

Hyperhidrosis and Excessive Sweating: Correlation Between Contemporary

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ABSTRACT

Hyperhidrosis is a disorder characterised by excessive sweating beyond physiological thermoregulatory needs, affecting localized or generalized body regions and significantly impacting quality of life. The condition shows a prevalence of approximately 3% in the general population, with no definite gender predilection, and most commonly involves the palmar, plantar, axillary, and craniofacial regions. Etiologically, hyperhidrosis may be primary (idiopathic, often focal and symmetrical) or secondary to systemic, neurological, endocrine, infectious, or drug-induced causes. Its pathophysiology is primarily linked to dysregulation of the sympathetic nervous system, resulting in overactivation of eccrine sweat glands.

From a Unani perspective, hyperhidrosis is interpreted through classical concepts such as imbalance of humors (Akhlāt), weakness of Quwwat-e-Māsika (retentive faculty), accumulation of Mawād-e-Fāsida (morbid matter), and abnormal eliminative responses of Tabiyyat during Bohrān. These traditional concepts provide a holistic explanation of excessive sweating as a manifestation of internal systemic imbalance. Management in modern medicine includes topical aluminum chloride, iontophoresis, botulinum toxin injections, oral anticholinergics, and surgical interventions in refractory cases, while Unani therapy emphasizes tanqiya (evacuation of morbid humors), dietary regulation, and the use of herbal and topical formulations.

This review highlights the correlation between Unani principles and contemporary biomedical understanding, emphasizing that both systems recognize hyperhidrosis as a disorder of dysregulated internal control mechanisms. Integrating both perspectives may offer a comprehensive approach to understanding and managing hyperhidrosis.

Keywords: Hyperhidrosis, Excessive sweating, Quwwat-e-Māsika, Mawād-e-Fāsida, Bohrān, Autonomic dysfunction, Eccrine sweat glands, Humoral imbalance, Tanqiya, Sympathetic nervous system.

INTRODUCTION

Hyperhidrosis is defined as excessive production of sweat, more than is required for thermoregulation (1).

Hyperhidrosis, or excessive sweating, may be localised to one or several areas, or it may be more generalised. True generalised hyperhidrosis is rare, and even hyperhidrosis caused by systemic diseases is usually accentuated in certain regions. (2)

Epidemiology

Self-reported prevalence in young adults is 16%, but less than half of these have excess sweat secretion rates when measured objectively(1). There is no gender or racial preponderance. Hyperhidrosis affects approximately 3% of the United States population and is most common in patients between 20 and 60 years of age. No evidence indicates that either men or women are at increased risk (4). The palmar region is the most commonly affected area(5). Hyperhidrosis affects all races, but data show that the Japanese are more affected than any other ethnic group.

LITERATURE REVIEW:

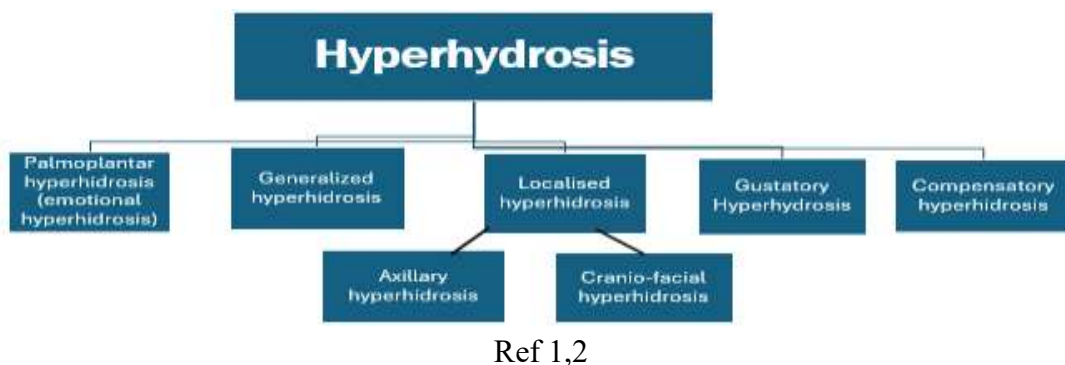
DEFINITION

Hyperhidrosis is defined as excessive production of sweat, more than is required for thermoregulation (1). Hyperhidrosis, or excessive sweating, may be localised to one or several areas, or it may be more generalised. True generalised hyperhidrosis is rare, and even hyperhidrosis caused by systemic diseases is usually accentuated in certain regions. (2)

ETIOLOGY

- Idiopathic (independent of thermoregulation): symmetrical, localised to palms, soles, axillae
- Injury to the central or peripheral nervous system (e.g., syringomyelia, tabes dorsalis)
- Endocrine diseases (e.g., diabetes, hypoglycemia, hyperthyroidism, pheochromocytoma, carcinoid)
- Metabolic (e.g., alcohol intoxication)
- Febrile illness (e.g., infections, Hodgkin’s lymphoma)
- Drugs (e.g., acetaminophen, cholinergic agents)
- Local heat, changes in local blood flow (e.g., arteriovenous malformations)
- Hereditary disorders (e.g., blue rubber bleb nevus syndrome)
- Exercise
- Emotional stress
- Postparotid surgery in the area of distribution of the auriculotemporal nerve (Frey’s syndrome).....
Ref 3

Classification



Pathophysiology

Palmoplantar hyperhidrosis (emotional hyperhidrosis)

This type of hyperhidrosis is usually localised to the palms, soles, and/or axillae, and may be worse during warm temperatures. Patients with palm and sole hyperhidrosis may also have axillary hyperhidrosis, but only 25% of patients with axillary hyperhidrosis have palmoplantar hyperhidrosis. The hands may be cold and show a dusky hue. The soggy keratin of the hyperhidrotic soles is frequently affected by pitted keratolysis and has a foul odour. Sweating may be intermittent; in these cases, anxiety, stress, or fear may trigger it. When sweating is constant, usually, emotion is not as important. This type of sweating can be autosomal-dominantly inherited. Its onset is in childhood for the palmar type and adolescence for the axillary disease. It tends to improve with age. Sweating typically ceases during sleep. Ref...2

Gustatory hyperhidrosis

Certain individuals regularly experience excessive sweating of the forehead, scalp, upper lip, perioral region, or sternum a few moments after eating spicy foods, tomato sauce, chocolate, coffee, tea, or hot soups. Gustatory sweating may be idiopathic or caused by hyperactivity of the sympathetic nerves (Pancoast tumour or postoperatively), sensory neuropathy (diabetes mellitus or subsequent to zoster), parotitis or parotid abscess, and surgery or injury of the parotid gland (auriculotemporal syndrome of von Frey). Frey syndrome occurs in one-third or more of patients following parotid surgery. Fortunately, only 10% of affected patients require treatment. Ref.....2

Localised hyperhidrosis

Excessive sweating may be due to neurological lesions involving any part of the sympathetic pathway from the brain to the nerve ending. Localized sweating can occur over lesions of blue rubber bleb nevus, glomus tumors, and hemangiomas (sudoriferous hemangioma), and in POEMS syndrome, Gopalan syndrome, complex regional pain syndrome, as a result of spinal cord tumors (especially when unilateral palmar hyperhidrosis is the complaint), and pachydermoperiostosis.....ref2

Box 47.3 Causes of localised hyperhidrosis

- Spinal cord injury
- Intrathoracic neoplasia
- Frey syndrome
- Granulosis rubra nasi
- Functional and true sweat gland naevi
- Sweating associated with local skin disorders: glomangioma, blue rubber bleb naevi, pachydermoperiostosis, pretibial myxoedema, POEMS syndrome, burning feet syndrome
- Idiopathic unilateral circumscribed hyperhidrosis

POEMS, polyneuropathy, organomegaly, endocrinopathy, monoclonal protein and skin changes.

Subtypes of Localised hyperhidrosis.....ref 1

Axillary hyperhidrosis

Usually in a phase-independent but occasionally continuous pattern. It usually develops after puberty and can be triggered by undressing.

Craniofacial hyperhidrosis

The occurrence usually occurs in middle age and is generally gradual, brought about by heat, exercise/eating. Note: Ref

Generalized hyperhidrosis

Febrile diseases, vigorous exercise, or a hot, humid environment, such as a tropical milieu, may induce generalised hyperhidrosis. Hyperthyroidism, acromegaly, diabetes mellitus, pheochromocytoma, hypoglycemia, salicylism, substance abuse, lymphoma, carcinoid syndrome, pregnancy, and menopause may also produce generalised hyperhidrosis. Additional causes of hyperhidrosis include concussion, Parkinson’s disease, other disturbances of the sympathetic nervous system, and metastatic tumours producing a complete transection of the spinal cord. Drugs such as anticholinesterases, antidepressants of the selective serotonin-reuptake inhibitor or tricyclic types, antiglaucoma agents, bladder stimulants, opioids, and sialogogs may cause hyperhidrosis ref

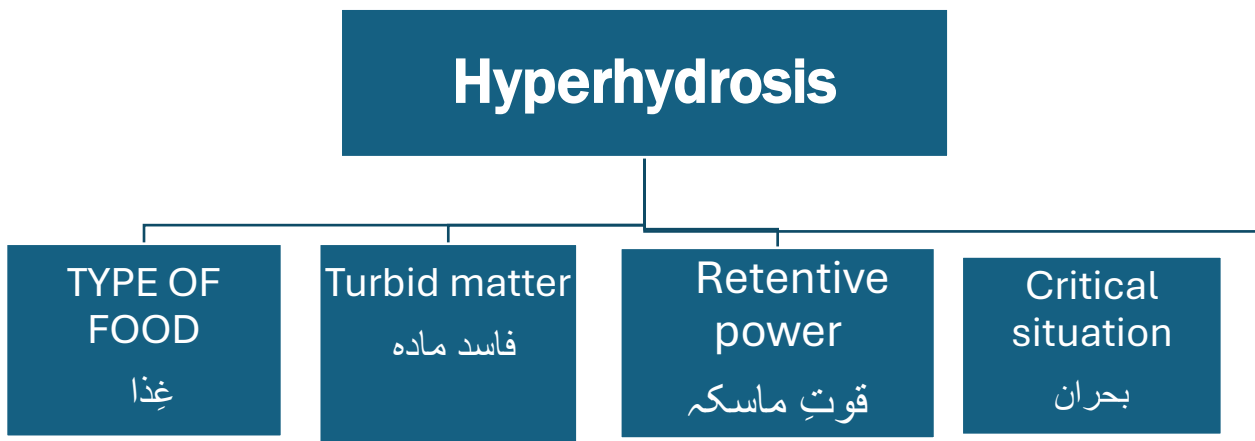
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Compensatory hyperhidrosis

Occurs in normal sweat glands when those elsewhere are not functioning because of neurological or skin disease, diabetes mellitus or after sympathectomy. It is also a component of Ross syndrome.

Ref 1

According to unani literature Hyperhydrosis can be classified into 4 types



Ref.....6

غذا

According to the teachings of Hippocrates, excessive food intake leads to the formation of abnormal humoral by-products. He suggested that overeating, particularly when followed by sleep, slows digestion and causes congestion of nutritive fluids, resulting in the production of a “sweet” substance that is excreted through sweat pores.

From a modern perspective, this can be correlated with postprandial hyperglycemia and metabolic imbalance. Excessive intake of carbohydrate-rich foods, especially with physical inactivity, elevates blood glucose levels. In conditions like Diabetes Mellitus, glucose may be excreted through urine and, in small amounts, through sweat, where its levels reflect blood glucose concentration.

Thus, the classical concept of “sweet excretion” aligns with modern understanding of glucose metabolism, interpreting humoral imbalance as metabolic dysregulation due to excess intake and reduced activity..... ref 6,7,8,9

دوسری قسم

Turbid matter (فاسد مادہ)

In Unani philosophy, excessive sweating in individuals who consume little food and frequently remain in a state of relative fasting is attributed to the accumulation of morbid matter (Mawād-e-Fāsida) within the body. This retained pathological material, unable to be adequately metabolized or expelled through normal digestive pathways, undergoes prolonged stagnation (Iḥtibās) and is eventually eliminated through alternative routes, particularly via sweat pores. The presence of excessive perspiration in such individuals is therefore interpreted as a compensatory excretory mechanism, reflecting chronic internal imbalance rather than recent dietary excess.

From a modern medical perspective, this phenomenon can be correlated with Hyperhidrosis, a condition characterized by excessive sweating independent of food intake or thermoregulatory needs. Contemporary research indicates that hyperhidrosis is primarily due to dysregulation of the autonomic nervous system, particularly overactivity of sympathetic cholinergic pathways controlling eccrine sweat glands.

Furthermore, excessive sweating may occur even in the absence of external triggers such as heat or physical exertion and may be associated with underlying metabolic, neurological, or endocrine disturbances. These findings suggest that abnormal sweating can result from internal physiological dysregulation rather than immediate dietary factors.

Thus, the Unani concept of accumulated morbid matter being expelled through sweat finds a conceptual parallel in modern medicine, where persistent autonomic imbalance and underlying systemic disturbances lead to excessive sweating. What classical scholars described as retained pathological humors may be interpreted today as chronic neuro-metabolic dysregulation manifesting through altered sweat gland activity.....ref 6, 10,11, 12, 13

تیسری قسم (Retentive power قوتِ ماسکہ)

In Unani physiology, Quwwat-e-Māsika (the retentive faculty) is responsible for holding and regulating substances within the body. Weakness of this faculty (Zu‘f-e-Quwwat-e-Māsika) leads to an inability to retain fluids and humors, resulting in their premature expulsion. In the context of sweating, this weakness is believed to cause a loosening of sweat pores (Tafattuh-e-Masām), allowing excessive خروج of fluid in the form of perspiration. Thus, hyper-sweating is interpreted as a failure of the body’s retaining mechanism, leading to uncontrolled excretion.

From a modern medical perspective, this concept can be correlated with dysfunction of the autonomic nervous system, particularly in conditions like Hyperhidrosis. Excessive sweating occurs due to overactivation of sympathetic cholinergic fibers that stimulate eccrine sweat glands, even in the absence of normal triggers such as heat or exertion. This reflects a loss of regulatory control over sweat secretion, analogous to the Unani concept of weakened retentive power.

Additionally, studies suggest that impaired neural regulation and altered feedback mechanisms can lead to persistent sweating, indicating a breakdown in normal physiological “control” systems. This modern understanding of dysregulated autonomic function parallels the Unani description of Quwwat-e-Māsika failure, where the body loses its ability to appropriately retain and regulate internal fluids. Ref.....6,14,15,16

(بوخران) Critical situation چوتھی قسم

In Unani medicine, Bohrān (crisis) represents a decisive phase in which Tabiyyat (the body’s innate healing power) attempts to eliminate morbid matter (Mawād-e-Marzīya) through natural excretory pathways. In certain conditions, this elimination may occur via excessive sweating, where the body expels pathological substances through the skin. Such sweating is considered a favorable sign, reflecting the body’s effort toward restoration of balance and resolution of disease.

However, when this process becomes excessive or persistent beyond physiological limits, it may indicate an underlying imbalance rather than a purely beneficial response. From a modern medical perspective, this can be correlated with Hyperhidrosis, a condition characterized by abnormally increased sweating due to dysregulation of the autonomic nervous system. In this state, overactivity of sympathetic cholinergic pathways leads to excessive stimulation of eccrine sweat glands, independent of thermoregulatory needs. Thus, while the Unani concept interprets sweating during Bohrān as a purposeful eliminative response of Tabiyyat, modern medicine recognizes that excessive or uncontrolled sweating may reflect autonomic dysfunction. Therefore, moderate sweating may be viewed as beneficial and restorative, whereas persistent or excessive sweating warrants clinical consideration as a pathological condition.....ref 6, 17,18,19

Clinical Features of Hyperhidrosis: Unani and Modern Perspectives

1. Unani Perspective (Alamāt / Clinical Features)

In Unani medicine, excessive sweating is understood as a manifestation of imbalance in Akhlāt (humors), weakness of Quwwat-e-Māsika (retentive faculty), or the eliminative effort of Tabiyyat during Bohrān. The key clinical features include:

- Kasrat-e-Ta‘arruq (Excessive sweating): Profuse perspiration beyond normal physiological needs
- Tafattuh-e-Masām (Dilated/loosened pores): Increased openness of skin pores facilitating خروج of fluids
- Rutoobat-e-Ghair Tab‘iya: Abnormal moisture on the skin surface
- Baroodat or Harārat imbalance: Sweating may be associated with altered temperament (cold or hot states)
- Zo‘f-e-Quwwat-e-Māsika: Inability to retain body fluids leading to continuous excretion
- Relief after sweating (in some cases): Especially during Bohrān, indicating expulsion of morbid matter
- General weakness (Zo‘f): Due to loss of essential fluids
- Possible odor or change in sweat quality: Reflecting fasād (putrefaction) of humors ref....20,21,22,23,24

2. Modern Medical Perspective (Clinical Features)

Clinically, Hyperhidrosis is characterized by:

Excessive, visible sweating beyond thermoregulatory needs

- Focal or generalized distribution: Commonly affects palms, soles, axillae, and face

- Symmetrical sweating pattern (in primary hyperhidrosis)
- Sweating during wakefulness; often absent during sleep
- Trigger-independent sweating: Occurs without heat or exertion
- Emotional triggers: Anxiety, stress, or embarrassment may worsen symptoms
- Skin changes: Maceration, secondary infections, or dermatitis
- Social and psychological impact: Embarrassment, reduced quality of life. Ref...1,2,3,25

Skin Findings

Chronic effects of excessive skin moisture include dry, flaky skin with cracks and fissures.

Patients with excessively moist skin are susceptible to bacterial overgrowth (pitted keratolysis) and yeast infection.

Patients with pitted keratolysis develop small superficial pits on the soles, associated with intense foot odor. Ref 25

Nonskin Findings

Nonskin findings are dependent on the underlying cause of hyperhidrosis ref 25

3. Correlation Between Unani and Modern Concepts

- Zo'f-e-Quwwat-e-Māsika → Loss of regulatory control over fluid retention → parallels autonomic dysregulation
- Tafattuh-e-Masām → Increased خروج through pores → corresponds to overactive eccrine sweat glands
- Bohrān (crisis sweating) → eliminative process → may resemble reactive or stress-induced sweating
- Rutoobat-e-Fāsida → abnormal internal fluids → can be interpreted as metabolic or neuro-hormonal imbalance

Keys to Diagnosis

Ref.....3

Clinical Manifestation(s)

- Depending on the cause, hyperhidrosis may be symmetrical, generalized, or localized to palms, soles, and axillae or another specific part of the body.
- Sweating may be mainly nocturnal when due to fever from an infectious process or malignancies such as lymphoma.

Physical Examination

- Involved area reveals excessive moisture (Fig. 03-144) and foul odor.
- Skin maceration and bacterial or yeast overgrowth may be present.
- Superficial pits may be present with intense odor.

Diagnostic Tests

- Testing is directed by clinical suspicion of etiology (e.g., TSH, free T4 level when suspecting hyperthyroidism)

Management of Hyperhidrosis

Ref.....1,2,3

1. General Principle

- For generalized hyperhidrosis, treat the underlying systemic cause.
- Most dermatology cases involve axillary, palmar, or plantar hyperhidrosis.

2. Stepwise Treatment

First-line

- Topical aluminum chloride (10–35%) (e.g., Drysol)
- Apply at night on dry skin, wash off after 6–8 hours
- Highly effective, especially for axillae
- Lower concentrations reduce irritation
- Potassium permanganate soaks for infected sweaty feet

Second-line

Iontophoresis

- Uses tap water or anticholinergics (e.g., glycopyrrolate)
- Sessions: 20–30 min daily → maintenance every 1–2 weeks
- Botulinum toxin injections (Type A/B)
- Effective for axillae, palms, soles
- Reduces sweating significantly
- Duration: ~6–7 months (can last longer)
- Limitations: pain, cost, temporary weakness (palms)
- Oral anticholinergics (e.g., oxybutynin, propantheline, glycopyrrolate)
- Useful but limited by side effects

Third-line

Surgical options

- Local excision/liposuction of axillary sweat glands
- Endoscopic sympathectomy (T4 level) for severe palmar cases
- Highly effective but rarely used due to complications
- Common issue: compensatory sweating

3. Other/Adjunct Options

- Topical glycopyrrolate (0.5–2%)
- Microwave therapy (miraDry) & lasers
- Drugs like clonidine, diltiazem (less commonly used)

4. Side Effects to Remember

- Anticholinergic drugs → dry mouth, constipation, blurred vision
- Botulinum toxin → pain, temporary muscle weakness
- Surgery → compensatory hyperhidrosis, rare serious complications

Unani management

Treatment of Hyperhidrosis in Unani.....Ref....26

1) Fasd (Venesection)

Mus'hil → Fasd

Ingredients: For mushil

1. Rewand Chini – 3.5 g
2. Afsanteen Rumi – 10.5 g
3. Mazu – 7 g
4. Saqmonia Antaki Azraq – 3.5 g

Method:

Make powder and mix with water of Haleela Zard.

(Huboob/Tablets) each tablet is of 8 g → Single dose Once in 15 days 3 doses is recommended

2) Nuzj (Concoction / Internal Preparation)

(1.5 kg each) Kasni + Aab Salab + Tukhm-e-Kasoo

Method:

Keep in a मिट्टी का बर्तन (earthen pot) in sunlight. Then apply on body

2nd method

Ingredients:

1. Sabr Sigooti Khalis – 25 g
2. Mamiran Chini – 7 g
3. Rewand Luk – 7 g
4. Afsar / Anbar Baris Qibti Saf Shudah – 75 g
5. Dhaniya Khusk – 1 cup
6. Gulnar Jurjani – 2 cups
7. Barg-e-Tarkhashgoog, dried – 2 cups

Instructions:

Keep every drug in a मिट्टी का बर्तन (earthen pot) in sunlight for 1 day. Use 105 gm sugar with 52.5 g Sikajabeen.

3) Shiyaf

Mughul Azrakh – 7 g Rogan-e-Gul: melt and add according to quantity as mentioned in book.

Method:

Convert into Shiyaf.

Nutool

1. Post-e-Hanzal (some quantity)
2. Gul-e-Surkh – 1 cup (approx.)
3. Gulnaar (some quantity)

Method:

Cook it in a utensil which does not have any “dhatkan” (cover/lid).

When all drugs are cooked well:

1. Put it in a strainer and leave it.
2. Then pour it on body and massage.
3. If patient does not like massage, then wash with warm water and apply rough cloth.
4. Then make him smell “Tafore”.
5. Apply Aab-e-Gulaab on body.

Excessive Sweating (Hyperhidrosis) Treatment

Meezan ul Tib.....Ref 27

If it develops because of bad Akhlat getting accumulated inside the body, then it is recommended to Tanqiya (excrete) Akhlat.

If it develops because of Giza (food), then decrease the quantity of food and keep them hungry.

If patients are weak, give food and medicines that help in strengthening the body.

Mazu (مازو) → Crush into fine powder and apply on body.

Barg-e-Muad (برگ معاذ) → Burn it and spread the smoke all over the body (Dhooni).

Ghiza Ghaliza (heavy meals) are recommended to consume.

Patients are advised not to wear clothes a lot.

Moderate temperament air/environment is suitable to sit the patient in, which should not have dryness in air.

Raughan-e-Jau is known to decrease sweat production.

Aab-e-Saape (apple water), Aab-e-Gulab, Raughan-e-Gul, Raughan-e-Kunjad

→ Take all these in equal quantity and cook on low flame.

When water evaporates and only oil is left, remove from fire and apply on body.

Kamil-us-Sana.....Ref. 28

Unani Remedies for Excessive Sweating (Hyperhidrosis)

1. Prepare a fine powder of Mazu (oak gall) and mix it with Raughan-e-Gul (rose oil). Apply this preparation over the body.
2. Mix Raughan-e-Aas with a small quantity of Jabeen and Sabda, then apply it to the body.
3. Take Gil-e-Armani and Muda Sang, mix them with Gulab (rose water), and prepare a paste-like consistency (Tillah form). Apply this paste evenly over the body.
4. Prepare a fine powder of Surkh Phitkari (red alum) and dissolve it in Aas water.
Add Khwaja Shakh Alu to the mixture and apply it gently over the body.

Preparation and Application Methods

1. Prepare a fine powder by mixing Murdar Sang and Maazu
2. Add the powder to Raughan Bahi (روغن بهی).
Apply the mixture uniformly over the entire body.

Preparation of Medicinal Oil

1. Take Bahi ka Phool– 17 tola
2. Take dried rose flowers – 12 tola

Method:

1. Add water equal to ****five times**** the quantity of the ingredients.
2. Cook on a moderate flame until only ****one-fourth**** of the water remains.
3. Strain the preparation carefully.
4. Add ****half the quantity (Nisf / نصف)**** of ****Raughan Gul**** to the filtrate.
5. Continue heating on low to moderate flame until all the water evaporates and only the oil remains.
6. Filter the oil properly and apply externally.

Sharh-e-AsbabRef 29

- Reduce the quantity of food intake and keep the patient in a fasting or semi-fasting state.
- Apply a paste prepared from crushed Maazu mixed with Raughan Gul over the body.
- Prepare a fine powder of Sange Jarahatul Hameem (سنگِ جراحت الحمیم) and apply it externally on the body.
- Mix Gila Armani and Murdar Sang, triturate them in Aab-e-Gulab, and apply in the form of Tila (medicated paste).
- Mix Raughan-e-Bahi, Aab Gul Sufaid, Gulnar, and Luaab, then apply the preparation over the body.

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