asab Amraz (Nervine Diseases) [33,38]
5	Habb-ī-Gul-ī-Ākh	Wajaʿ al-Mafasil [33,38]
6	Habb-ī-Hudār	Hudar (Rheumatoid Arthritis) [33]
7	Habb-ī-Jālinūs	Muqawwi-Asab wa Azlat (Strengthens nerves and muscles) [33,38]
8	Ravghan-ī-Arandi	Massage relieves joint and muscular pain [33,38]
9	Ravghan-ī-Awrāq	Wajaʿ al-Mafasil, Falij (Paralysis), Laqwa (Facial palsy [33]
10	Ravghan-ī-Bābūna	Relieves joint and back pain [33,38]

8. Conclusion

Both Unani and modern medicine recognize Rheumatoid Arthritis (RA) as a chronic, systemic inflammatory disorder of the joints with significant impact on quality of life. Modern medicine attributes its origin to autoimmune dysregulation, genetic predisposition, and environmental triggers, whereas Unani attributes it to humoral imbalance, weak digestion, and defective elimination of morbid matter. While modern management focuses on pharmacological interventions such as NSAIDs, DMARDs, and biologics, Unani emphasizes preventive care, dietary regulation, detoxification, and regimental therapies. An integrative model combining both approaches may provide holistic, patient-centred management. However, well-designed clinical trials are necessary to establish safety and efficacy.

Acknowledgement:

The authors are highly thankful to the librarian RRIUM, Srinagar and the authors and scholars of various books and articles, which are used as references to prepare this paper.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **118-125**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18209

SURGICAL RISK SCORING SYSTEMS: A SYSTEMATIC REVIEW OF PREDICTIVE MODELS AND THEIR CLINICAL VALIDITY

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Review Paper

Received: **04.09.2025** Revised: **22.09.2025** Accepted: **12.10.2025**

ABSTRACT

Accurate preoperative risk assessment is essential for optimizing perioperative management, especially in major abdominal surgeries where complication and mortality risks are high. Multiple surgical risk scoring systems have been developed, each with unique methodologies and applications. The American Society of Anaesthesiologists (ASA) physical status classification remains widely used due to its simplicity and global acceptance, despite its subjective nature and limited detail regarding surgical complexity. POSSUM and its variants (P-POSSUM, CR-POSSUM) offer a more detailed evaluation by incorporating physiological and operative factors, but may overestimate mortality in low-risk patients. The ACS NSQIP calculator provides personalized risk predictions based on extensive national data but has limited accessibility. Other tools, such as the Revised Cardiac Risk Index (RCRI), APACHE II, and sepsis-specific scores (e.g., Mannheim Peritonitis Index), have roles in specific clinical scenarios but vary in predictive accuracy. Postoperative models like the Mortality Prediction Model (MPM) and the Surgical Mortality Score (SMS) aid in outcome auditing. Trauma scoring systems, including TRISS, integrate physiological and anatomical injury data to improve prognostication. Systemic Inflammatory Response Syndrome (SIRS) criteria and the Multiple Organ Dysfunction Score (MODS) are valuable in assessing systemic complications and organ failure. Despite the availability of numerous scoring systems, no single model provides consistent predictive accuracy across all major abdominal surgeries, underscoring the need for continued research to refine risk stratification tools. Combining different scores or tailoring them to specific patient populations may enhance clinical decision-making and improve perioperative outcomes.

No. of Pages: 8	**No. of Fig: 1**	**References: 27**

Keywords: Surgical risk assessment, ASA score, POSSUM, APACHE II, NSQIP, MODS, perioperative mortality, abdominal surgery.

INTRODUCTION

Accurately assessing surgical risk is fundamental to contemporary perioperative management, especially for major abdominal procedures, which carry significant risks of complications and death. Preoperative risk assessment tools play a critical role in guiding clinical decisions, facilitating informed patient consent, optimizing postoperative resource planning, and enabling performance comparisons between healthcare institutions. Of the many scoring systems designed to evaluate surgical risk, the American Society of Anesthesiologists (ASA) classification remains one of the most widely used.[1] The Physical Status Classification, POSSUM (Physiological and Operative Severity Score for the enUmeration of Mortality and Morbidity), its variants like P-POSSUM and CR-POSSUM, and the ACS NSQIP calculator are all commonly used tools in surgical settings. Each was created using different methods and serves different purposes. The ASA score is one of

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the oldest and simplest, based mainly on the anesthesiologist's judgment of the patient's overall health. While it's easy to use, it doesn't consider the complexity of the surgery or the patient's specific medical conditions in detail.[2] Unlike the ASA score, the POSSUM system and its variants offer a more detailed approach by including both physiological and surgical factors to estimate the risk of complications and death. However, their accuracy can vary depending on the type of surgery and patient population. The NSQIP calculator takes a different approach—it's based on a large national database and uses many preoperative factors to provide personalized risk predictions. While it has proven useful in many types of surgery, its reliance on specific data and limited availability can restrict its broader use. [3]

Although ASA, POSSUM, and NSQIP scoring systems are widely used, their ability to accurately predict outcomes varies significantly across different patient groups undergoing major abdominal surgeries—such as colorectal procedures, emergency laparotomies, and surgeries related to inflammatory bowel disease. While many studies have tried to assess and compare these tools, differences in patient populations, urgency of surgery, outcome measures, and study quality have led to inconsistent results. Importantly, no comprehensive systematic review or meta-analysis has yet evaluated and compared how well these scoring systems perform across both planned and emergency abdominal surgeries. To fill this gap, this systematic review aimed to assess and compare the predictive accuracy of the ASA, POSSUM (and its variants), and NSQIP models in major abdominal surgeries, with the aim of improving clinical decision-making and risk assessment.[1]

MATERIALS AND METHODS

This systematic review was conducted to evaluate and compare the predictive accuracy of commonly used surgical risk scoring systems in major abdominal surgeries. A comprehensive literature search was performed using electronic databases including PubMed, MEDLINE, Embase, and Cochrane Library, covering studies published up to 2025. Keywords used included "surgical risk assessment," "ASA score," "POSSUM," "NSQIP," "APACHE II," "perioperative mortality," and "abdominal surgery." Inclusion criteria comprised original research articles, systematic reviews, and meta-analyses that assessed the performance of preoperative and postoperative risk scoring tools in adult patients undergoing major abdominal procedures. Studies focusing on emergency and elective surgeries, as well as those involving sepsis and trauma-related risk assessment, were included. Articles not published in English, case reports, and studies lacking sufficient outcome data were excluded. Data extraction focused on the scoring systems' components, methodologies, predictive accuracy (e.g., ROC curves, calibration), patient populations, and surgical settings. The quality of included studies was assessed using standardized appraisal tools. Comparative analyses were conducted to highlight the strengths and limitations of each scoring system, with particular emphasis on their applicability, ease of use, and prognostic value in perioperative risk stratification.

Pre-operative Scores

American Society of Anaesthesiologists Score

The American Society of Anesthesiologists (ASA) score is commonly used as a rough measure of surgical risk, though it was originally designed only to assess a patient's physical health status. Despite this, it has been included in several other risk scoring systems. The ASA score is based purely on clinical judgment, although test results may influence the clinician's evaluation indirectly. While not initially intended as a risk prediction tool, it has become widely used for this purpose due to its simplicity, global adoption, and its ability to reflect individual patient factors. However, its usefulness is limited by its subjective nature, lack of detail, and considerable variation between different observers. The ASA score is effective for preoperative risk classification and can be a strong predictor of postoperative mortality, but it does not offer a precise, numerical estimate of the risk of complications or death. Instead, it functions better as a general tool for risk stratification. [4,5]

- Grade I: A completely healthy individual
- Grade II: Patient with mild systemic disease without functional limitation
- Grade III: Patient with severe systemic disease, which limits function but is not incapacitating Grade
- Grade IV: Patient with incapacitating disease that is a constant threat to life
- Grade V: Moribund patient unlikely to survive 24 hours with or without surgery

Surgical Risk Scale

Sutton et al developed the Surgical Risk Scale (SRS) as a tool for comparing surgical outcomes across cases. When tested in a prospective study, it proved to be a useful predictor of mortality. The SRS combines three components: the ASA score, the Confidential Enquiry into Peri-operative Deaths (CEPOD) classification, and the British United Provident Association (BUPA) operative grade. These elements produce a total score ranging from 3 to 15, each corresponding to a predicted mortality risk. Since the ASA score is part of the calculation, the SRS includes some level of subjectivity. Despite this, studies have shown that the SRS has predictive accuracy similar to that of the Portsmouth-POSSUM (P-POSSUM), particularly in high-risk patients, but with the added benefit of being simpler to use.[6]

Cardiac Risk Index Assessment

The original Cardiac Risk Index Assessment (CRIA) was introduced by Goldman et al. in 1977. Since then, several updated versions have been developed. One by Detsky et al. in 1986 became a key part of the American College of Physicians' guidelines. Another version, created by Lee et al. in 1999 for planned (elective) surgeries, is known as the Revised Cardiac Risk Index (RCRI).

Although newer heart tests like echocardiograms can provide useful details, especially for high-risk patients, they haven't significantly improved overall preoperative risk prediction. Overall, CRIA tools have some limitations—they don't predict perioperative death very accurately and are generally less reliable than the ASA score.[3]

APACHE-II

The APACHE II score, originally designed to predict ICU mortality after surgery, has also been studied for its use before surgery. While it's fairly simple to use in emergencies, it requires 12 different physiological measurements, making it more complex than the ASA score.

In a study by Goffi et al., 187 general surgery patients (including 49 emergency cases) were assessed using both the ASA and APACHE II scores before surgery. They then looked at how well each score predicted death and complications within 30 days after surgery. APACHE II performed better, with an ROC curve area of 0.894, compared to 0.777 for ASA—this difference was statistically significant ($p < 0.001$). The accuracy of both scores was similar for emergency and elective surgeries, and whether used before or after surgery. The study concluded that APACHE II can be helpful before surgery but should not replace clinical judgment. [7]

Sepsis scores

In addition to the APACHE II score, several other scoring systems have been developed specifically for patients with intra-abdominal sepsis. These include the Simplified Acute Physiology Score (SAPS), the Sepsis Score, the Multiple Organ Failure Score, and the Mannheim Peritonitis Index (MPI). Among these, studies have shown that APACHE II and MPI are the most effective at predicting outcomes.

However, as Bosscha et al. noted, while MPI is one of the better tools for outcome prediction, it lacks the specificity needed to guide treatment decisions for individual patients. Qureshi et al. also found that MPI alone had a high false positive rate—about 72%. Using MPI together with APACHE II improves accuracy, but even then, these scoring systems are more suitable for evaluating outcomes in groups of surgical ICU patients rather than guiding individual care.[4, 8]

NSQIP score

National Surgical Quality Improvement Program is a risk assessment tool developed by the American College of Surgeons that predicts the likelihood of postoperative complications and mortality based on a large national surgical database. It uses multiple preoperative factors such as patient demographics, comorbidities, functional status, lab values, and surgery type to provide personalized risk estimates. Widely used for guiding clinical decisions and improving surgical outcomes, NSQIP offers data-driven, evidence-based predictions but requires access to its database and accurate input, limiting its use in some settings.[9]

Peri-operative Physiological Scores

POSSUM, P-POSSUM, and O-POSSUM systems [Physiological and Operative Severity Score for enUmeration of Mortality and morbidity]

The POSSUM (Physiological and Operative Severity Score for the enUmeration of Mortality and Morbidity) was specifically designed to predict outcomes in surgical patients. It uses 12 physiological and 6 surgical factors to estimate the risk of complications and death. POSSUM is mainly used as an audit tool, allowing hospitals to compare predicted risks with actual outcomes by calculating an observed-to-expected (O:E) mortality ratio.[10]

It has proven useful for general surgical audits and for specific patient groups like those with vascular or colorectal conditions. However, it tends to overestimate the risk of death in patients who are at low risk. In studies comparing it with the APACHE II score in high-dependency surgical units, POSSUM was found to be more useful.Because the scoring system includes details about the surgery itself, it can only be used for patients who actually undergo an operation—making it unsuitable for about one-third of surgical patients who are managed without surgery.[11]

The Physiological Score (PS) in the POSSUM system includes factors such as heart signs, chest X-ray results, breathing signs, blood pressure, heart rate, Glasgow Coma Scale score, hemoglobin level, white blood cell count, blood urea nitrogen, potassium and sodium levels, and ECG findings.

The Operative Severity (OS) score considers aspects like the size of the surgery, whether it was an emergency or planned, amount of blood loss, level of contamination in the abdominal cavity, presence of cancer, and the total number of previous operations.These PS and OS scores are then used in specific POSSUM formulas to calculate the predicted percentage risk of complications, as well as morbidity and mortality.[12]

Acute Physiology And Chronic Health Evaluation

The APACHE (Acute Physiology And Chronic Health Evaluation) score is one of the most commonly used tools in intensive care units (ICUs) to assess how sick a patient is. The original version, APACHE I, used 34 different body measurements taken during the first 24 hours in the ICU. It also included a basic check of the patient's overall health before they got sick, similar to the ASA grading system. Patients were placed into one of four groups, A to D, based on their chronic health condition. The main goal of APACHE was to help group patients by how seriously ill they were, so doctors could better compare outcomes and assess new treatments. APACHE II is a newer version that simplified things by reducing the number of body measurements from 34 to 12. It also includes points for age and chronic health problems. The total score can range from 0 to 71. To estimate a patient's risk of dying, the APACHE system uses the score along with other factors, such as what type of illness the patient has and whether they had emergency surgery.[13,14]

APACHE II has been tested and found useful for both general and surgical ICU patients. Survivors usually score between 9 and 15, while those who die often score between 19 and 25. However, it doesn't always accurately predict outcomes. For example, one study found it didn't work well in patients likely to develop multiple organ failure. Another study showed it wasn't reliable in trauma patients without head injuries, likely because the score relies heavily on the Glasgow Coma Scale, which measures brain function. Many trauma patients are young and otherwise healthy, which can also affect the score's accuracy. Some research suggests APACHE II works best for emergency surgery patients compared to those having planned surgery or non-surgical patients. Still, it can sometimes underestimate or overestimate the risk of death, depending on the type of patient.[15]

APACHE II has been specifically tested in surgical patients with intra-abdominal sepsis, a condition with a high risk of death. In these cases, there was a strong link between higher APACHE II scores and the likelihood of dying.

A researcher named Poenaru and his team improved the prediction by combining the APACHE II score with a test that measured immune system strength. This test involved injecting small amounts of five antigens under the skin to see how the body reacted. When both the APACHE II score and the immune response test were used together, the predictions were more accurate than with APACHE II alone.Later studies compared different scoring systems and found that both the APACHE II score and the Mannheim Peritonitis Index were good at predicting death in patients with intra-abdominal sepsis. Using both scores together gave the best results.[16]

APACHE III is a newer version that uses 18 body measurements and also considers chronic health. It's been used in ICUs to track how patients are doing each day. Its accuracy is similar to APACHE II and other scoring systems. However, it hasn't been widely used because the formula to calculate the predicted death rate is not publicly available—it must be bought from the company that owns it. In the UK, APACHE III has been used in intensive care databases in areas like South-West Thames and Scotland.[17]

Simplified Acute Physiology Score

The Simplified Acute Physiology Score (SAPS) is another system based on the original APACHE score. It

uses 14 out of the original 34 variables to estimate the risk of death and has shown similar performance to APACHE II. SAPS II is an updated version that uses 13 physiological measurements, along with information about the type of hospital admission (whether it was planned or an emergency, surgical or medical), and certain serious health conditions like AIDS, widespread cancer, or blood cancers.

When SAPS II was compared to APACHE II, it gave a slightly better prediction of death risk in ICU patients. However, neither scoring system was accurate enough to be considered fully reliable for predicting outcomes.

Some common scoring systems and their components [18]

	APACHE II	APACHE III	SAPS	POSSUM
Temperature	+	+	+	
Blood pressure	+	+	+	+
Pulse rate	+	+	+	+
Respiratory rate	+	+	+	
Respiratory effort				
P_{aO_2}	+	+		
pH	+	+		
Bicarbonate			+	
Haemoglobin				+
Haematocrit	+	+	+	
White blood count	+	+	+	+
Sodium	+	+	+	+
Potassium	+		+	+
Creatinine	+	+		
Albumin		+		
Bilirubin		+		
Glucose		+	+	
BUN/urea		+	+	+
Urine output		+	+	
Glasgow Coma Score	+	+	+	+
ECG				+
Capillary refill				
Cardiac sign				+
Respiratory signs				+
Age	+		+	+
Chronic health	+	+		

APACHE, Acute Physiology And Chronic Health Evaluation; SAPS, Simplified Acute Physiology Score; POSSUM, Physiological and Operative Severity Score for the enUmeration of Mortality and morbidity

Apgar score for surgery

This is a 10-point scoring system that looks at three things during surgery: the estimated blood loss, the lowest heart rate, and the lowest mean arterial pressure. A score of 4 or below is linked to a much higher risk of death. However, this score can only be calculated after the surgery is finished. Despite that, it has been shown to predict death very accurately (with strong statistical results). Here's how the scores relate to the risk of death:

- Scores of 9–10: 0% chance of death
- Scores of 7–8: 0.3% chance
- Scores of 5–6: 4.9% chance
- Scores of 0–4: 13.8% chance [19]

Post-Operative Scores

Mortality Prediction Model

The Mortality Prediction Model (MPM) is usually used when a patient first arrives in the ICU or HDU, using information from the first hour (this version is called MPM0). Older versions used data from the first 24 or 48 hours (MPM24 and MPM48). It doesn't take long to collect the required information, which includes things like: whether it was an emergency admission, if the patient had resuscitation, cancer, kidney problems, heart rate, blood pressure, infection, recent ICU admission, surgery, age, and level of consciousness (GCS). If a measurement isn't taken, the model assumes it's normal, which helps keep the data consistent and complete.[20,21]

Unlike models like APACHE, which use the worst values from the first 24 hours, MPM only uses data from the beginning. This makes it easier to compare patients between different ICUs. The latest version, MPM0-III, is available online and has been shown to predict ICU outcomes better than APACHE II, especially after some adjustments. However, MPM has some downsides. It doesn't include certain patients (like those who had heart surgery or heart attacks, or who are readmitted to the ICU). Also, even though it was recently updated, other models like APACHE IV and SAPS III are still more accurate. This may be because MPM uses fewer variables—just 16.[22]

Surgical Mortality Score

The Surgical Mortality Score (SMS) was developed mainly as a tool for auditing and comparing surgical outcomes, rather than for evaluating how sick a patient is or deciding if they need to be admitted to a High Dependency Unit (HDU) or Intensive Care Unit (ICU). It works by calculating an odds ratio for mortality. At the lowest risk level, the predicted death rate is just 0.08%, which matches well with other scoring systems.

Hadjianastassiou et al. simplified the original data to create a user-friendly, stratified system for predicting in-hospital death, which is easier to use than complex mathematical formulas used in other models. Unlike other scoring systems, the SMS isn't affected by differences in when clinical measurements are taken or how treatment is given. The SMS also accounts for the type of surgery performed—similar to P-POSSUM—but it depends on the length of the operation. A list of reference times for 652 different procedures is available online. However, this makes the score harder to calculate and assumes that surgical practices are the same in all hospitals. [23]

Trauma Scoring

The original Trauma Score (TS) was created by Champion et al. in 1981 to quickly assess injured patients in the field. It used four basic signs: systolic blood pressure, capillary refill, breathing rate (and effort), and the Glasgow Coma Scale (GCS). The more severe the injury, the lower the survival chance. This score helped decide how and where patients should be transported and supported the creation of trauma centers. However, it had some weaknesses: it used only a few measures, often overestimated how badly someone was hurt, and didn't consider where the injuries were on the body.

Before that, in 1970, the American Medical Association created the Abbreviated Injury Scale (AIS). It rated injuries from minor to fatal across five body areas. Later, Baker et al. improved on this by developing the Injury Severity Score (ISS). This method looked at six body regions, took the three worst injury scores, squared them, and added them together. ISS worked well for blunt injuries, but not as well for penetrating injuries. Eventually, a better system called the Revised Trauma Score (RTS) was created. It kept three key signs: GCS, systolic blood pressure, and breathing rate, and used statistical methods based on data from a large U.S. study (the Major Trauma Outcome Study). Later, the RTS and ISS were combined, and age was added as a factor, resulting in the Trauma Injury Severity Score (TRISS)—a more accurate tool for predicting trauma outcomes.[24]

A Z statistic was used to compare the actual number of deaths in a hospital unit to the predicted death risk for each patient. In this system, negative Z values indicate deaths, while positive Z values indicate survival. To spot unexpected differences, an additional M statistic was applied to compare the characteristics of the patient group being studied to a baseline group. The M value ranges from 0 to 1, with values closer to 1 showing a better match between the groups.

Using these statistics, a tool called “TRISSCAN” was created. This tool visually shows differences in patient

outcomes by plotting trauma scores against the Injury Severity Score (ISS) for each patient. It calculates the chance of survival in a clear graph, helping identify unexpected deaths for quality review and team discussions.The TRISS method is found to predict death rates as accurately as other systems. Later improvements include validating this approach for injured children, adjusting for risk in pediatric ICUs, updating the TRISS calculations, creating a revised model called ASCOT, and developing regional TRISS standards to help set local care benchmarks.[25]

Other scoring systems

Systemic Inflammatory Response Syndrome (SIRS)

SIRS is a widespread inflammatory reaction in the body that can occur due to various causes like infection, injury, pancreatitis, reduced blood flow (ischemia), or bleeding. It represents a general inflammatory response.[26]

SIRS Diagnosis Criteria (from 1992 ACCP/SCCM Consensus Conference): A patient is considered to have SIRS if they meet two or more of the following conditions: Criteria Thresholds Temperature Above 38°C or below 36°CHeart rate Over 90 beats per minute Respiratory rate More than 20 breaths per minute or arterial CO_2 ($PaCO_2$) less than 32 mmHg White blood cells (WBC)Above 12,000/mm³, below 4,000/mm³, or more than 10% immature white cells (bands)

Multiple Organ Dysfunction Score (MODS)

MODS refers to the gradual failure of two or more organ systems after a serious illness or injury. The MODS score was created to measure how badly organs are affected and to help predict the risk of death.[27]

MODS Scoring System (Marshall et al., 1995)Organ SystemParameter MeasuredScore 4 (Severe Dysfunction) RespiratoryPaO_2 /FiO_2 ratio< 100RenalSerum creatinine or urine outputCreatinine > 440 μmol/LHepaticSerum bilirubin> 12.0 mg/dLCardiovascularPressure-adjusted heart rate (PAR)PAR > 30HematologicPlatelet count< 20,000/mm³NeurologicGlasgow Coma Scale (GCS) ≤ 6

- Each organ system is scored from 0 (normal) to 4 (severe dysfunction).
- Daily scoring can track progression of organ failure.
- Higher total scores indicate worse organ dysfunction and higher risk of mortality.

Conclusion

Surgical scoring systems are vital tools that enhance perioperative risk assessment by integrating patient health status, surgical complexity, and physiological data to predict outcomes in major abdominal surgeries. The ASA score, valued for its simplicity and widespread use, provides a quick but subjective assessment of patient physical status, while more detailed models like POSSUM and its variants offer comprehensive evaluations by including operative factors, although sometimes at the cost of complexity and limited applicability. Advanced tools such as the NSQIP calculator leverage large databases to deliver personalized risk predictions but require access to extensive data inputs. Scores like APACHE II and SAPS II, originally developed for critical care, have demonstrated strong predictive power, especially in emergency and septic patients, yet still depend on clinical context and judgment for interpretation. While each system has strengths and limitations, none alone provides a perfect prediction across all patient populations and surgical scenarios. Therefore, combining these scoring systems, alongside clinical expertise, is essential for improving individualized risk stratification, guiding surgical decisions, and optimizing patient outcomes.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **126-135**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18210

A CRITICAL EXAMINATION OF WARAM-I-KABID (HEPATITIS) IN UNANI MEDICINE: CONCEPTUAL FOUNDATIONS, ETIOPATHOGENESIS, AND THERAPEUTIC APPROACHES

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Review Paper

Received: **12.09.2025** Revised: **26.09.2025** Accepted: **15.10.2025**

ABSTRACT

Hepatitis continues to pose a significant global health challenge due to its widespread prevalence, associated complications, and high rates of morbidity and mortality. In Unani medicine, this condition is described as *Waram-i-Kabid*, meaning inflammation of the liver, which is believed to result from an imbalance in the four humours (*Akhlāt-e-Arba*[illegible]*a*). The liver is considered a vital organ (*Aza-e-Raeesa*) in Unani philosophy, playing a central role in digestion, metabolism, blood formation, and detoxification. Dysfunction of the liver is believed to disturb the overall homeostasis of the body, affecting various organ systems and contributing to the onset of systemic diseases. Considering the growing burden of hepatitis and the limitations of conventional therapies in managing chronic liver diseases, there is a need to revisit traditional systems of medicine for complementary approaches.

This review undertakes a comprehensive exploration of *Waram-i-Kabid* as described in classical Unani texts such as *Al-Qānūn fi'l-Tibb*, *Kamil al-Sana' a*, *Moalijat Buqratiya*, *Iksīr-i-A 'am*, and *Kulliyāt-i-Nafīsī*. It delves into the Unani understanding of the disease's etiopathogenesis, classification, clinical features, and treatment principles—including preventive strategies, dietary regulation (*Ilāj bi'l-Ghidhā*), pharmacotherapy (*Ilāj bi'l-Dawā*), and regimental therapy (*Ilāj bi'l-Tadbīr*). The review highlights specific Unani formulations known for their hepatoprotective and anti-inflammatory properties. Although many of these require further scientific validation, their integration with modern medical practices holds promise for enhancing therapeutic outcomes and reducing healthcare costs. This holistic approach underscores the relevance of Unani Medicine in addressing contemporary health challenges.

No. of Pages: 10 **No. Tables: 2** **References: 26**

Keywords: Unani Medicine; Hepatitis; Warm-i-Jiger; Warm-i-Kabid.

INTRODUCTION

Hepatitis is a liver disorder that can result from a range of infectious viruses as well as non-infectious agents such as toxins, alcohol, and autoimmune conditions. Among the infectious causes, five distinct viruses—Hepatitis A (HAV), Hepatitis B (HBV), Hepatitis C (HCV), Hepatitis D (HDV), and Hepatitis E (HEV)—are known to infect humans. Of these, HBV and HCV are particularly concerning as they can lead to chronic infections, significantly increasing the risk of cirrhosis and hepatocellular carcinoma (liver cancer). According to global data from 187 countries, viral hepatitis continues to pose a major public health challenge. In 2022 alone, an estimated 1.3 million deaths were attributed to chronic hepatitis B and C, equivalent to approximately 3,500 deaths per day. Globally, around 254 million people are living with chronic hepatitis B and 50 million with hepatitis C, with approximately 6,000 new infections occurring each day. Despite the burden, a significant number of

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individuals remain undiagnosed or inadequately managed in many regions, highlighting the urgent need for improved screening, awareness, and access to treatment. [1]

Unani Medicine is one of the ancient systems of medicine. A vast array of literature about liver diseases has been documented in this system of medicine. Liver or *Kabid* in Arabic is an organ for the origin of *Quwā* (Natural powers). Unani scholars were well aware of the significance of the liver and considered it to be one of the dynamic organs responsible for metabolic functions, chiefly the production of *Akhlat* (humours) for nourishment, growth, and development of the human body. Each of the four humors named *Dam* (sanguine), *Balgham* (Phlegm), S*afrā* (Yellow bile), and *Sawdā* (Black bile), carries its specific temperament. Any deviation or derangement in the quality or quantity of humours leads to liver pathologies. [2,3]

A number of liver diseases are mentioned in Unani Medicine, such as *Sū' Mizāj-i-Kabid* (Abnormal/ Pathological temperament of the Liver), *Zu'f al-Kabid* (Hepatic Insufficiency), *Sudad al-Kabid* (Obstruction in the Liver), *Waja' al-Kabid* (Hepatalgia), *Waram-i-Kabid* (Hepatitis), *Dubayla al-Kabid* (Liver Abscess), Tasaghghur *al-Kabid* (Cirrhosis of Liver/Hepatic Atrophy), *Sū' al-Qinya* (Anemia), and *Istisqā'* (Ascites).[4]

In this article, we aim to undertake a critical examination of classical Unani literature focusing on the conceptual foundations, etiopathogenesis, classification, symptomatology, and therapeutic modalities related to hepatitis *(Waram-i-Kabid)* as articulated in traditional Unani medical texts.

Methodology:

This review was conducted using a descriptive and integrative approach to explore the Unani concept of *Waram-i-Kabid* (hepatic inflammation). A systematic survey of classical Unani literature was carried out, including foundational texts such as *Al-Qānūn fi'l-Tibb* (Ibn Sina), *Kāmil al-Sanāa* (al-Majusi), *Moa*lajat-*i-Buqrātiya*, *Iksīr-i-Azam* (Muhammad Azam Khan), and *Kulliyāt-i-Nafīsī* (Burhān al-Dīn Nafīs). These sources were examined to extract detailed information regarding the etiopathogenesis, classification, clinical presentation, and therapeutic approaches to *Waram-i-Kabid*.

In addition, contemporary scientific literature and indexed journal articles were reviewed using relevant keywords such as "hepatitis," "liver inflammation," "Unani medicine," and "*Waram-i-Kabid*." Databases searched included PubMed, Google Scholar, and AYUSH Research Portal. Studies discussing traditional perspectives, clinical observations, and therapeutic interventions were included. The findings were organized thematically and analyzed to synthesize classical and modern insights into liver disorders, with particular emphasis on Unani therapeutic principles—*Ilāj bi'l-Ghidhā* (dietotherapy), *Ilāj bi'l-Dawā* (pharmacotherapy), and *Ilāj bi'l-Tadbīr* (regimental therapy).

Definition and Unani Concept of Waram-i-Kabid (Hepatitis)

The term *hepatitis* (known as *Waram-i-Kabid* in Unani medicine) is derived from the Greek word *Hepar*, meaning "liver," and the Latin suffix *-itis*, indicating "inflammation." Hence, hepatitis refers to inflammation of the liver. In Unani terminology, *Waram-i-Kabid* is composed of *Waram* (swelling) and *Kabid* (liver). Although *Waram* generally denotes swelling, in a medical context, it specifically refers to inflammatory swelling resulting from the accumulation of viscous humours, leading to distension of the affected organ. It is regarded as a compound pathological condition involving disturbance of temperament (*mizāj*), abnormal humoral composition, and, in some cases, structural damage.[5]

Waram-i-Kabid may affect the entire liver or be confined to specific regions, such as the convex (*Mohadhab*) or concave (*Moq'ar*) surfaces. The inflammation may also extend to adjacent structures, including the diaphragm, peritoneum, and blood vessels. According to Unani scholars, swelling of the convex surface is considered more severe than that of the concave surface, as it has a greater potential to disrupt vital functions such as healthy blood formation and nutrient distribution. This disruption can result in generalized debility.[6–8]

Classification:

The classification of *Waram-i-Kabid* in Unani medicine is comprehensive and multidimensional. [7,9,10]

1. Based on the course of the disease:

- *Waram-i-Kabid Ḥarr* (Acute Hepatitis)
- *Waram-i-Kabid Barid* (Chronic Hepatitis)

2. Based on the dominant humour involved:

- *Waram-i-Kabid Damwa / Falghamini* (Sanguineous)

- *Waram-i-Kabid Ṣafrawi* (Bilious)
- *Waram-i-Kabid Balghami* (Phlegmatic)
- *Waram-i-Kabid Sawdawi / Ṣulb / Saraṭani* (Melancholic or Hepatic Carcinoma)

Azam Khan, in *Ikseer-e-Azam*, further subdivided the melancholic type into:

- *Waram-i-Kabid Ṣulb Ghayr Saraṭani* (Cirrhosis without carcinoma)
- *Waram-i-Kabid Ṣulb Saraṭani* (Cirrhosis with carcinoma)

3. Based on anatomical location:[11]

- *Waram-i-Kabid Moaaddab* (involving the convex surface; often affecting the diaphragm, kidneys, and liver itself)
- *Waram-i-Kabid Moq'ar* (involving the concave surface; frequently extending to the stomach, spleen, and intestines)

4. Based on the presence of obstruction (*Sudda*):[3]

- *Waram-i-Kabid Suddi* (Obstructive Hepatitis)
- *Waram-i-Kabid Ghayr-Suddi* (Non-obstructive Hepatitis)

Among these, the classification based on the course of the disease is considered the most clinically significant, as it provides a practical foundation for diagnosis and management. The other types often fall within the broader framework of acute and chronic forms; hence, the subsequent discussion focuses specifically on *Waram-i-Kabid ārr* (acute hepatitis) and *Waram-i-Kabid Bārid* (chronic hepatitis) in greater detail.

A. Waram-i-Kabid Ḥarr (Acute Hepatitis)

Waram-i-Kabid Hārr (Acute Hepatitis) is described in Unani medicine as an acute inflammatory condition of the liver, primarily resulting from the predominance of *Dam* (blood) and *Safrā* (yellow bile), which leads to a derangement of the liver's natural temperament (*mizāj*) and results in hepatomegaly along with systemic symptoms. It is broadly classified into two types: *Waram-i-Kabid Damwi* (sanguineous hepatitis) and *Waram-i-Kabid Safrawi* (bilious hepatitis). Ibn Sīnā referred to *Waram-i-Kabid Safrāwī* as h*amdā* and *Māsharā*, while Ahmad bin Muhammad Tabarī described additional types such as *Humra*, *Māsharā*, and *Namla*, arising from imbalances involving *Safrā* and *Sawdā* (black bile).[10,12]

The etiopathogenesis of *Waram-i-Kabid Hārr* involves multiple factors, including *Sū'-i-Mizāj Hārr* (abnormal hot temperament),[7,10,13] *Sudda* (obstruction), especially near the gallbladder,[12] impaired digestion leading to the absorption of waste *Kaylūs*,[7,12,14] trauma,[7,10,15] accumulation of burnt bile (*Muhtariq safrā'*),[16] retention of morbid matter due to a strong *Quwwat Māsika* or a weak *Quwwat Dāfi'a*,[8] congenital small liver (*Sighar-i-Khilqat*),[15] excessive alcohol consumption, and improper dietary habits—particularly the intake of oily, hot, spicy, or heavy foods.[12]

Clinically, it presents with high-grade fever, severe liver pain, anorexia, polydipsia, fatigue, insomnia, and burning sensations. Dark urine and foul-smelling stools may also be observed. When the inflammation involves the convex surface (*Waram-i-Kabid Mohaddab*), symptoms include pain radiating to the clavicle, dry cough, dyspnea, oliguria, and a crescent-shaped swelling palpable beneath the right rib. In such cases, *Buhrān* (crisis) may occur through perspiration, epistaxis (nosebleeds), or diuresis.[7,8,13,17,18]

In addition to the common signs and symptoms of *Waram-i-Kabid Hārr* (Acute Hepatitis), certain features are specifically associated with *Waram-i-Kabid Moq'ar*—inflammation of the concave surface of the liver. These include gastrointestinal disturbances such as constipation or diarrhoea. Hakīm Azam Khan notes that constipation indicates stronger gastric faculties, whereas diarrhoea suggests weaker ones.[8] However, Ibn Sīnā cautions that diarrhoea is more typical and more dangerous in *Waram-i-Kabid Mohaddab* (convex surface inflammation). Other distinctive features of *Waram-i-Kabid Moq'ar* include nausea, vomiting, cold extremities, absence of palpable abdominal swelling, and more intense pain on the concave side compared to the convex. The *Burān* (crisis) in this type typically occurs through perspiration, vomiting, and diarrhoea.

In cases where both the convex and concave surfaces are affected, the symptoms of *Waram-i-Kabid Mohaddab* and *Moq'ar* overlap with the general features of *Waram-i-Kabid hārr*.

Specific signs of *Waram-i-Kabid Damwī* (Sanguineous Hepatitis) include prominent superficial veins, redness of the face, eyes, and tongue, and a bounding, large, rapid, and frequent pulse (*Naba Mawjī, 'Azīm, Sarī', Mutawātir*). Urine tends to be reddish and

thick—resembling meat-washed water (*Bawl Ghusālī*)—or turbid, black, and slow to clear, indicating *Harārat Gharība* (morbid heat). The presence of black urine is considered a grave prognostic sign. Stools may also take on the appearance and colour of meat-washed water.[7,12,19]

On the other hand, *Waram-i-Kabid Safrāwī* (Bilious Hepatitis) presents with intensified signs of heat and dryness. The face and tongue initially become yellow and may progress to a blackish hue, accompanied by eruptions on the tongue, yellow to black discoloration of the skin, and pronounced restlessness. Vomiting is initially bilious but may evolve into *Kurrāthī* or *Zanjārī* (rust-coloured). Urine is yellow to fiery red (*Nārī* / *Ātishī*), stools are yellow, and the pulse is small, hard, fast, and frequent, often exhibiting a serrated pattern (*Saghīr, Sulb, Sarī', Mutawātir, Minshārīyat*).

These classical descriptions provide a detailed differentiation of hepatitis types in Unani medicine based on anatomical site, humoural imbalance, and symptomatic expression.

B. Waram-i-Kabid Barid (Chronic Hepatitis)

Waram-i-Kabid Bārid (Chronic Hepatitis) is described in Unani Medicine as a chronic inflammatory condition of the liver, primarily resulting from the predominance of *Balgham* (phlegm) and *Sawdā* (black bile). Based on the dominant humour involved, it is classified into two types: *Waram-i-Kabid Balghamī* (Phlegmatic Hepatitis), also referred to by Unani physicians as *Waram-e-Riqu*, and *Waram-i-Kabid Sawdāwī* (Melancholic or Melanotic Hepatitis), which includes *Waram-i-Kabid bulb* (solid hepatitis)—often considered a progression from *Waram-i-Kabid Hārr*—and *Waram-i-Kabid Saratānī* (malignant hepatitis).

The etiopathogenesis of *Waram-i-Kabid Bārid* involves derangement of the liver's temperament (*Sū'-i-Mizāj Bārid*), leading to weakened digestive and expulsive faculties (*Quwwat Hādima* and *Quwwat Dāfi'a*), obstruction of hepatic vessels by cold humours, and qualitative changes in the humours due to stagnation. Contributing factors include excessive intake of cold, thick, and heavy foods; overuse of cold water (especially during febrile states); chronic alcohol consumption (which weakens the liver's innate heat—*Harārat Gharīziyya*); trauma; and splenomegaly. Obstruction between the liver and spleen may lead to the accumulation of *Fudlāt-i-Sawdāwiyya* (waste black bile), resulting in *Waram-i-Kabid Sawdāwī*.[8]

Clinically, *Waram-i-Kabid Bārid* is characterized by mild or absent fever, dull or spasmodic pain, a sense of heaviness in the hepatic region, absence of thirst, and thick, white urine, as noted by Zakariya Razi. In *Waram-i-Kabid Balghamī*, patients often exhibit a whitish face and tongue, facial puffiness, sticky saliva, lead-colored skin, soft swelling under the ribs, weak digestion, and facial muscle laxity. The *Nabd* (pulse) is *Batī* (slow) and *Layyin* (soft), and urine appears diluted and white, resembling water. Stools tend to be soft and pale.[17,19,20]

In contrast, *Waram-i-Kabid Sawdāwī* presents with a firm, crescent-shaped swelling, more marked heaviness, cachexia, skin darkening, a rough tongue, black urine, and a *Sulb Nabd* (hard pulse). If accompanied by pain and loss of appetite, this may indicate progression to *Waram-i-Kabid Saratānī*, while nausea in the absence of fever or pain may suggest necrosis of liver tissue.[12,20]

Complications of Waram-i-Kabid[7,8]

Several serious complications may arise from *Waram-i-Kabid*, especially if not properly managed.

These include:

1. **Istisqa' Ziqqi** (*Ascites*): Often resulting from prolonged *Waram-i-Kabid Ḥarr* (acute hepatitis) or *Waram-i-Kabid Ṣulb* (solid hepatitis), as noted by Ibn Masuya.

2. **Sudda** (*Obstruction*): In *Waram-i-Kabid*, the liver is prone to developing *Sudda* (obstruction), which may eventually lead to *Tahajjur* (solidification or fibrosis) of hepatic tissue.

3. **Yaraqan Aṣfar** (*Jaundice*): A common complication of both *Waram-i-Kabid Ḥ�rr* and *Ṣulb*, resulting from impaired bile flow and hepatic dysfunction.

4. **Dubayla al-Kabid** (*Hepatic Abscess*): Typically occurring in the advanced stage of *Waram-i-Kabid Hārr*, this represents a severe suppurative complication marked by the formation of pus-filled cavities within the liver.

Differential Diagnosis (Tashkhīs-i-Fāriqa):[7,15]

Waram-i-Kabid can be differentiated from several conditions with overlapping symptoms.

Dhāt al-Janb (pleurisy) is characterized by hemoptysis, throbbing pain, a *Bulb* (hard) and *Minshārī* (serrated) pulse, and the absence of localized warmth over the liver, which is a classical feature of *Waram-i-Kabid*. In contrast, *Waram-i-Kabid* is marked by right-sided pain with heaviness, changes in skin and tongue coloration, and no hemoptysis.

Waram-i-'Adalī (myositis) is externally visible and usually presents as an elongated, rat-tail or rectangular swelling, whereas *Waram-i-Kabid*—particularly when involving the concave surface—is not externally visible and typically appears crescent-shaped. Moreover, systemic features such as changes in urine, stool, appetite, and general malaise are characteristic of *Waram-i-Kabid* but absent in myositis.

Sudad al-Kabid (obstruction of the liver) is typically marked by a pronounced sense of heaviness in the hepatic region, with little or no significant pain or fever. Mild discomfort may be present, and any associated fever usually subsides once the obstruction is relieved. In contrast, *Waram-i-Kabid* presents with more intense pain, persistent fever, and a palpable swelling over the liver.

General principles of treatment (*Usūl-i-'Ilāj*)[15,21]

1. Eliminate the underlying cause of the condition.
2. *Use of Mulayin Adviya*: (mild laxatives): Constipation should be avoided. If it occurs, treat it with *Mulayyin* medications or *Ḥuqna Layyin* (laxative enema). Strong purgatives should be avoided, as they may prove harmful or even fatal.
3. Use of *Mushīl adviya* (purgatives): Indicated in cases involving the concave surface of the liver (*Waram-i-Kabid Moq'ar*) but contraindicated in inflammation of the convex surface (*Waram-i-Kabid Mohadhab*). Additionally, *Mudir* (diuretics) should be avoided in *Waram-i-Kabid Moq'ar*.
4. Use of *Mudir* adviya (diuretics): Recommended in *Waram* of the convex surface of the liver, but *Mushīl* drugs should be avoided in this case.
5. Galen's opinion is that as long as the *Waram* of the liver is in the advanced stage, avoid purgation and diuresis and do not stimulate the substance in any way. However, when the signs of maturation of the substance are revealed and *Zamāna-i-Intihā* of *Waram* is near, then *Talyīn-i-Tabī'at* should be applied. Galen also advises that excessive cooling of the liver must be avoided, and strong topical applications should not be applied over the liver.
6. **Use of compound formulations with therapeutic properties:** Formulations should include *Rādi'* (repellent), *Mulattif* (demulcent), and *Mufattih* (deobstruent) agents. *Mulallil* (resolvent) drugs should be combined with *Rādi'* agents to prevent hardening of the morbid matter. Similarly, *Qābid* (astringents) and aromatic drugs should be used with *Mulallil* to preserve the functional strength (*Quwwat*) of the liver.
7. **Use of *Mu'addilāt-i-Safrā'* (bile-modifying agents)** for *Ta'adīl-i-Safrā*.
8. **Use of *Mundij-i-Sawdā'* and *Mushīl-i-Sawdā'*:** These therapies (concoctives and evacuatives of black bile) are especially useful in *Waram-i-Kabid Bārid*, particularly *Waram-i-Kabid Sawdāwī*.
9. **Use of Ḍimad (topical applications):** Local application of Muḥallil (resolvent), Mufattiḥ (deobstruent), and Muqawwi (tonic) preparations is advised in all forms of Waram-i-Kabid.
10. **Use of *Muqawwī-i-Jigar* (hepatotonics):** Strengthening agents for the liver are beneficial in all types of hepatic inflammation.
11. **Tabrid-i-Kabid (cooling of the liver):** Highly recommended in *Waram-i-Kabid Ṣafrawi*. However, in *Waram-i-Kabid Damwi*, it must be done cautiously, as excessive cooling may harden the swelling.
12. **Taskhin (calefaction or warming):** After *Tanqiya-i-Balgham* (evacuation of phlegm), gentle warming of the liver is beneficial in *Waram-i-Kabid Balghami*.
13. **Venesection (*Fasd*):** If appropriate, venesection through the right basilic vein should be the first step in *Waram-i-Kabid Damwī*. The use of *Rādi'*, *Qābid*, or *Mulallil* drugs before evacuation may cause the matter to solidify or irritate the inflamed area.

14. **Leech therapy (*Ta ʿ līq al- ʿ Alaq*):** Recommended in *Waram-i-Kabid Damwī*, particularly when venesection is contraindicated.

15. **Dietary management:** A light and easily digestible diet should be taken in moderation. *Mā ʿ al-Sha ʿ ir* (barley water) is particularly beneficial for patients suffering from Waram-i-Kabid Damawī . In addition, foods such as beetroot, spinach, fresh coriander, lightly cooked egg yolk, *kashk* (fermented whey), and other items that help open bodily obstructions should be included. Meanwhile, the consumption of meat, layered bread (*ftīrī rotī*), oily breads, sweets, and other heavy or impure foods should be strictly avoided. [7]

Table 1: Single Drugs (Adwiyah Mufradah) Beneficial for Waram-i-Kabid [22,23]

Sl. No.	Unani name	Botanical name	Temperament	Part used	Action
1.	Afsanteen	*Artemisia absinthium* L.	Hot dry	Leaf and flower top	*Muhallil, Muqawwī-i-Dimāgh wa A'sāb, Mudirr-i-Bawl wa Hayd,Muqawwī-i-Jigar*
2.	Asaroon	*Asarum europaeum* L.	Hot dry	Root	*Muḥallil, Mudirr-i-Bawl wa Hayd, Muqawwi-i-Jigar wa Mi'da, Musakkin-i-Alam*
3.	Baboona	*Matricaria chamomilla* L.	Hot dry	Flower	*Muḥallil, Mudirr-i-Bawl wa Hayd, Muqawwi-i-Mi'da, Muqawwī-i-Dimagh*
4.	Beramdandi	*Tricholepsis glaberrima* D.C.	Hot dry	The whole plant	*Muḥallil, Mudirr-i-Bawl wa Hayd, Muqawwi-i-Mi'da, Muqawwi-i-Dimagh*
5.	Beramdandi	*Tricholepsis glaberrima* D.C.	Hot dry	The whole plant	*Muqawwi-i-Dimagh wa Jism, Musaffi-i-Dam*
6.	Charaita	*Swertia chirayita* (Roxb.)	Hot dry	Aerial parts	*Muqawwī-i-jigar, Muhallil*
7.	Darchini	*Cinnamomum zeylanicum* Blume	Hot dry	Dried inner bark	*Muqawwī-i-Jigar, Mufattiḥ, Musakhkhin, Muhallil*
8.	Enab-us-Salab	*Solanum nigrum* L.	Cold dry	Whole plant	*Muhallil-i-jigar wa Mi'da, Qabid, Musakkin-i-Hararat*
9.	Ghafis	*Gentiana Olivieri* Griseb	Hot dry	Flower, leaves, extract	*Mulattif, Muqawwi-i-Mi'da, Mudirr-i-Bawl wa Hayd, Musaffi*
10.	Gul-e-Surkh	*Rosa damascene* Mill.	Cold dry	Flower, anther	*Muqawwi-i-Mi'da, Mufarrih wa Muqawwi-i-A'da' Ra'isa*

11.	Hab-e-Kaknaj	*Physalis alkekengi* L.	Hot dry	Leaf and flower top	*Muhallil, Muqawwī-i-Dimāgh wa A'sāb, Mudirr-i-Bawl wa Hayd,Muqawwī-i-Jigar*
12.	Kasni	*Cichorium intybus* L.	Cold wet	Seed, root, leaf juice	*Muqawwi wa Muhallil-i-Jigar wa Mi'da, Mufattih sudud, Mudirr-i-Bawl*
13.	Kafoor	*Cinnamomum camphora Nees. & Eberm*	Cold dry / Murakkab-ul-Quwa	Extract	*Dafi'-i-Ta'affun, Muhammir, Musakkin*
14.	Irsa	*Iris ensata Thunb*	Hot and dry	Root, leaves	*Mufattiḥ, Muqawwīi-Jigar, Mussakhkhin*
15.	Mastagi	*Pistacia lentiscus* L.	Hot dry	Resin	*Muḥallil, Muqawwi-i-Jigar wa Mi'da, Mulayyin, Kasir-i-Riyah*
16.	Izkhar	*Cymbopogon martini* (Roxb.)	Hot and dry	Whole plant	*Mudirr , Mufattiḥ, Muqawwī-i-Jigar*
17.	Rewand Chini	*Rheum palmatum*	Murakkab-ul-Quwa	Rhizomes and root	*External: Jali, Muḥallil,Musakkin Internal: Mufattih, Muqawwi-i-Mi'da wa Am'a'*
18.	Sumbul-ut-Teeb	*Nardostachys jatamansi* D.C.	Hot dry	Rhizome	*Musakhkhin,Muḥallil, Muqawwi-i-Jigar wa Mi'da, Kasir-i-Riyah*
19.	Ustukhuddus	*Lavandula stoechas* L.	Hot dry	Flower, leaf	*Tanqiyawa Muqawwi-i-Dimagh wa A'ṣāb, Musakhkhin, Muḥallil, Muqawwi-i-Jigar wa Mi'da, Kasir-i-Riyah*
20.	Qaranful	*Syzygium aromaticum*	Hot Dry	Flower bud	*Muqawwī-i-Kabid*
21.	Bisbasa	*Myristica fragrans*	Hot Dry	Aril	*Muqawwi-i-Jigar, Mufattih*
22.	Mur makki	*Commiphora myrrha (Nees) Engl*	Hot Dry	Gum-resin	*Muhallilat*
23.	Zafran	*Crocus sativus*	Hot Dry	Style and stigma	*Muhallilat, Mufattih*
24.	Zaranbad	*Curcuma zedoaria (Christm.)* Roscoe		Fresh rhizome	*Muqawwii-Jigar, Mufattih*

Table 2: Compound Drugs (Adwiyah Murakkabah) Beneficial for Waram-i-Kabid [24,25]

Compound Drugs			
1.	Habb-e-Ghafis	Antipyretic, Deobstruent, Diuretic	It is useful in jaundice and liver pain. It is effective in Baghmi, Soudawi and other chronic fevers.
2.	Majoon-e-Muqil	Antiseptic, Anti-Inflammatory, Aperient, Laxative	It is useful in jaundice and liver pain. It is effective in Baghmi, Soudawi and other chronic fevers.
3.	Araq-e-Afsanteen	Deobstruent, Anti-Inflammatory	It is useful in jaundice and liver pain. It is effective in Baghmi, Soudawi and other chronic fevers.
4.	Araq-e-Kasni	Coolant, Demulcent, Antiphlogistic, Refrigerant	It is useful in hiddat e khoon and safra, beneficial in liver swelling. It is effective in removing heat from the liver.
5.	Arq-e-Afsanteen	Deobstruent, anti-inflammatory	Useful in liver inflammation and hepatic obstruction. Also useful in Cirrhosis, Ascites.
6.	Sharbat-e-Deenar	Effective in dropsy, Antipyretic, Analgesic for liver pain	It is useful in liver swelling, jaundice, dropsy and constipation. It is effective in pleurisy and seasonal fevers.
7.	Habb-e-Kabid Naushadari	Digestive, Stomachic, Liver tonic, Anti-Inflammatory for liver	It is useful in liver swelling, indigestion, and constipation.
8.	Qurs-e-Ghafis	Antipyretic, Deobstruent, Anti-Inflammatory	It is useful in liver, gallbladder and spleen swelling, jaundice and constipation. It is used in obstruction and fever.
9.	Qurs-e-Tabasheer	Antipyretic, stomatic and styptic	It is useful in fevers, weakness of stomach and diarrhea.
10.	Qurs-e-Zarishk	Diuretic, anti-inflammatory, liver tonic	Useful in liver, inflammation and as a diuretic. Useful in anemia.
11.	Qurs-e-Kafoor	Refrigerant, antipyretic, anti-hepatitis, cardiac stimulant	It is useful in tuberculosis, acute fevers, and jaundice, also useful in weakness of the heart.
12.	Majoon-e-Dabeed-ul-Ward	Anti-inflammatory for liver, Liver tonic, Diuretic	It is useful in stomach and liver weakness, liver and uterine swelling, and anemia. It is also useful in edema, jaundice and liver disease.
13.	Tiryaq Farook	Antidote, Anti Paralytic	Useful in paralysis, and effective in poisoning.
14.	Zimad-e-Sheer	Analgesic, Anti-Inflammatory	It is useful in treating uterine fibroids and pain.

15.	Qurs-e-Luk	Hepatoprotective	It is used in Hepatic insufficiency and ascites
16.	Qurs-e-Rewand	Deobstruent	Useful in Cirrhosis.
17.	Roghan-e-Qust	Calorific, Deobstruent	Useful in Hepatic dyscrasia
18.	Roghan-e-Afsanteen	Hepatoprotective, anti-inflammatory	Used in Hepatic insufficiency. It is beneficial in alleviating liver and stomach inflammation.
19.	Sikanjabeen-e-Unsuli	Deobstruent	It is used in Hepatic dyscrasia, Cirrhosis.
20.	Dawa-ul-Kurkum	Liver tonic, Deobstruent, Carminative, Vesicular tonic	Useful in ascites, abdominal bloating, and weakness of the liver and bladder.
21.	Sharbat-e-Afsanteen	Liver tonic, stomachic, tonic for spleen	Useful for alleviating weakness and inflammation in the liver, stomach, and spleen.

Discussion:
This review provides a consolidated understanding of hepatitis from the perspective of classical Unani Medicine, covering its causes, classification, clinical manifestations, and therapeutic interventions. The liver is considered a central organ in Unani physiology, not only due to its anatomical importance but also because of its critical role in the formation of the four essential humours (*Akhlat-e-Arba'a*) and the second stage of digestion (*Hadhm-e-Kabidi*). Any disruption in hepatic function, therefore, is believed to disturb the overall humoral balance, potentially leading to hormonal imbalances and the onset of various systemic diseases.

The Unani approach to the management of hepatitis is fundamentally based on the restoration of humoral balance, which is essential for reestablishing the normal functioning of the body. This is achieved through a combination of preventive strategies, dietary modifications (*Ilaj bi'l-Ghidha*), pharmacotherapy (*Ilaj bi'l-Dawa*), and regimental therapies (*Ilaj bi'l-Tadbir*). Preventive measures emphasize a healthy lifestyle and avoidance of infection, aligning well with modern public health principles. Dietotherapy in Unani Medicine recommends the intake of light, easily digestible foods that support hepatic function and reduce digestive load.

Pharmacological treatment, as detailed in classical Unani texts, includes both single and compound formulations (as shown in Table 1 and Table 2). While not all these formulations have been evaluated through modern clinical research, some studies conducted at Jamia Hamdard and Ajmal Khan Tibbiya College have shown promising results. For instance, preparations such as *Sharbat Jigreen* and *Sharbat Kabdeen* have demonstrated efficacy in relieving hepatitis-related symptoms, likely due to their hepatoprotective, immunomodulatory, anti-inflammatory, and diuretic properties, as well as their ability to eliminate excess bile from the bloodstream without causing adverse effects.[26] These findings support the need for more rigorous clinical validation of other classical formulations listed in Unani literature.

Additionally, several herbs mentioned in Unani texts—including *Rosa damascena* (Ward), *Crocus sativus* (Zafran), *Cinnamomum zeylanicum* (Darchini), *Berberis vulgaris* (Zarishk), *Myristica fragrans* (Joz Bua), and *Syzygium aromaticum* (Qaranfal)—have shown hepatoprotective effects in various experimental models.[25] However, *Coccus lacca* (Luk), another herb traditionally used in liver disorders, lacks sufficient experimental or clinical data and should be investigated further for its potential hepatoprotective properties.

Despite its comprehensive scope, this review is limited by the scarcity of robust clinical trials validating many Unani formulations for hepatitis. Most evidence is derived from classical texts and a few institutional studies, which may lack standardization and rigorous

methodology. Furthermore, the pharmacological activities of several traditional drugs remain unexplored in modern experimental settings. Therefore, the extrapolation of traditional claims to clinical practice should be approached with caution until supported by well-designed, evidence-based studies.

Conclusion:

In conclusion, Unani medicine offers a structured, holistic framework for the management of hepatitis. Its principles, when validated through modern research methodologies, can serve as valuable complementary strategies in contemporary healthcare. The integration of traditional knowledge with scientific evidence has the potential to enhance therapeutic outcomes, reduce treatment costs, and contribute to the global effort in managing liver diseases more effectively.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **135-140**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18211

INTEGRATING UNANI MEDICINE IN GERIATRIC CARE: A HOLISTIC, ACCESSIBLE AND CULTURALLY SENSITIVE APPROACH

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Review Paper

Received: **07.10.2025** Revised: **25.10.2025** Accepted: **10.11.2025**

ABSTRACT

Geriatric care emphasises comfort, dignity, and quality of life for patients of old age with chronic and terminal illnesses. Unani medicine rooted in Greco-Arabic medical philosophy offers a time-tested and holistic approach that aligns closely with the principles of Geriatric care. Through concepts like Mizaj (temperament), Asbab-e-Sitta Zarooriya (six essential factors) and regimens like Dalk (massage), Nutool (pouring therapy) and personalized dietetics, Unani medicine presents a culturally resonant and cost-effective model of end-of-life support. This paper explores the integration of Unani principles in modern Geriatric care frameworks advocating its relevance especially in the Indian subcontinent's sociocultural and healthcare landscape.

No. of Pages: 6 **No. Tables: 1** **References: 8**

Keywords: Geriatric care, Holistic Approach, *Asbaab-e-sitta zarooriya*.

INTRODUCTION

The global demand for Geriatric care is rising driven by longer life expectancies and increased prevalence of chronic illnesses. India faces challenges due to its population size, rural healthcare gaps and cultural diversity. Amidst this Unani medicine presents an opportunity to supplement Geriatric care by emphasizing prevention, comfort and holistic well-being values at the heart of palliative support. Grounded in the works of Ibn Sina and other *Hakims*, Unani medicine views ageing not merely as biological decline but as a shift in temperament requiring personalized nurturing interventions.

CONCEPTUAL FRAMEWORK: UNANI PERSPECTIVE ON AGING AND ITS RELEVANCE TO GERIATRIC CARE

Unani medicine classifies the human life cycle into four chronological stages: *Sinne Numoo* (childhood or growth phase), *Sinne Shabab* (adulthood or youth), *Sinne Kahulat* (middle age) and *Sinne Shaikhukhat* (senescence or old age). Among these, *Sinne Shaikhukhat* is of particular significance for Geriatric care due to the progressive decline in physiological and mental functions associated with this period.

In this final stage of life the individual's *Mizaj* (temperament) undergoes a natural transition towards a *Barid wa Yabis* (cold and dry) state. This shift is intrinsically linked to the depletion of two critical life-sustaining principles in Unani medicine *Hararat-e-Ghariziyya* (innate vital heat) and *Rutubat-e-Ghariziyya* (essential bodily moisture). The progressive reduction in these elements leads to weakened organ functions, reduced systemic resilience and a compromised ability to maintain homeostasis.

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As a consequence of this physiological deterioration the elderly become increasingly susceptible to a spectrum of chronic and degenerative conditions. These include neurological disorders such as *Sahar* (insomnia) and *Nisyan* (memory loss or dementia), musculoskeletal ailments like *Waja-ul-Mafasil* (joint pain or arthritis), urinary issues including *Salas-al-Bawl* (incontinence) and *Ikhtilalat-ul-Tamthil-ul-Ghiza* (metabolic imbalances).

This conceptual alignment between the Unani understanding of ageing and the goals of Geriatric care-namely symptom management, comfort enhancement and preservation of dignity in the face of chronic illness demonstrates the relevance of traditional systems like Unani medicine in contemporary palliative frameworks.

ASBAB-E-SITTA ZAROORIYA:
The six essential determinants of health in Geriatric care: *Asbab-e-Sitta Zarooriya*

The *Asbab-e-Sitta Zarooriya* (Six Essential Causes or Factors of Health) are foundational pillars in Unani medicine originally conceptualised to maintain equilibrium in *Mizaj* (temperament) and support *Hararat-e-Ghareeziya* (innate heat) essential for sustaining life. In Geriatric care these principles offer a structured non-invasive and personalized approach in managing chronic terminal and age-related conditions. Each determinant has specific applications for improving the quality of life in elderly or terminally ill patients.

1. Hawa (Air/Atmospheric Environment)
Air is one of the primary influences on human health affecting the body's humoral balance and mental status. Unani scholars emphasized the quality, movement, temperature and moisture of air in maintaining health.

Geriatric Relevance:
- A clean fragrant and temperate environment can ease breathing reduce agitation and promote calmness.
- Aromatherapy and its substances like *Zafran* (Crocus sativa Linn.), *Sandal* (Santalum album Linn.), *Ood* (Aquilaria agallocha) , *Kafoor* (Cinnamomum camphora Linn.) and rose water fumigation help regulate mood, depression and sleep.[7]
- For respiratory and cardiac patients ventilation and air purification (e.g., aromatic herbs) is critical.

Application:
- Use of aromatic sprays, natural incense or *Haar Hamam (*warm baths) infused with Unani herbs can create a serene environment.

2. Makool-o-Mashroob (Food and Drink)[8]
Food and drink are the primary sources of nourishment and have a direct effect on Mizaj, organ function, and energy levels. Hippocrates, Galen and *Ibn Sina* the original Ṭibb pioneers all referenced this. Malnutrition is a contributing factor to many chronic illnesses nowadays like Diabetes, obesity, heart disease, inflammatory diseases, skin disorders and cancer can all be linked to junk food consumption including excessive salt or fat, lack of fibre, lack of fruits and vegetables, unhealthy eating habits, tobacco use, alcohol consumption and many more.[30,31]

Geriatric Relevance:
- Digestive power declines with age so light, warming and moistening diets are preferred.
- Warm soups, goat's milk, barley water, figs, dates and *Murabba Amla* are ideal.
- Avoid *Balgham* (phlegm) producing and gas forming foods like brinjal, fried items etc.

Application:
- *Musakhkhin wa Murattib* diets help balance cold and dry temperament.
- Provide small, frequent, warm meals.

Table 1: Recommended Ghiza for Geriatric Care in Unani Medicine[8].

Sr. No.	Category	Food Item	Description	Indications
1.	*Ghiza-e-Lateef Kaseer-ut-Taghzia Jayyad al-Kaimoos* (Light, Easily Digestible, Highly Nutritious)	*Ma-ul-Laham* (Meat distillate), Half-boiled egg yolk	High-calorie, protein-rich, easily digested	Cachexia, tuberculosis, anaemia, chronic debility
2.	*Ghiza-e-Lateef Kaseer-ut-Taghzia Jayyad al-Kaimoos* (Light, Easily Digestible, Highly Nutritious)	Apple, Pomegranate, Orange, Grapes, Pumpkin juice	Rich in vitamins, minerals, cooling effect	Cardiovascular disorders, general weakness, vitamin deficiency
3.	*Ghiza Dawaiya* (Modified Diets)	Apple, Pomegranate, Orange, Grapes, Pumpkin juice	Rich in vitamins, minerals, cooling effect	Cardiovascular disorders, general weakness, vitamin deficiency
		Ma-ul-Asl (Honey water)	Energizing, mild antimicrobial	Paralysis, facial palsy, dry cough
		Ma-ul-Jubn (Whey)	Cooling, alkalizing, mineral-rich	Depression, melancholia, migraine, renal issues
		Hareera (Wheat+Ghee+Dry Fruits)	Calorific, strengthens innate heat	TB, cough, pleurisy, geriatric weakness
		Falooda	Cooling, rejuvenative	Weakness, dehydration, anorexia
4.	Laxative & Liver Supportive	Gulqand, Sikanjabeen	Mild laxatives, hepatoprotective	Constipation, jaundice, liver disorders
5.	Strengthening and Tonic Foods	Murabba-e-Amla, Murabba-e-Badam, Halwa-e-Baiza	Cardiotonic, brain tonic, sexual tonic	Heart health, memory, sexual debility
6.	Digestive Aids	Aabkama, Sikanjabeen, Maibah	Carminative, promotes digestion	Anorexia, indigestion, nausea, flatulence
7.	Chyme-Improving Vegetables	Carrot, Beetroot, Bottle gourd, Cucumber, Litchi	Nourishing, cooling	Liver, kidney support, constipation, anaemia
8.	Avoid (Heavy/Bad Chyme Forming)	Duck meat, Dry beef, Excess salt	Heavy, hard to digest	Should be restricted in geriatrics and chronic illnesses

3. Harkat-o-Sukun Badani (Movement and Rest of the Body)

Unani scholars regard physical movement as essential for maintaining internal balance and supporting physiological vitality. Activity stimulates internal warmth, facilitating metabolic processes and the elimination of waste materials that may otherwise disrupt health. The nature of movement—whether intense or mild, brief or extended—determines its overall effect on the body's thermal state and fluid composition.

Excessively strenuous or prolonged movement can exhaust bodily reserves and diminish vital energy, while gentle, appropriately timed activity reinforces systemic function. Occupations involving repetitive or forceful labor, such as metalwork or laundering, influence the body differently depending on the environment and exertion level.

Rest, when excessive, may cool and soften the body but can also suppress metabolic vigor and slow recovery processes. A well-regulated balance between movement and rest is therefore considered therapeutic, helping to normalize fluid consistency (*maddah*) support detoxification and restore the body's self-regulatory mechanisms, particularly in states of chronic illness or ageing.

Geriatric Relevance:

- Moderate activity prevents bed sores, improves circulation.
- Passive movements, assisted walking are useful in weakened states.

Application:

- Gentle stretching, chair-based exercises or massage-assisted mobilization.
- Avoid prolonged inactivity in patients with musculoskel *et al.* decline.

4. Harkat-o-Sukoon-e-Nafsani (Mental Activity and Emotional Rest)

This factor relates to emotional and psychological states including joy, grief, fear, anger.

Geriatric Relevance:

- Mental states affect digestion, sleep, and immunity.
- Spiritual therapies, mild humor, or interaction with loved ones help stabilize the soul.

Application:

- Counselling, mindfulness and spiritual companionship align with Sukoon-e-Nafsani.
- Use of natural anxiolytics like Roghan-e-Banafsha or Sharbat-e-Unnab.

5. Naum-o-Yaqzah (Sleep and Wakefulness)

Refers to the cyclical pattern of rest and alertness. Sleep restores Rutubat and cognitive functions.

Palliative Relevance:

- Insomnia is common and it can be regulated by warm oils massage.
- Nutool therapy is effective for restlessness.

Application:

- Daily pre-sleep routines with Roghan-e-Kadu, light music, or warm milk.
- Avoid stimulants before bed.

6. Istifraagh wa Ihtibas (Evacuation and Retention of Body Fluids)

A balance between the body's excretory and retentive processes.

Geriatric Relevance:

- Constipation or retention are common issues.
- Use gentle laxatives like Isapghol or oil enema for constipation.

Application:

- Form healthy bowel habits and ensure good hydration.
- Use oil enemas or mild herbal cleansers.

CORE THERAPIES IN UNANI GERIATRIC PRACTICE

1. Diet Therapy (Tadbeer-e-Ghiza)

Diet forms the cornerstone of Unani elderly care. Foods should be easy to digest, prevent phlegm and black bile buildup and support organ health. Recommended items include goat and cow milk, soups, figs, and ginger jam. Avoid heavy meats, pickles and fried foods.

2. Massage Therapy (Dalk)

Moderate massage using warm, sweet oils like Roghan Banafsha improves circulation, muscle tone, lymphatic flow and relieves musculoskeletal pain.

3. Nutool (Pouring Therapy)

A proven remedy for geriatric insomnia. Warm oil is poured over the forehead or scalp to calm the nervous system.

4. Exercise (Riyazat)

Gentle, tailored exercises enhance digestion, mobility and circulation. Examples include walking, riding and stretching.

5. Sleep and Mental Peace

Use of aromatics, structured sleep routines and mental relaxation methods helps regulate sleep and emotional health.

RELEVANCE TO MODERN GERIATRIC CARE

Unani medicine focus on individual temperament (*Mizaj*), non-invasive interventions and psychosocial balance aligns well with the principles of modern Geriatric care. It emphasizes whole-person care, including the physical, emotional and spiritual needs of the patient.

Key contributions include:

- **Dalk (massage)** and **Nutool (oil therapy)**: Safe, non-pharmacological options for managing pain, anxiety, insomnia and muscular discomfort.
- **Regulated diets (Tadbeer-e-Ghiza)**: Nourishing, easy-to-digest foods to prevent complications from malnutrition or metabolic imbalance.
- **Mental and emotional care**: Practices like Zikr, companionship and calming regimens address spiritual and psychological well-being.
- **Environmental care (Hawa)** and **sleep (Naum)**: Aid in maintaining comfort, relaxation and dignity.

Its holistic nature allows integration into community-based care, home care and palliative clinics, especially in culturally sensitive regions.

POLICY IMPLICATIONS AND RECOMMENDATIONS

To formally integrate Unani medicine into Geriatric care specific policy measures are essential:

1. **Inclusion in National Health Policy**: Unani-based interventions should be officially recognized within India's National Geriatric care Program through the AYUSH and Health ministries.
2. **Clinical Infrastructure**: Establish Unani Geriatric care units in primary health centers, AYUSH dispensaries and government hospitals.
3. **Professional Training**: Develop modules and certifications for Unani practitioners in Geriatric or end-of-life care in collaboration with Geriatric care organisations.
4. **Research and Evidence Base**: Conduct clinical trials and longitudinal studies to validate the effects of Unani therapies like Dalk and Nutool on Geriatric and palliative outcomes.
5. **Community Engagement**: Promote awareness about Unani approaches via local language materials and caregiver workshops.
6. **Integrated Care Models**: Encourage referrals and collaboration between Unani and allopathic systems to ensure interdisciplinary patient centered care.

METHODOLOGY:

All material collected from classical Unani books, Unani literature, online databases, PubMed, Google Scholar, Science Direct and MEDLINE for this paper. Unani books were consulted for the Unani perspective on ageing and its relevance to geriatric Care.

RESULTS:

Unani principles of personalized care align closely with modern palliative approaches offering effective and culturally appropriate alternatives. In today's research, modern theories and inventions also validate and accept the relevance of all the recommendations or practices such as diet, exercise, and massage, given by Unani physicians.

DISCUSSION:

The Unani system of medicine provides preventive, curative and rehabilitative health care with a holistic approach. *Asbaab-e-sitta zarooriya* which is an easily manageable factor may play a significant role in maintaining a healthy life for the geriatric age.

CONCLUSION

Unani principles of personalized care align closely with modern Geriatric approaches offering effective and culturally appropriate alternatives.

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Indian Journal of Unani Medicine
Vol. XVIII, Issue 2, July-December, 2025, Pp. **141-146**
ISSN No.: **0974-6065**

https://doi.org/10.53390/IJUM.2025.18212

A RETROSPECTIVE STUDY ON PREVALENCE, RISK FACTORS, CLINICAL PRESENTATION AND MANAGEMENT OF HAEMORRHOIDS

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Review Paper

Received: **26.07.2025** Revised: **15.08.2025** Accepted: **28.08.2025**

ABSTRACT

Background: Haemorrhoids are among the most common benign anorectal disorders, typically resulting from the abnormal downward displacement of anal cushions. Characterized by symptoms such as rectal bleeding, prolapse, pain during defecation, and pruritus ani, they significantly affect quality of life. Despite their high prevalence, the true burden of the disease is difficult to estimate due to underreporting and social stigma, especially in developing countries like India. This study aimed to evaluate the prevalence and associated risk factors of haemorrhoids in patients admitted to a surgical unit in a tertiary care center.

Methods: This was a retrospective study conducted in the Department of Surgery at NIUM Hospital, affiliated with Rajiv Gandhi University of Health Sciences, Bangalore. Data were collected from medical records of 157 patients diagnosed with haemorrhoids. Inclusion criteria involved patients aged 10–80 years, while those with haemorrhoids secondary to anorectal tumors or under 10 years of age were excluded. Patient demographics, symptoms, dietary habits, BMI, and haemorrhoid grading were analyzed using standard statistical methods.

Results: The study revealed a higher prevalence of haemorrhoids among males (66.87%) compared to females (33.13%). The most affected age group was 40–60 years. Key symptoms included passage of hard stools (91.71%), pain during defecation (68.78%), and rectal bleeding (62.42%). A majority of patients had mixed diets (89.81%), and most fell within a normal BMI range. External haemorrhoids were the most common type (38.85%), followed by interno-external (36.94%) and internal haemorrhoids (24.20%). Risk factors identified included chronic constipation, low fibre intake, spicy diet, inadequate hydration, sedentary lifestyle, and obesity.

Conclusion: Haemorrhoids are prevalent in the adult population, particularly in middle-aged males, and are strongly associated with modifiable lifestyle factors such as poor diet and physical inactivity. Early identification of risk factors and promoting awareness regarding dietary changes, hydration, and regular physical activity can aid in prevention and reduce the disease burden.

No. of Pages: 6 **Nos. of Table: 8** **References: 14**

Keywords: Haemorrhoids, constipation, dietary habits, prevalence, risk factors, anorectal disorders, lifestyle, surgical management.

INTRODUCTION

One of the most prevalent benign anorectal disorders is hemorrhoidal disease, which is characterized by the expansion and aberrant downward movement of anal cushions, which results in prolapse and venous dilatation. It is a major source of lower gastrointestinal bleeding and has a substantial impact on patient's quality of life. The dentate line's location determines whether it is categorized as internal or external [1]. Haemorrhoids, also known as piles, are masses or clusters of tissues found in an individual's anal canal that are made up of muscle and elastic fibers, swollen,

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protruding blood vessels, and surrounding supporting tissues. It is a disorder where an anal cushion prolapses, which can cause pain and bleeding [2]. Despite being a prevalent disorder in clinical practice, its actual incidence is unknown because of the stigma associated with seeking treatment. It is estimated that around one-third of the population suffers from haemorrhoids.

Approximately 50% of men and women in their fifties are susceptible to experiencing haemorrhoids at some point in their lives. Academia Journal of Surgery Volume 3 Issue 1 January–June 2020, even though has seen instances in which this illness has also been detected in children and the elderly. [3] According to estimates, 40 million Indians suffer from hemorrhoids. Increasing age, being overweight or obese, psychological issues, having a history of chronic constipation, pregnancy, eating a diet low in fiber, eating spicy foods, drinking alcohol, and other factors are regarded to be risk factors for piles. [4] Rectal bleeding is the most typical sign of hemorrhoidal illness. It typically occurs after bowel movements and is characterized by the passage of little amounts of bright red fresh blood; the color is caused by direct arteriovenous communication that occurs within the hemorrhoidal cushion.[5] Depending on where they occur, haemorrhoids are classified as internal or external. The demarcation line between external and internal haemorrhoids is the pectinate or dentate line that separates the upper two thirds and lower one third of the anus. Below this line are external haemorrhoids, which are covered by skin. Internal haemorrhoids are found above the pectinate line and are coated in mucosa.

Positioned at 3, 7, and 11 o'clock, internal haemorrhoids are true haemorrhoids that vary in degree based on the level of protrusion out of the anal canal. Banov et al.'s classification of internal haemorrhoids commonly divides them into four degrees: first, second, third, and fourth.[6] The mucosa in grade I haemorrhoids hardly prolapses, but under extreme straining, the anal sphincter may close and retain them. Following that, sometimes, venous congestion happens, which causes pain and/or bleeding. Grade II haemorrhoids protrude more into the mucosa, leading to the patient feeling a noticeable lump. This lump typically vanishes on its own soon after defecation, unless thrombosis occurs. Grade III haemorrhoids are found in chronic hemorrhoidal disease, where continuous prolapse leads to dilation of the anal sphincter. These haemorrhoids protrude with little provocation and generally need to be manually pushed back into place. Grade IV haemorrhoids are usually external and stay protruded continuously, unless the patient manually adjusts them, lies down, or elevates the bed's foot. These haemorrhoids cause distension of the dentate line, and there is often a varying external component of excess, permanent perianal skin. [7]

The main cause of haemorrhoids is an increase in pressure on the rectum and anal veins. A major contributing factor to their development is chronic constipation and the straining that occurs during bowel motions, which is frequently caused by constipation. Another significant risk factor is pregnancy because of the pressure on the pelvic veins caused by the expanding uterus and hormonal changes. Individuals who are obese are also more susceptible to haemorrhoids because obesity raises intra-abdominal pressure. Hemorrhoidal development becomes more likely as people age because the anal veins' supporting tissues deteriorate. Prolonged sitting combined with a sedentary lifestyle reduces circulation and increases pressure on the pelvic veins. Moreover, constipation from a low-fibre diet exacerbates straining during bowel movements. Increased abdominal pressure has been associated with physical strain, such as heavy lifting, and heredity, with family history being a major risk factor. Many people develop haemorrhoids as a result of these many factors.[8,9] While endoscopic treatments and surgery are typically used to treat haemorrhoids, most people are believed to self-treat with over-the-counter medications. Therefore, it is impossible to determine the true burden of the disease. In order to determine the prevalence and risk factors of this condition among patients in the region, the author conducted this study. [7]

MATERIALS METHODS

A. Place of study: Department of Surgery, NIUM Hospital associated with Rajiv Gandhi University of Health Sciences (RGUHS), Bangalore (KARNATAKA).

B. Type of study: Retrospective study

C. Sampling Method: Consecutive

D. Sample Collection: Data for the study were gathered from the medical record department of 157 patients diagnosed with haemorrhoids. Relevant patient details, including age, sex, socioeconomic status, symptoms, and risk factors, were recorded

using a detailed proforma. The diagnosis was made based on a thorough history, clinical examination, per rectal examination, and proctoscopy. Conservative and topical management were used for haemorrhoids with less severe symptoms, while surgical intervention like haemorrhoidectomy was performed under spinal anaesthesia for internal and external haemorrhoids.

E. Inclusion Criteria: Patients aged 10 to 80 years with haemorrhoids admitted to the surgery ward were included.

F. Exclusion Criteria: Patients with haemorrhoids secondary to anorectal tumours or those less than 10 years old were excluded.

G. Statistical Methods: Results were shown in tables, comparing their numbers and percentages by scientific calculator and standard appropriate statistical formula.

RESULTS:

This study sought to explain the demographic information and risk factors related to haemorrhoids by analyzing statistics in haemorrhoid patients. The following observations and findings were acquired from the department's medical records of haemorrhoid patients admitted to surgical wards were analyzed.

Table 1: Age wise distribution.

Age group (years)	Total admission	%
18—39 Yrs	62	39.5
40—60 Yrs	78	49.6
More than 60 Yrs	17	10.9

Age – Highest number of patients belongs to the young age group of 20-40 years.

Table 2: Sex Wise Distribution.

	Total admission	%
MALE	105	66.87
FEMALE	52	33.13
	157	

Table 3: Symptoms

Complaints	Number of patients	%
• Bleeding per rectum	98	62.42%
• Pain during defecation	108	68.78%
• Passing of hard stools	144	91.71%
• Pruritus ani	30	19.10%
• Prolapsed swelling	78	49.68%

Table 4: Distribution of study population as per duration of symptoms.

Duration in year	Number	Percentage (%)
Less than one year	103	
More than one year	54	
Total	**157**	

Table 5: Distribution of study population as per dietary pattern.

Diet	Number	Percentage (%)
Mixed	141	
Veg	16	
Total	**157**	

Table 6: As per the B.M.I.

14- 17.9	11
18- 24	128
25-30	9
More than 30	9

Table 7: Distribution of study population as per grading of haemorrhoids.

GRADES	NO.	PERCENTAGE
External Haemorrhoids	61	
Internal Haemorrhoids	38	
Interno-external Haemorrhoids	58	

Table 8: Management of haemorrhoids.

Conservative Management	**21**	**13.3%**
Operative Management	136	86.6%
Total	157	

Discussion

Haemorrhoids are a common anorectal condition that affects the majority of individuals by the age of 50. In our study, the age-wise distribution indicated that the most frequently affected group was individuals in the middle age range (41–60 years). This finding is somewhat consistent with the studies conducted by Ravindranath GG et al. and Ali SA et al., where the most affected group was those under 40 years of age. However, it contrasts with the results reported by Khan et al. and Johanson et al.[6] In terms of gender distribution, our study showed a male-to-female ratio of 2:1. Of the total 157 patients admitted, 66.87% were male and 33.13% were female. This disparity might be attributed to men being more likely to seek medical care for haemorrhoids, while women may experience hesitation or embarrassment when consulting for anorectal issues.

The analysis of symptoms in patients with haemorrhoids showed that the majority experienced multiple complaints simultaneously. The most frequently reported symptom was the passage of hard stools (91.71%), followed by painful defecation (68.78%), rectal bleeding (62.42%), prolapsed swelling (49.6%), and anal itching or pruritus ani (19.10%).

Haemorrhoids, also known as piles, are a common condition in adults, with over half of men and women aged 50 and above likely to experience symptoms during their lifetime. In the current study, a higher occurrence was seen among males, accounting for 66.8% of cases. This finding is consistent with the results reported by Khan et al. However, earlier studies by Has et al. and Johanson et al. suggested that the prevalence of haemorrhoids is nearly equal among both sexes. Our study also found that individuals aged between 40 and 60 years had the highest prevalence of the condition.[10]

Our study clearly indicates that the prevalence of

haemorrhoids is already significant by the age of 30. This supports the idea that the anchoring structures of the rectal mucosa weaken with age. The rate at which connective tissue deteriorates can vary among individuals and may have a genetic basis, as suggested by Brondel et al. Similar to how some people develop facial wrinkles or sagging skin earlier than others, haemorrhoids may also appear earlier in certain individuals. Ultimately, the weakening of the anal mucosa's support system is a natural part of aging, making haemorrhoids an eventual condition for most—though not everyone will experience symptoms. Environmental influences or other yet unidentified factors may also contribute to the development of haemorrhoids. [11] In our study, participants who experienced constipation were more likely to have haemorrhoids than those who did not. This finding is consistent with research from other studies that highlight the significant role constipation plays in the onset of haemorrhoids. The likely reason is that prolonged straining and the passage of hard stools can lead to the breakdown of the supportive tissue within the anal canal. This stress can damage the elastic fibers, resulting in the downward displacement of the anal cushions and ultimately leading to the formation of haemorrhoids.[12]

The evaluation of risk factors in our study indicates that the exact pathogenesis of haemorrhoids remains not fully understood. However, as noted by Kann et al., "all etiological and risk factors contribute to the stretching and slippage of hemorrhoidal tissue." When the supporting structures of the anal cushions weaken, these cushions may shift downward, leading to venous dilation and eventual prolapse.[13]In our findings, key risk factors associated with haemorrhoids included a low-fiber diet, mixed dietary habits, inadequate hydration, chronic constipation or diarrhoea, straining during bowel movements, low levels of physical activity, and obesity. An analysis of haemorrhoid prevalence across different BMI categories showed the highest occurrence within the mid-range BMI group, as detailed in the corresponding table.

The passage of hard stools increases the shearing force exerted on the anal cushions. However, recent studies have started to challenge the previously assumed strong link between constipation and the development of haemorrhoids. Several researchers have not found a significant correlation between the two, while some studies have even indicated that diarrhoea may be a contributing factor to haemorrhoid formation. [1]In our study, risk factors identified included low fibre consumption, high intake of spicy and non-vegetarian mixed diets, and inadequate hydration. Increasing dietary fibre, adopting a vegetarian and non-spicy diet, and maintaining proper hydration levels can help alleviate and prevent haemorrhoids by reducing constipation—a commonly recognized factor in the condition's development.

In our study, the types of haemorrhoids were assessed through clinical examination and diagnosis of each patient. The majority of admitted cases involved external or combined internal-external haemorrhoids, most of which required surgical intervention. A smaller number of patients were hospitalized for conservative, non-surgical treatment. Management strategies were determined based on the type of haemorrhoid diagnosed, with two primary approaches utilized: open haemorrhoidectomy and conservative management.

In our study, two main treatment approaches were employed depending on the severity of the haemorrhoids: haemorrhoidectomy and conservative management. Surgical intervention was typically considered when conservative treatments failed or complications arose. The most commonly performed procedure in this study was open haemorrhoi-dectomy. Excisional haemorrhoidectomy remains the most effective treatment method, offering the lowest recurrence rates compared to other treatment options. According to a recent meta-analysis comparing outcomes of stapled haemorrhoidopexy and traditional haemorrhoidectomy, stapled haemorrhoidopexy was found to result in less postoperative pain, quicker return of bowel function, shorter hospital stays, faster resumption of daily activities, improved wound healing, and greater patient satisfaction.[6] This study provides valuable insight into the burden and potential risk factors associated with haemorrhoids, which can aid in identifying individuals at risk and promoting early diagnosis, preventive strategies, and timely interventions. In Indian society, haemorrhoids and other anorectal conditions often carry a social stigma, leading many affected individuals to overlook or hide their symptoms. As a result, although the estimated prevalence in India ranges between 32–40%, accurate data on the true extent of the condition remains limited.[14]

Conclusion

Symptomatic haemorrhoids are a common benign condition often seen in individuals with risk factors

such as chronic constipation, poor dietary habits, lack of physical activity, and obesity. Therefore, it is important to educate patients about adopting healthier dietary habits, increasing physical activity, and preventing constipation.

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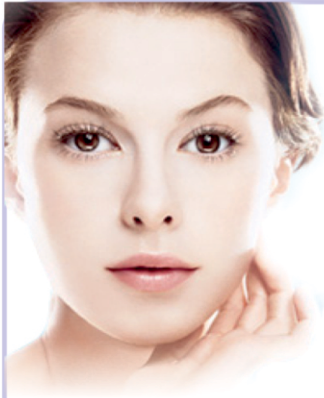

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