

Understanding Stress and its Management in Unani Medicine: A Psychoneuroimmunological and Pharmacological Review

**Dr. Mohd Suheb¹, Dr. Mohammad Shahid², Dr. Mohd Zubair³,
Dr. Aafreen Hafiz Abul Qais Siddiqui⁴**

¹PG Scholar, Department of Moalajat, State Takmeel-ut-Tib College and Hospital, Lucknow

²Professor & Head, Department of Moalajat, State Takmeel-ut-Tib College and Hospital, Lucknow

³Assistant Professor, Department of Moalajat, State Takmeel-ut-Tib College and Hospital, Lucknow

⁴Lecturer, Department of Moalajat, State Takmeel-ut-Tib College and Hospital, Lucknow

Abstract

Stress-related disorders, including generalized anxiety disorder, clinical depression, and psychosomatic illnesses, constitute a substantial and growing component of the global burden of disease and account for approximately 12–15% of mental health consultations worldwide.¹ Although modern medicine commonly employs target-specific psychopharmacological agents, such as selective serotonin reuptake inhibitors (SSRIs) and benzodiazepines, their clinical use may be associated with adverse effects, including gastrointestinal disturbances, weight gain, metabolic alterations, and cognitive or motor impairment.²

This review examines stress from the perspective of Unani (Greco-Arab) medicine, with particular emphasis on its classical theoretical framework, historical contributions to psychiatric medicine, and contemporary pharmacological evidence. In Unani Tibb, stress-related psychological disorders are considered within the broader category of Amraz-e-Nafsaniya. The Unani approach conceptualizes psychological distress in relation to disturbances of Mizaj (temperament) and Akhlat (humours), particularly alterations associated with Safra (yellow bile) and Sauda (black bile). These disturbances are traditionally considered to influence the temperament and functioning of Ruh (vital spirit) and Qalb (heart), thereby affecting the regulatory capacity of Tabiyat.⁶

Unani medicine offers a multidimensional approach to the management of stress through the regulation of Asbab-e-Sitta Zarooriya (the six essential causes), Ilaj-bil-Tadbeer (regimental therapy), and Ilaj-bil-Dawa (pharmacotherapy). Regimental approaches include interventions such as Dalk-e-Layyin (gentle massage), while several medicinal plants traditionally used in Unani medicine have also been investigated for their potential adaptogenic, anxiolytic, and neuroprotective effects.^{8,12} Among these, *Withania somnifera* (Asgand), *Nardostachys jatamansi* (Jatamansi), and *Bacopa monnieri* (Brahmi) have received particular scientific attention. Available experimental and clinical evidence suggests that these botanicals may influence the hypothalamic–pituitary–adrenal (HPA) axis, modulate stress-related neuroendocrine responses, and influence oxidative and inflammatory pathways.³

This review therefore explores the potential role of Unani principles and interventions in stress management while examining their possible correlations with contemporary concepts of psychoneuroimmunology.

Keywords: Amraz-e-Nafsaniya, Asbab-e-Sitta Zarooriya, Mizaj, Akhlat, Withania somnifera, Psychoneuroimmunology. **Keywords:** Stress, Amraz-e-Nafsaniya, Asbab-e-Sitta Zarooriya, Mizaj, Akhlat, Psychoneuroimmunology, Unani Medicine, *Withania somnifera*, Adaptogens.

Introduction: Historical and Philosophical Foundations of Unani Psychiatry

The interrelationship between psychological and physical health is a fundamental principle of the Unani system of medicine. Originating in ancient Greece and subsequently developed and enriched by physicians and scholars of the medieval Islamic, Iranian, and Indian worlds, Unani medicine has traditionally viewed mental and physical health as closely interconnected.¹⁶

Within Unani medicine, disorders related to mental and psychological disturbances are broadly classified under Amraz-e-Nafsaniya. Rather than considering mental disorders as exclusively cerebral conditions, the Unani approach views them as systemic disturbances that may influence the functioning of the individual as a whole.¹ This holistic understanding emphasizes the close relationship between the mind, body, temperament, humours, and vital functions.

The foundations of Unani psychiatry can be traced to Hippocrates (Buqrat, approximately 460–370 BC), who challenged supernatural explanations of mental illness and emphasized natural and bodily causes. He associated disturbances of mental functioning with alterations in the humoral constitution of the individual.⁷ This approach contributed to the development of psychiatry as a field grounded in natural and somatic medicine rather than supernatural explanations.¹⁶

Galen (Jalinoos, approximately 130–205 AD) further developed the humoral understanding of mental and behavioural disorders. He related various physical and psychological manifestations to disturbances of the humours and temperament (Mizaj). His writings also contributed to the understanding of emotional and psychosomatic manifestations, including conditions associated with persistent emotional distress and behavioural changes.¹⁶

During the Islamic Golden Age, the knowledge of Greek medicine was further developed and integrated with clinical experience by Muslim physicians. Rabban Tabari (775–890 AD), in his encyclopaedic work *Firdaus-ul-Hikmah*, discussed the functions of the nervous faculty (Quwwat-e-Nafsaniya) and its role in maintaining the functional balance of the body.⁶ His descriptions contributed to the broader Unani understanding of the relationship between the nervous system, psychological functions, and the body's innate self-regulatory capacity, known as *Tabiyat*.⁶

A significant advancement in the clinical understanding of psychological disorders was made by Abu Bakr Muhammad ibn Zakariya al-Razi (Al-Razi, 865–925 AD). As a physician associated with the hospital of Baghdad, Al-Razi contributed substantially to the development of humane and rational approaches to the care of patients with mental disorders. His work *Al-Tibb al-Ruhani* addressed psychological and behavioural problems and emphasized rational approaches to the management of distressing thoughts and behaviours.^{19, 20}

Al-Razi's contribution is particularly important in the history of psychiatric medicine because historical accounts associate him with the establishment of a dedicated section for patients with mental illness in Baghdad.^{19, 20} His clinical approach emphasized observation, compassionate care, and individualized management. Contemporary historical literature also recognizes his contribution to early forms of psychological treatment and psychiatric aftercare.²⁰

Ibn Sina (Avicenna, 980–1037 AD) further systematized the understanding of psychological disorders in his influential medical work *Al-Qanun fi al-Tibb* (The Canon of Medicine).²³ He described several

psychological and psychiatric conditions, including *Malikhuliya* (melancholia), *Waswas* (obsessive thoughts), and *Al-Ishq* (the disorder of love).²⁴ Ibn Sina also recognized the close relationship between psychological stress and physical manifestations and used clinical observations, including pulse assessment (*Nabz*), to identify emotional and psychological disturbances.²⁴

In his treatise *A Treatise on the Fear of Death and the Way to Overcome It*, Ibn Sina discussed the psychological basis of fear and anxiety and emphasized the role of cognitive perceptions in maintaining distress.²⁸ His approach suggests that maladaptive thoughts and misconceptions surrounding mortality could contribute to persistent anxiety and that rational reflection and cognitive restructuring could help alleviate such distress.²⁸ The historical development of Unani psychiatry therefore reflects a progressive integration of physiological, psychological, and behavioural concepts. From the humoral explanations of Hippocrates and Galen to the clinical and philosophical contributions of Rabban Tabari, Al-Razi, and Ibn Sina, the Unani tradition developed a comprehensive view of mental health in which psychological states were considered closely connected with bodily functions, temperament, and overall health

Historical Period & Figure	Key Contributions to Unani Psychiatry	Clinical & Epistemological Impact
Hippocratic Era Hippocrates (460–377 BC) ⁷	Humoral theory of mental illness; rejected supernatural demonology ⁷	Established psychiatry as a branch of natural science and somatic medicine ¹⁶
Roman Era Galen (130–205 AD) ¹⁶	Mapped physical syndromes to specific humours; described psychosomatic effects of emotional repression ¹⁶	Standardized humoral psychology and the concept of temperament (<i>Mizaj</i>) ¹
Islamic Golden Age Rabban Tabari (775–890 AD) ⁶	Described nervous faculty (<i>Quwwate nafsania</i>) in <i>Firdausul Hikmah</i> [cite: 6, 16]	Linked psychological administrative power with the body's innate self-preservation force, <i>Tabiyat</i> [cite: 6]
Islamic Golden Age Al-Razi (865–925 AD) ¹⁹	Founded the first psychiatric ward; authored <i>Al-Tibb al-Ruhani</i> ; used cognitive therapy and music therapy ²⁰	Introduced humane psychiatric care, systematic case histories, and transitional aftercare ¹⁹
Medieval Era Ibn Sina (980–1037 AD) ²³	Categorized <i>Malikhuliya</i> and <i>Al-Ishq</i> ; developed cognitive treatments for death-related anxiety ²⁴	Validated psychosomatic feedback loops using clinical pulse diagnosis (<i>Nabz</i>) ²⁴

Theoretical Framework of Stress in Unani Medicine

The Concept of *Mizaj* (Temperament) and Stress Vulnerability

According to Unani physiology, *Mizaj* (temperament) is a fundamental determinant of an individual's physical, physiological, and psychological characteristics.¹ *Mizaj* represents the dynamic balance resulting from the interaction of four primary qualities: *Hararat* (heat), *Barudat* (coldness), *Yubusat* (dryness), and *Rutub'at* (moisture).²³ Each individual possesses a primary or constitutional temperament, referred to as *Mizaj-e-Ula*.²⁹

Unani classical literature broadly classifies human temperaments into four major types and associates each with characteristic psychological tendencies and potential differences in stress susceptibility.¹ These include:

- **Damvi** (Sanguine — Hot and Moist): Generally associated with optimism, adaptability, and emotional resilience. Individuals with this temperament are traditionally considered relatively adaptable to stressful situations.
- **Safravi** (Choleric — Hot and Dry): Characterized by rapid mental processing, ambition, and a tendency towards irritability or anger. Individuals with a Safravi temperament may be more prone to acute emotional arousal and anxiety associated with excessive activity and irritability.¹
- **Balghami** (Phlegmatic — Cold and Moist): Traditionally characterized by a calm and composed disposition, slower processing of information, and relative psychological endurance.
- **Saudavi** (Melancholic — Cold and Dry): Traditionally associated with analytical and reflective thinking. This temperament has been described as being more susceptible to persistent worry, obsessive thoughts, and depressive states because of its cold and dry characteristics.¹

Clinical observations reported in Unani literature indicate that individuals with a melancholic temperament of the brain (*Mizaj-e-Dimagh Saudawi*) may have greater susceptibility to chronic psychological and occupational stress than individuals with other temperamental patterns.⁴

Humoral Pathology of Stress: *Ihteraq-e-Akhlāt*

According to the Unani system of medicine, maintaining a balanced state of the four humours (*Akhlāt*) is essential for the preservation of health.³ Stress and prolonged emotional disturbances are considered among the factors that may disturb this balance and contribute to pathological changes. Excessive stress and persistent worry are traditionally described as producing abnormal heat within the body, which may contribute to the process of *Ihteraq-e-Akhlāt* (abnormal combustion or alteration of the humours).⁵

In chronic stress, persistent emotional and physiological strain is traditionally associated with changes in the humoral state, particularly involving *Safra* and *Sauda*.¹ Prolonged humoral alteration may lead to the formation of *Muhtariq Sauda* (burnt or altered black bile), which is described in Unani literature as a pathological substance capable of adversely affecting tissues.⁵ Such alterations are traditionally associated with the development of a *Sue-Mizaj-e-Barid Yabis* (cold and dry mal-temperament) in the brain.⁴

According to this conceptual framework, excessive coldness and dryness may reduce the moisture and flexibility of cerebral tissues and consequently affect cognitive and psychological functions. This state has been associated with manifestations of *Malikhuliya* (melancholia), including persistent sadness, unfounded fears, social withdrawal, and obsessive thoughts (*Waswas*).⁴ The severity of these manifestations is traditionally considered to be related to the extent of pathological humoral alteration affecting the brain.

The Role of *Ruh* (Vital Spirit) and *Tabiyat* (Homeostasis)

The physiological effects of stress can be understood within the Unani concepts of *Ruh* (vital spirit) and *Tabiyat* (the body's self-regulatory and administrative capacity).⁶ According to Unani physiology, *Ruh* is a subtle substance originating from the interaction of the pure humours and inspired air. It serves as the vehicle for the physical, vital, and psychic functions of the body.⁷

Unani medicine describes three principal forms of *Ruh*:

- **Ruh-e-Taba'iy (Natural Spirit):** Associated with the liver and involved in metabolic and digestive functions.⁶
- **Ruh-e-Haywani (Vital Spirit):** Associated with the heart and involved in maintaining vital functions, including circulation and emotional responses.⁶
- **Ruh-e-Nafsani (Psychic Spirit):** Associated with the brain and involved in sensory perception, memory, and voluntary movements.⁶

Stress is considered to influence particularly the temperament and functioning of *Ruh-e-Nafsani* and *Ruh-e-Haywani*.⁷ Excessive mental strain and persistent worry are traditionally described as depleting vital strength, potentially resulting in cerebral weakness (*Zauf-e-Dimagh*) and weakness of the heart (*Zauf-e-Qalb*).⁸ Such disturbances may subsequently affect *Tabiyat*, the self-regulatory principle responsible for maintaining physiological balance and supporting the body's natural resistance and recovery processes.⁶ Within the Unani framework, prolonged humoral disturbances associated with chronic stress may adversely affect *Tabiyat*, thereby reducing the body's natural capacity to maintain equilibrium and predisposing the individual to illness.⁵

Neuroendocrine and Psychoneuroimmunological Relationships

When the classical concepts of Unani medicine are considered alongside contemporary biomedical knowledge, several conceptual parallels can be observed in the understanding of stress and its physiological consequences.⁵ Modern physiology describes stress as a coordinated neuroendocrine response involving the sympathetic–adrenomedullary (SAM) system and the hypothalamic–pituitary–adrenal (HPA) axis.⁵

Perception of a stressful stimulus by the brain, particularly through limbic and related neural networks, activates the hypothalamus and subsequently stimulates both the SAM and HPA pathways.⁵

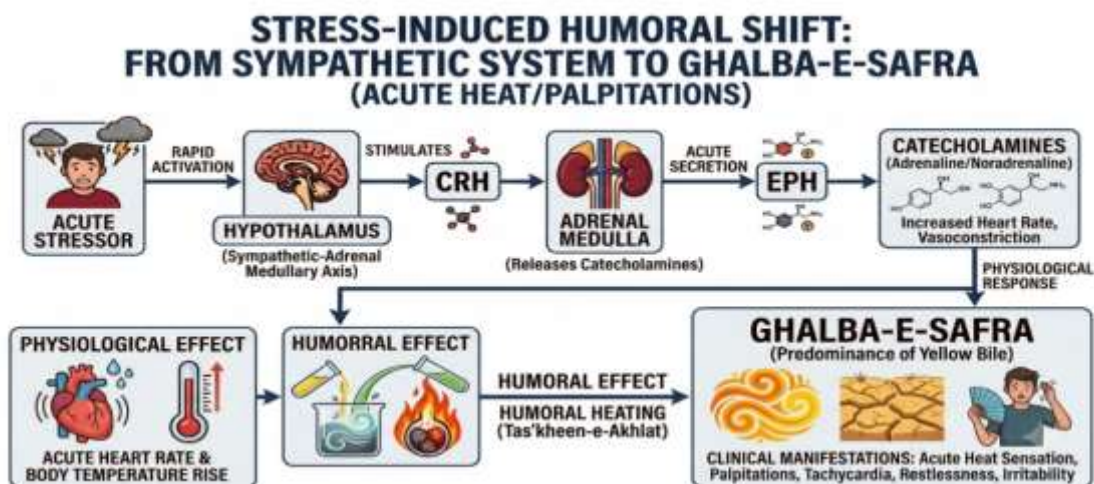
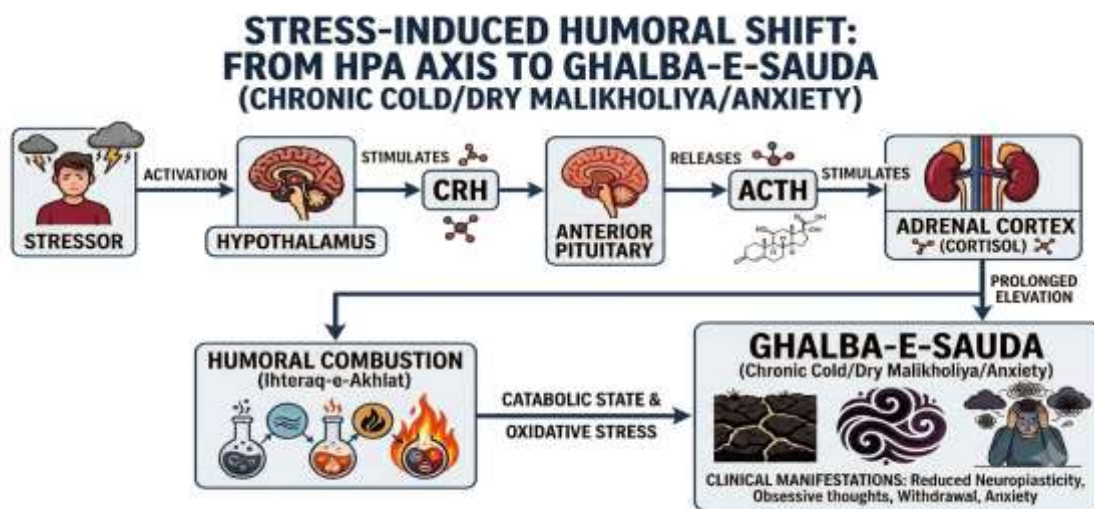
Activation of the SAM axis results in the rapid release of catecholamines, principally adrenaline and noradrenaline, producing the characteristic “fight-or-flight” response.⁵ These changes are associated with increased heart rate, respiratory activity, alertness, and metabolic activity, which may be conceptually compared with the Unani description of increased *Hararat* and manifestations such as palpitations (*Khafaqan*), rapid breathing, and agitation.⁵

Concurrently, activation of the HPA axis leads to the release of corticotropin-releasing hormone (CRH) from the hypothalamus. CRH stimulates the anterior pituitary gland to release adrenocorticotrophic hormone (ACTH), which subsequently stimulates the adrenal cortex to produce cortisol.⁵

Under conditions of prolonged or repeated stress, persistent activation of the HPA axis may contribute to sustained elevations in cortisol and may be associated with alterations in glucocorticoid signalling, systemic inflammation, and changes in neural plasticity.³

Within the conceptual framework of Unani medicine, prolonged stress and persistent emotional disturbances are described in terms of humoral alterations and *Ihteraq-e-Akhlat*.⁵ The chronic pathological process described in Unani literature may be considered, at a conceptual level, alongside modern

mechanisms involving oxidative stress, inflammatory responses, and tissue damage. However, these concepts arise from different theoretical frameworks and should not be considered biologically identical.⁵ Thus, the relationship between chronic stress, neuroendocrine activation, inflammation, and psychological manifestations provides a potential framework for exploring parallels between Unani concepts of humoral disturbance and contemporary psychoneuroimmunology. Such comparisons may help generate hypotheses for further scientific investigation while preserving the distinct theoretical foundations of the Unani system.⁵



The Six Essential Causes (*Asbab-e-Sitta Zarooriya*) as Lifestyle Medicine

The foundation of preventive medicine and therapeutic principles in Unani medicine is based on the proper regulation of the *Asbab-e-Sitta Zarooriya* (the six essential causes of life).⁶ According to Unani philosophy, the maintenance of health depends upon an appropriate balance among these six essential factors, and disturbances in their regulation may adversely affect *Mizaj* and contribute to the development of disease.⁶

The six essential causes may be viewed in relation to several principles of contemporary lifestyle medicine, particularly those emphasizing healthy environmental conditions, balanced nutrition, appropriate physical activity, adequate sleep, psychological well-being, and regular physiological elimination. However, these represent a conceptual comparison rather than an exact equivalence between the two medical frameworks.

1. *Hawa-e-Muhit* (Atmospheric Air)

Clean and balanced air is considered essential in Unani medicine for maintaining the quality and proper functioning of *Ruh* through respiration.³¹ Continuous exposure to unhealthy, poorly ventilated, narrow, or dark environments is traditionally considered capable of disturbing the temperament of *Ruh-e-Nafsani* and contributing to psychological disturbances such as *Malikhuliya*.⁷ Fresh and clean air is therefore regarded as important for maintaining the appropriate state of *Ruh* (*Ta'dil-e-Ruh*).³²

1. *Hawa-e-Muhit* (Atmospheric Air) — Continued

Contemporary evidence also suggests that prolonged exposure to air pollution may contribute to systemic and neuroinflammatory processes and may be associated with an increased risk of depressive symptoms.³⁵ This provides a potential contemporary perspective for understanding the importance traditionally attributed to environmental air quality in Unani medicine.

2. *Makool-wa-Mashroob* (Foods and Drinks)

Food and drink are regarded as important sources of nourishment and are considered fundamental to the formation and maintenance of balanced humours.⁷ According to Unani dietotherapy (*Ilaj-bil-Ghiza*), individual foods possess specific temperamental qualities that may interact with the *Mizaj* of an individual.³⁰

Regular consumption of highly processed, excessively salty, sour, dry, or spicy foods is traditionally considered capable of increasing the production of *Safra* and *Sauda*.¹³ During prolonged stress, impaired digestion and metabolism (*Istehala*) may further contribute to the formation of *Akhlat-e-Ghair-Tabi'iyah* (abnormal or pathological humours).⁵

3. *Harkat-wa-Sakoon-e-Jismani* (Physical Activity and Rest)

Physical activity (*Riyazat*) is considered necessary for maintaining *Hararat-e-Ghariziya* (innate heat), supporting appropriate metabolic processes, and facilitating the elimination of metabolic waste products (*Tanqiya-e-Mawad*).³⁰ Conversely, a sedentary lifestyle may contribute to the accumulation of *Akhlat-e-Raddi* (waste humours) and may be associated with physical and mental fatigue.²⁹

At the same time, excessive or unregulated physical exertion may deplete *Hararat-e-Ghariziya* and result in physical exhaustion and reduced functional capacity.³⁰ Therefore, an appropriate balance between physical activity and rest is considered essential for maintaining physical and nervous-system function.

Contemporary evidence similarly indicates that regular, moderate physical activity may reduce circulating cortisol and pro-inflammatory cytokines while promoting neurobiological factors such as brain-derived neurotrophic factor (BDNF) and β -endorphins.³⁰

4. *Harkat-wa-Sakoon-e-Nafsani* (Psychic Activity and Repose)

Harkat-wa-Sakoon-e-Nafsani refers to the balance between psychological activity and mental rest and is considered an important component of mental well-being.¹¹ Unani physicians recognized that emotional states could influence physiological functions and that intense emotions could produce measurable bodily effects.¹⁸

Strong emotions such as anger (*Ghadab*) and sudden joy (*Suroor*) are traditionally described as producing rapid expansion and movement of *Ruh* and *Hararat-e-Ghariziya*, which may influence cardiovascular function and increase heart rate.¹⁸ Conversely, persistent emotional states such as grief (*Huzn*), fear

(*Khauf*), and anxiety (*Izterab*) are described as producing inward contraction of *Ruh* and disturbances in bodily and cerebral functions.¹

Maintaining an appropriate balance between emotional activity and mental repose is therefore considered important for protecting the functions of the brain and heart and for minimizing the adverse effects of prolonged psychological stress.²⁴

5. *Naum-wa-Yaqzah* (Sleep and Wakefulness)

Sleep (*Naum*) is considered a restorative state characterized by relative rest and cooling, during which *Ruh-e-Nafsan* is withdrawn from external activities and the body undergoes processes of restoration and recovery.³¹ This period is traditionally considered important for replenishing depleted energy and supporting the body's restorative functions.

In contrast, prolonged wakefulness (*Yaqzah*) and inadequate sleep are traditionally associated with increased dryness of cerebral tissues and excessive activity of *Safra*, which may manifest as irritability, forgetfulness, and anxiety.⁷ Contemporary research on sleep suggests that chronic sleep deprivation may impair glymphatic clearance of metabolic waste from the brain and may contribute to altered hypothalamic activity.⁵

6. *Istifragh-wa-Ihtibas* (Elimination and Retention)

Maintaining an appropriate balance between retention of essential biological substances—including body fluids, nutrients, and electrolytes—and elimination of metabolic waste is considered important for the preservation of health.¹⁰ Physiological elimination occurs through processes such as defecation, urination, and perspiration, which facilitate the removal of metabolic waste products (*Mawad-e-Fasida*).

Chronic constipation (*Qabz*) and impaired urinary elimination are traditionally considered capable of disturbing this balance and contributing to the retention of waste products.⁹ Such disturbances have been discussed in relation to psychological and cerebral manifestations within the Unani framework. Contemporary research on the gut–brain axis also suggests a relationship between gastrointestinal function, microbial activity, inflammation, and mental health.⁹

Regimental Therapies (*Ilaj-bil-Tadbeer*) for Stress Alleviation

In Unani medicine, *Ilaj-bil-Tadbeer* (regimental therapy) comprises a range of physical and non-pharmacological interventions intended to restore physiological balance, modify pathological conditions, and support the body's natural regulatory processes.¹⁰ These interventions may be selected according to the individual's *Mizaj*, clinical condition, and therapeutic requirements.

Dalk (Massage Therapy)

Dalk is a well-established regimental therapy involving systematic manipulation of the soft tissues.¹⁰ In Unani medicine, different forms of *Dalk* are described according to their intensity, duration, and method of application.

- **Dalk-e-Layyin (Soft Massage):** A gentle form of massage performed with mild pressure. It is traditionally considered relaxing and may help reduce physical tension, anxiety, and sleep disturbances.⁹
- **Dalk-e-Sulb (Hard Massage):** A more vigorous form of massage traditionally described as *Mufatteh-e-Sudad* (deobstruent) and used to strengthen tissues and improve vascular tone.¹⁰
- **Dalk-e-Khashin (Rough Massage):** A form of massage performed using a relatively coarse material, traditionally intended to produce local stimulation and hyperaemic effects.⁹

- **Dalk-e-Kathir (Prolonged Massage):** A prolonged form of massage traditionally used for localized accumulation of fat and excess moisture. ⁹

The routine application of *Dalk-e-Layyin*, particularly when combined with traditionally used oils such as *Roghan-e-Kahu* (lettuce seed oil) and *Roghan-e-Kaddu* (pumpkin seed oil), is described as promoting relaxation and supporting peripheral circulation and lymphatic movement. ⁸ Contemporary evidence suggests that massage may influence autonomic activity, including increased parasympathetic or vagal activity and reduced sympathetic activation. ¹⁸

Riyazat (Exercise)

Riyazat refers to voluntary physical activity undertaken to maintain physical fitness, support metabolic functions, stimulate Hararat-e-Ghariziya, and facilitate the elimination of metabolic waste through perspiration and respiration. ⁹ Ibn Sina classified exercise into light, moderate, and vigorous forms, taking into consideration factors such as an individual's Mizaj and age. ³⁶

Moderate and regular Riyazat is traditionally recommended for maintaining the strength and functional capacity of vital organs, including the heart, brain, and liver, without causing excessive heat production or depletion of bodily moisture. ³⁶

Nutool (Medicated Irrigation)

Nutool is a distinctive regimental procedure in which lukewarm medicinal preparations, herbal decoctions, or oils are poured continuously over the head or another selected part of the body from a specified height. ¹⁰

In cases of psychological disturbances, anxiety, and prolonged insomnia, Nutool of the head using traditionally selected Barid and Ratab medicinal oils has been recommended in Unani practice. ¹¹ It is traditionally considered useful for reducing excessive cerebral heat and restoring an appropriate cerebral temperament, particularly in conditions described as Sue-Mizaj-e-Dimagh Harr-Yabis. ¹¹

Hammam (Turkish Bath) and Hijama (Cupping)

Hammam involves controlled exposure to heat, steam, and perspiration and is traditionally employed to promote circulation, facilitate perspiration, and relieve physical fatigue associated with viscous or altered humours. ¹⁰

Hijama (cupping therapy) involves the application of localized negative pressure to the skin. In Hijama-bil-Shart (wet cupping), superficial skin incisions are additionally made to facilitate the removal of blood.

⁹ Within the traditional Unani framework, Hijama is used to remove morbid humours and relieve conditions associated with their accumulation. ⁹

Regimental Therapies (*Ilaj-bil-Tadbeer*) for Stress Alleviation

Regimental Therapy	Classical Description & Procedure	Neurophysiological Mechanism	Clinical Target in Stress
Dalk-e-Layyin (Soft Massage) ⁹	Systematic, gentle tissue rubbing with sedative oils (<i>Roghan-e-Kahu</i>) ⁸	Activates mechanoreceptors; stimulates vagal	Relieves physical tension, anxiety, and sleep disturbances ³⁶

		tone; downregulates cortisol ¹⁸	
Nutool (Medicated Irrigation) ⁹	Continuous pouring of warm herbal decoctions or oils onto the frontal bone ⁹	Calms cranial nerves; modulates cerebral perfusion and thermoregulation	Reverses dry brain temperament; treats severe insomnia ⁸
Riyazat (Moderate Exercise) ³⁰	Structured physical movement tailored to individual <i>Mizaj</i> [cite: 36]	Activates <i>hararat ghariziya</i> ; increases endorphins and BDNF ³⁰	Clears vascular waste; resolves physical lethargy and depression ³⁰
Hijama-bil-Shart (Wet Cupping) ⁹	Negative-pressure suction followed by superficial dermal micro-incisions ⁹	Induces local vasodilation; clears pro-inflammatory cytokines	Removes <i>Sauda</i> and <i>Safra</i> from vascular compartment ¹³
Hammam (Turkish Bath) ¹⁰	Sequential exposure to dry heat, humid steam, and cold water ¹⁰	Resolves humoral viscosity; enhances waste clearance via sweat ¹⁰	Relieves systemic fatigue and muscle stiffness ¹⁰

Ethnopharmacology and Phytochemistry of Unani Botanicals

Unani medicine utilizes a range of single medicinal herbs (*Mufradat*) with traditionally recognized adaptogenic, anxiolytic, and neuroprotective properties. ¹ Several of these botanicals have also been investigated in experimental and clinical studies for their potential effects on stress-related physiological and psychological outcomes.

Asgand (*Withania somnifera*)

Asgand, also known as Ashwagandha or Indian ginseng, is an evergreen shrub belonging to the family Solanaceae. ¹⁴ It has a long history of medicinal use and is mentioned in classical works on medicinal plants, including the work attributed to Dioscorides. ¹⁷

In Unani medicine, *Asgand* is traditionally regarded as an *Iksir-e-Badan* (rejuvenating tonic) and *Muqawwi-e-Aaza-e-Ra'isa* (a tonic for the vital organs, including the brain, heart, and reproductive organs).¹²

Phytochemical investigations have identified several bioactive constituents in *Withania somnifera*, particularly steroidal lactones known as withanolides, including withaferin A and withanosides, along with various alkaloids such as somniferine. ¹⁴

Experimental and clinical studies suggest that *Withania somnifera* may possess adaptogenic, anti-stress, neuroprotective, cardioprotective, and anti-inflammatory properties. ¹⁷ Its potential effects on the hypothalamic–pituitary–adrenal (HPA) axis and stress-related neuroendocrine responses have been

investigated, including possible reductions in elevated cortisol concentrations and modulation of sympathetic activity.⁵

These findings provide a potential pharmacological basis for the traditional use of Asgand in conditions associated with stress and general debility. However, the strength of evidence varies according to the preparation, extract standardization, study population, and clinical outcome assessed.

Proposed Stress-Modulating Pathway of Asgand

Asgand administration → Modulation of stress response → Reduction in stress-related physiological changes → Possible reduction in perceived stress

The available evidence therefore suggests that *Withania somnifera* may have potential as an adjunctive botanical intervention for stress management, although further well-designed clinical studies using standardized preparations are required to establish its efficacy, optimal dosage, and long-term safety.

Jatamansi (*Nardostachys jatamansi*)

Jatamansi is a perennial herb belonging to the family Valerianaceae and has traditionally been used in Unani medicine for neuropsychiatric conditions, insomnia, and cardiac palpitations (Khafaqan).⁸ Its rhizomes contain several bioactive constituents, including sesquiterpenes such as jatamansone and valeranone, along with volatile essential oils.¹³

Experimental studies suggest that Jatamansi possesses central nervous system depressant, sedative, and antioxidant properties without producing significant impairment of motor coordination.¹⁵ It has also been investigated for its effects on central monoaminergic neurotransmitters, including serotonin, dopamine, and norepinephrine, in regions such as the cerebral cortex, hippocampus, and hypothalamus.¹⁵ These effects may contribute to modulation of stress-related sympathetic activity.

In addition, Jatamansi has demonstrated antioxidant activity in experimental models, including effects on reactive oxygen species and lipid peroxidation, with reported restoration of antioxidant parameters such as catalase and glutathione in brain tissue.¹⁵

The traditional use of Jatamansi oil in head-based therapeutic procedures has also been explored in relation to psychological distress, muscle tension, and anxiety. Available evidence suggests potential benefits in selected clinical settings, although further controlled clinical studies are required to establish its efficacy and safety in stress-related disorders.

Brahmi (*Bacopa monnieri*)

Brahmi is a medicinal herb traditionally used in Unani and other systems of traditional medicine as a cognitive enhancer and brain tonic (Muqawwi-e-Dimagh and Muqawwi-e-Hafiza).³ Its principal bioactive constituents include triterpenoid saponins, particularly bacosides A and B.³

The proposed effects of *Bacopa monnieri* on the nervous system include several mechanisms:

- **Cholinergic effects:** Experimental studies suggest that *Bacopa* may influence cholinergic neurotransmission and acetylcholinesterase activity, thereby potentially supporting memory and cognitive function.³
- **GABAergic effects:** *Bacopa* has also been investigated for its possible influence on GABAergic neurotransmission, which may contribute to reduced neuronal excitability.³
- **Neuroprotective effects:** Experimental evidence suggests that *Bacopa* may influence oxidative and inflammatory processes within the nervous system and may provide neuroprotective effects.³

- **HPA-axis modulation:** Experimental studies have investigated its potential effects on stress-related corticosterone and ACTH responses, suggesting a possible role in modulation of the HPA axis.³

Rasan (*Inula racemosa*)

Rasan is a medicinal plant belonging to the family Asteraceae and is traditionally used in Unani medicine for respiratory disorders, cardiac palpitations, and certain nervous-system conditions (Amraz-e-Nafsaniya), including insomnia and depressive symptoms.²⁵

The roots of Rasan have been investigated for potential anxiolytic activity. Experimental studies using hydroalcoholic extracts have reported anxiolytic effects in animal models, including effects comparable with diazepam at a higher experimental dose of 400 mg/kg.²⁵

These findings provide preliminary experimental support for the traditional use of Rasan in anxiety-related conditions; however, the available evidence is primarily experimental, and clinical evidence in humans remains limited.

Other Anxiolytic Drugs

In addition to Asgand, Jatamansi, and Brahmi, several other medicinal plants have traditionally been used in Unani medicine for nervous-system disorders and symptoms associated with anxiety and insomnia.

- **Asrol (*Rauwolfia serpentina*):** Traditionally used in Unani medicine for conditions associated with anxiety and hypertension. It contains several indole alkaloids, including reserpine, ajmaline, and deserpidine.¹³ Reserpine reduces the storage of monoamines in sympathetic nerve terminals and consequently decreases sympathetic activity and blood pressure.¹³
- **Tagar (*Valeriana officinalis*):** Traditionally used for restlessness, insomnia, and mental fatigue.¹³ Its principal constituents include valerenic acid and related compounds, which have been investigated for their potential effects on GABAergic neurotransmission.¹³

These botanicals represent a diverse range of traditional approaches to the management of psychological and stress-related symptoms. However, their pharmacological profiles and safety considerations differ considerably, and their clinical use should therefore be evaluated according to the individual drug, preparation, dosage, and available evidence.

Pharmacological Profile of Selected Unani Botanicals

Botanical Name	Unani Name	Common Name	Key Compounds	Active	Pharmacological Mechanisms of Action
<i>Withania somnifera</i> [cite: 14, 17]	Asgand	/	Withanolides, Somniferine, Withanoside-IV ¹⁴		Suppresses hypothalamic CRH release; reduces serum cortisol levels; possesses neuroprotective and anti-inflammatory properties ⁵

<i>Nardostachys jatamansi</i> [cite: 44, 47]	Balchhar / Sumbul-ut-tee ¹³	Jatamansone, Valeranone, Valerenal ¹³	Stabilizes monoamines (5-HT, DA, NE); reduces lipid peroxidation; increases glutathione ¹⁵
<i>Bacopa monnieri</i> [cite: 3, 48]	Brahmi ³	Bacosides A & B, Bacopasaponins ³	Inhibits AChE; enhances GABA production; modulates HPA axis during physiological stress ³
<i>Inula racemosa</i> [cite: 25]	Rasan / Zanjabeel Shami ²⁵	Alantolactone, Isoalantolactone ²⁵	Modulates central GABAergic networks; exhibits cardioprotective and anti-palpitation effects ²⁵
<i>Rauwolfia serpentina</i> [cite: 13]	Asrol / Sarpagandha ¹³	Reserpine, Ajmaline, Deserpidine ¹³	Depletes vesicular monoamines; lowers peripheral sympathetic tone and blood pressure ¹³

Compound Formulations (*Adviya Murakkaba*) and Synergistic Pharmacodynamics

The Unani pharmacopoeia includes a wide range of compound formulations (*Adviya Murakkaba*) prepared by combining multiple medicinal ingredients. Such polyherbal formulations are traditionally designed to achieve complementary or synergistic therapeutic effects while minimizing the undesirable effects of individual ingredients.³³

Khamira Gaozaban Ambari

Khamira Gaozaban Ambari is a traditional semi-solid Unani formulation used for conditions such as general debility, mental fatigue, and anxiety.⁵¹ The formulation contains several medicinal ingredients, each traditionally attributed specific therapeutic properties.

***Borago officinalis* (Berge Gaozaban):** Traditionally regarded as a cardi tonic and used to support the function of vital organs, particularly in conditions associated with stress-related palpitations.⁵¹

***Coriandrum sativum* (Kishniz Khushk):** Traditionally used for its soothing properties and has also been investigated for antioxidant activity that may help protect tissues against oxidative stress.¹²

***Lavandula stoechas* (Ustukhuddus):** Traditionally regarded as an important brain tonic and is sometimes described in Unani literature as the “broom of the brain” because of its use in eliminating morbid humours from the brain.⁸

Ambra grasea (Amber): Traditionally used as a tonic for the vital organs (*Muqawwi-e-Aaza-e-Ra'isa*), particularly the heart and nervous system.³³

These ingredients are incorporated into a sweet semi-solid base to prepare the characteristic *Khamira* formulation.³³ Within the traditional Unani framework, *Khamira Gaozaban Ambari* is considered to strengthen *Ruh-e-Nafsani* and is used in the management of mental fatigue, nervous exhaustion, and general weakness.⁸

Khamira Abresham Hakim Arshad Wala

Khamira Abresham Hakim Arshad Wala is another classical compound Unani formulation traditionally used for conditions associated with cardiac and nervous debility. It contains ingredients such as *Abresham* (silk cocoon), *Zafran* (*Crocus sativus*), cardamom, pearls, and preparations of gold and silver.⁸

Khamira Abresham Hakim Arshad Wala, attributed to the Unani physician Hakim Arshad, is a traditional compound formulation containing *Bombyx mori* (*Abresham* or silk cocoon extract), *Crocus sativus* (*Zafran*), cardamom, pearls, and preparations containing gold and silver.⁸ It has traditionally been used in conditions associated with melancholia, cardiac palpitations, and physical debility following prolonged illness.³³

Abresham contains natural silk proteins, including sericin and fibroin, which have been investigated for various biological and potentially neuroprotective properties.⁸ *Zafran* (saffron) contains bioactive constituents such as crocin and crocetin, which have been investigated for their potential effects on monoaminergic neurotransmission and cognitive and mood-related functions.²

Within the traditional Unani framework, the formulation is considered to support the balance of *Ruh* and the functional state of the heart and nervous system. However, the specific clinical efficacy of the complete formulation for stress-related disorders requires further systematic investigation.

Integrative Analysis: Bridging Unani Tibb and Psychoneuroimmunology

Integrating classical Unani concepts with contemporary psychoneuroimmunology provides an opportunity to explore conceptual parallels between the two frameworks.⁵ Unani medicine describes stress-related disturbances through concepts such as *Mizaj*, *Akhlat*, *Ihteraq-e-Akhlat*, *Ruh*, and *Tabiyat*, whereas contemporary biomedical science explains stress through interconnected neuroendocrine, immune, inflammatory, and oxidative pathways.⁵

In modern biomedical science, chronic stress involves a complex cascade of physiological responses involving the nervous, endocrine, and immune systems. These responses may include persistent activation of the sympathetic nervous system and HPA axis, alterations in cortisol regulation, oxidative stress, inflammatory signalling, and changes in neural plasticity.

From the perspective of Unani medicine, these prolonged disturbances are conceptually described as alterations in temperament and humoral equilibrium, particularly through the process of *Ihteraq-e-Akhlat*.⁵ The comparison between these two frameworks may therefore provide a useful conceptual model for generating hypotheses regarding the relationship between psychological stress, physiological adaptation, inflammation, and tissue-level changes. Nevertheless, the traditional Unani concepts and modern biomedical mechanisms arise from distinct theoretical systems and should not be regarded as directly equivalent without appropriate experimental validation.

The comparison between the classical Unani concept of *Ihteraq-e-Akhlat* and contemporary biomedical concepts of oxidative and inflammatory stress provides an interesting framework for understanding the possible relationship between psychological stress and physiological disturbances.⁵

In Unani medicine, prolonged emotional and physiological stress is described as contributing to pathological alterations in the humours, a process referred to as Ihraq-e-Akhlat.⁵ In contemporary biomedical science, chronic stress is associated with increased oxidative stress, lipid peroxidation, inflammatory signalling, and accumulation of pro-inflammatory mediators.

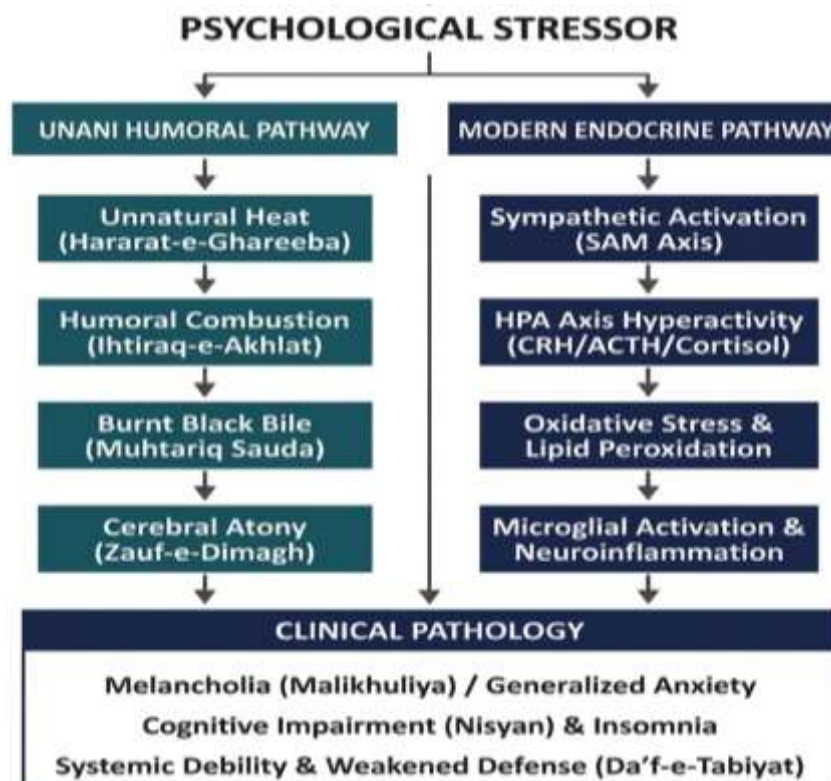
Therefore, Ihraq-e-Akhlat may be discussed as a conceptual parallel to some aspects of oxidative and inflammatory stress described in modern biomedical research.⁵ However, these concepts originate from different theoretical frameworks and should not be considered biologically identical without experimental evidence.

Similarly, the Unani concept of Tabiyat, which represents the body's innate capacity for self-regulation and restoration of physiological balance, can be conceptually compared with the modern physiological concept of homeostasis.⁶ Homeostasis is maintained through coordinated neuroendocrine, autonomic, metabolic, and immunological regulatory mechanisms.

From the Unani perspective, therapeutic interventions are intended not merely to suppress individual symptoms but also to support Tabiyat and restore an appropriate balance within the body.⁶ This principle provides a useful conceptual basis for integrating lifestyle modification, regimental therapy, and pharmacological interventions in the management of stress-related conditions.

The comparison between Ihraq-e-Akhlat, oxidative and inflammatory stress, and between Tabiyat and homeostasis may therefore serve as a framework for future translational research. Such research could investigate whether specific Unani interventions produce measurable effects on contemporary biomarkers of stress, inflammation, oxidative stress, neuroendocrine regulation, and autonomic function.





Scientific Validation and Search Strategy

To identify relevant scientific literature for this review, searches were conducted using major biomedical and multidisciplinary databases, including PubMed, ScienceDirect, Scopus, and Google Scholar.⁵⁵ Boolean operators were used to combine traditional Unani terminology with contemporary biomedical terms related to stress, anxiety, depression, and their potential mechanisms.⁵⁸

The following search combinations were used:

- ("Amraz-e-Nafsaniya" OR "Izterab" OR "Malikhuliya") AND ("stress" OR "anxiety" OR "depression")
- ("Withania somnifera" OR "Asgand") AND ("cortisol" OR "HPA axis" OR "clinical trial")
- ("Nardostachys jatamansi" OR "Jatamansi") AND ("neurotransmitter" OR "antioxidant")
- ("Bacopa monnieri" OR "Brahmi") AND ("cognitive" OR "GABA" OR "microglia")
- ("Asbab-e-Sitta Zarooriya") AND ("lifestyle medicine" OR "circadian")

The identified literature was subsequently considered on the basis of study methodology, experimental or clinical design, participant characteristics, sample size, study duration, and, where applicable, the standardization of botanical extracts.⁴⁹ Particular attention was given to studies evaluating the pharmacological and clinical effects of medicinal plants traditionally used in Unani medicine.

The evidence was considered across different levels of research, including experimental studies, preclinical investigations, and clinical trials. This approach was used to examine the possible relationship between traditional Unani concepts and contemporary evidence concerning stress physiology, neuroendocrine regulation, oxidative stress, inflammation, and psychological outcomes.

Because the present article is a narrative/integrative review rather than a formal systematic review with a registered protocol, the findings should be interpreted as an integrative synthesis of the available literature rather than as a quantitative systematic assessment of all published evidence.

Discussion and Future Directions

The Unani system of medicine offers a holistic framework for understanding and managing stress-related conditions by considering the interaction between psychological, physiological, environmental, and lifestyle factors.¹ The emphasis on lifestyle modification, regimental therapies, and medicinal interventions reflects an integrated approach in which the body's natural regulatory capacity, referred to as *Tabiyat*, is supported rather than focusing exclusively on individual symptoms.⁸

Although contemporary psychopharmacological approaches primarily target specific neurotransmitter systems, Unani medicine combines lifestyle modification and regimental therapies with traditional medicinal interventions.⁸ This multidimensional approach may provide a broader framework for stress management. However, claims regarding the absence of adverse effects or superiority over conventional pharmacological treatments require further clinical evidence and should not be generalized without appropriate comparative studies.²

Several challenges need to be addressed before Unani interventions can be more effectively integrated into evidence-based healthcare:

Standardization of Formulations

The polyherbal nature of formulations such as *Khamirajat* presents challenges in chemical standardization, quality control, and reproducibility.³³ Variations in raw botanical materials arising from factors such as geographical origin, soil conditions, climate, harvesting practices, and processing may influence their chemical composition and therapeutic consistency. Therefore, standardization of extract ratios and characterization of relevant bioactive markers, such as withanolides and bacosides, is important for future research.³

Quality of Methodology in Clinical Trials

Although preclinical studies have reported potentially beneficial effects of several Unani medicinal plants,

the clinical evidence base remains limited by methodological concerns, including small sample sizes, short study durations, variations in preparation and dosage, and inadequate blinding in some studies.⁴⁹ Larger, well-designed, multicentre randomized controlled trials are therefore needed to establish the efficacy, safety, and clinical relevance of these interventions.²

Limited Research on Somato-Sensory Mechanisms of Regimental Therapies

Regimental interventions such as Dalk and Nutool have been traditionally used for the management of various conditions, including stress-related symptoms. However, their precise physiological mechanisms require further investigation.⁸ Future research should explore potential mechanisms involving autonomic regulation, vagal activity, cerebral perfusion, neuroendocrine responses, and other measurable physiological pathways.¹⁸

Addressing these research gaps may help strengthen the scientific evidence base for Unani approaches and facilitate meaningful dialogue between traditional medical knowledge and contemporary biomedical research.

Conclusion

The Unani system of medicine provides an integrated framework for understanding and managing stress-related disorders. Within this framework, stress is considered in relation to disturbances of Mizaj (temperament) and Akhlat (humours), with effects on Ruh and the body's self-regulatory capacity, Tabiyat.

1

Contemporary experimental and clinical research has investigated several medicinal plants traditionally used in Unani medicine, including *Withania somnifera* (Asgand), *Nardostachys jatamansi* (Jatamansi), and *Bacopa monnieri* (Brahmi).³ Available evidence suggests that these botanicals may influence stress-related neuroendocrine pathways, including the HPA axis, and may have effects on cortisol regulation, oxidative stress, inflammation, and neurological functions.³

The integration of these medicinal approaches with lifestyle management based on Asbab-e-Sitta Zarooriya and regimental interventions such as Dalk provides a potentially comprehensive approach to stress management.⁹ Nevertheless, further high-quality clinical research, standardization of medicinal preparations, and mechanistic studies are required before definitive conclusions regarding efficacy and safety can be established.

References-

1. (PDF) MANAGEMENT OF ANXIETY IN UNANI MEDICINE -A REVIEW - Academia.edu, https://www.academia.edu/91894912/MANAGEMENT_OF_ANXIETY_IN_UNANI_MEDICINE_A_REVIEW
2. Therapeutic efficacy of botanicals in psychological disorders in menopausal women: a systematic and scoping review - Frontiers, <https://www.frontiersin.org/journals/pharmacology/articles/10.3389/fphar.2025.1661035/full>
3. Bacopa monnieri - StatPearls - NCBI Bookshelf, <https://www.ncbi.nlm.nih.gov/books/NBK589635/>
4. A study of prevalence of Nafsiyati wa Samaji Aaraz (Psychological problem) among school going adolescent in the field area of NIUM, Bangalore | Request PDF - ResearchGate, https://www.researchgate.net/publication/374548301_A_study_of_prevalence_of_Nafsiyati_wa_Sa

maji Aaraz Psychological problem among school going adolescent in the field area of NIUM Bangalore

5. The Biology and Philosophy of Stress : An Integrative Review of Contemporary Perspectives Through Unani Conceptualization - IJFMR, <https://www.ijfmr.com/papers/2026/2/73775.pdf>
6. Moderation in Asbab-e-Sitta Zarooriya (Six essential factors): A Unique Practice for Boosting Immunity | NeuroPharmac Journal, <https://www.neuropharmac.com/moderation-in-asbab-e-sitta-zarooriya-six-essential-factors-a-unique-practice-for-boosting-immunity/>
7. Unani perspective of melancholia (A Depressive Disorder): Concept and management - International Journal of Botany Studies, <https://www.botanyjournals.com/assets/archives/2021/vol6issue1/5-6-124-890.pdf>
8. (PDF) 2. Management of Izterab-I-Nafsani (Anxiety) During COVID-19 Pandemic in Unani Medicine: A Review - ResearchGate, https://www.researchgate.net/publication/371910870_2_Management_of_Izterab-I-Nafsani_Anxiety_During_COVID-19_Pandemic_in_Unani_Medicine_A_Review
9. role of ilaj-bil-tadbeer (regimental therapy) as non-medical therapy in unani system - Googleapis.com, https://storage.googleapis.com/innctech/ejpmr/article_issue/1517395296.pdf
10. (PDF) ILAJ BIL-TADBEER, A NON-MEDICAL THERAPY IN UNANI SYSTEM OF MEDICINE- A REVIEW - ResearchGate, https://www.researchgate.net/publication/377456872_ILAJ_BIL-TADBEER_A_NON-MEDICAL_THERAPY_IN_UNANI_SYSTEM_OF_MEDICINE-A_REVIEW
11. Asbabe Sitta zarooriya (Six Essentials of life): A Review - iaips, http://iaips.com/pdf/december/atmospheric_paper_1.pdf
12. (PDF) EVIDENCE BASED APPROACH FOR THE MANAGEMENT OF ALZHEIMER'S DISEASE IN UNANI MEDICINE - ResearchGate, https://www.researchgate.net/publication/335464350_EVIDENCE_BASED_APPROACH_FOR_THE_MANAGEMENT_OF_ALZHEIMER'S_DISEASE_IN_UNANI_MEDICINE
13. role of unani medicine in stress management: an integrative approach - Worldwidejournals.com, https://www.worldwidejournals.com/paripex/recent_issues_pdf/2025/February/role-of-unani-medicine-in-stress-management-an-integrative-approach_February_2025_0252187404_0406079.pdf
14. Ashwagandha: Is it helpful for stress, anxiety, or sleep? - Health Professional Fact Sheet, <https://ods.od.nih.gov/factsheets/Ashwagandha-HealthProfessional/>
15. Nardostachys jatamansi protects against cold restraint stress induced central monoaminergic and oxidative changes in rats - PubMed, <https://pubmed.ncbi.nlm.nih.gov/22903470/>
16. CONCEPT OF GENERALIZED ANXIETY DISORDER (GAD) IN UNANI MEDICINE - IIP Series, <https://iipseries.org/assets/docupload/rs120244FBCEE20126BB89.pdf>
17. (PDF) Withania somnifera (L.) Dunal (Ashwagandha): A comprehensive review on ethnopharmacology, pharmacotherapeutics, biomedical and toxicological aspects - ResearchGate, https://www.researchgate.net/publication/354890919_Withania_somnifera_L_Dunal_Ashwagandha_A_comprehensive_review_on_ethnopharmacology_pharmacotherapeutics_biomedical_and_toxicological_aspects
18. The healing power of emotions: Exploring the mind-body-soul connection through modern science and Unani wisdom, <https://www.unanijournal.com/articles/344/9-2-13-146.pdf>

19. A panoramic view of the life of Al-Rhazes, the polymath pioneer of psychopharmacology and psychiatry | Journal of Global Medicine, <https://globalmedicine.co.uk/index.php/jogm/article/view/323/813>
20. Abu Bakr Muhammad Ibn Zakariya Al-Razi (Rhazes) (865-925): The Founder of the First Psychiatric Ward - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC11324200/>
21. Abu Bakr Muhammad Ibn Zakariya Al Razi (Rhazes): Philosopher, Physician and Alchemist - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC6074295/>
22. (PDF) Abu Bakr Muhammad Ibn Zakariya Al-Razi (Rhazes) (865-925): The Founder of the First Psychiatric Ward - ResearchGate, https://www.researchgate.net/publication/382268571_Abu_Bakr_Muhammad_Ibn_Zakariya_Al-Razi_Rhazes_865-925_The_Founder_of_the_First_Psychiatric_Ward
23. The Canon of Medicine - Wikipedia, https://en.wikipedia.org/wiki/The_Canon_of_Medicine
24. The Disorder of Love in the Canon of Avicenna (A.D. 980–1037) - Psychiatry Online, <https://www.psychiatryonline.org/doi/10.1176/ajp.2007.164.2.228>
25. Evaluation of anxiolytic activity of Rasan (Inula racemosa Hook. f.) roots in wistar rats, https://www.researchgate.net/publication/396737791_Evaluation_of_anxiolytic_activity_of_Rasan_I_nula_racemosa_Hook_f_roots_in_wistar_rats
26. How Avicenna Recognized Melancholia and Mixed States—1000 Years Before Modern Psychiatry | Psychiatric Times, <https://www.psychiatrictimes.com/view/how-avicenna-recognized-melancholia-mixed-states-1000-years-before-modern-psychiatry>
27. (PDF) Ibnu Sina's Mental Health - ResearchGate, https://www.researchgate.net/publication/381223935_Ibnu_Sina's_Mental_Health
28. A TREATISE OF THE ISLAMIC PHILOSOPHER IBN SINA (AVICENNA) ON THE FEAR OF DEATH AND THE TREATMENT OF ANXIETY CAUSED BY IT - Psychiatria Danubina, https://www.psychiatria-danubina.com/UserDocsImages/pdf/dnb_vol33_noSuppl%204/dnb_vol33_noSuppl%204_889.pdf
29. ISSN 2320-5407 International Journal of Advanced Research (2015), Volume 3, Issue 10, 407 - 412, https://www.journalijar.com/uploads/2015/10/267_IJAR-7286.pdf
30. (PDF) Comprehensive Management of Lifestyle Disorders through Asbab-E- Sitta Zarooriyah: Insights from the Unani System of Medicine - ResearchGate, https://www.researchgate.net/publication/384456553_Comprehensive_Management_of_Lifestyle_Disorders_through_Asbab-E-Sitta_Zarooriyah_Insights_from_the_Unani_System_of_Medicine
31. An overview on Malancholia (a depressive disorder) in Unani system of medicine and its prevention through Asaab-E-Sittae Zaroor, <https://www.unanijournal.com/articles/288/8-3-4-167.pdf>
32. (PDF) An overview on Six essential pre-requisites or Asbab e sitta Zarooriya in preservation of diseases and its correlation with tabiat - ResearchGate, https://www.researchgate.net/publication/335016234_An_overview_on_Six_essential_pre-requisites_or_Asbab_e_sitta_Zarooriya_in_preservation_of_diseases_and_its_correlation_with_tabiat
33. Khamira Abresham Hakim Arshad Wala | Saira Health Care Online Pharmacy, <https://pharmacy.sairahealthcare.com/medicine/khamira-abresham-hakim-arshad-wala/197>
34. Withania somnifera Improves Semen Quality in Stress-Related Male Fertility - PMC - NIH, <https://pmc.ncbi.nlm.nih.gov/articles/PMC3136684/>

35. Six essential causes of health in Unani medicine (Asbab-e-Sitta Zarooriya) and their parallels in, <https://www.unanijournal.com/articles/353/9-2-24-445.pdf>
36. Unani Regimenal Therapies (Ilaj Bil Tadbeer) - Sinaam UNH, <https://sinaamunh.lk/services/unani-regimenal-therapies-ilaj-bil-tadbeer/>
37. (PDF) Asbab-e-Sitta Zaruriya - ResearchGate, https://www.researchgate.net/publication/354436100_Asbab-e-Sitta_Zaruriya
38. The role of Dalk (Massage) and Riyazat (Exercise) in health promotion and disease management - International Journal of Unani and Integrative Medicine, <https://www.unanijournal.com/articles/407/9-3-35-267.pdf>
39. Dalak (massage) in Unani system of medicine: Historical roots, therapeutic applications, and contemporary relevance, <https://www.unanijournal.com/articles/409/9-3-32-825.pdf>
40. Premature Ejaculation Unani Treatment Available in Delhi NCR, <https://www.unaniherbal.org/Premature-Ejaculation-Unani-Treatment-Available-in-Delhi-NCR.html>
41. Iksir-e-Badan (Elixir): Unique Influence from Unani Medicine -A Review - ResearchGate, https://www.researchgate.net/publication/362062216_Iksir-e-Badan_Elixir_Unique_Influence_from_Unani_Medicine_-A_Review
42. Evaluation of the anti-proliferative and anti-oxidative activities of leaf extract from in vivo and in vitro raised Ashwagandha | Request PDF - ResearchGate, https://www.researchgate.net/publication/8215996_Evaluation_of_the_anti-proliferative_and_anti-oxidative_activities_of_leaf_extract_from_in_vivo_and_in_vitro_raised_Ashwagandha
43. Efficacy and safety of Ashwagandha root extract sustained-release (AshwaSR) capsules in healthy adult, stressed subjects: A randomized, double-blind, placebo-controlled, parallel-group, 3-arm clinical trial - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC12991725/>
44. Central nervous system depressant activity of Jatamansi (Nardostachys jatamansi DC.) rhizome - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9261992/>
45. Standardization and preliminary characterization of an ayurvedic stress-relieving head massage oil of Nardostachys jatamansi DC - PubMed, <https://pubmed.ncbi.nlm.nih.gov/38552438/>
46. Stress modulating antioxidant effect of Nardostachys jatamansi - PubMed, <https://pubmed.ncbi.nlm.nih.gov/19374260/>
47. Mind relaxation effect of Jatamansi Taila Shirodhara on psychological distress in Triple Negative Breast Cancer patients - results of an open-labelled, randomised controlled clinical trial - PubMed, <https://pubmed.ncbi.nlm.nih.gov/39874651/>
48. Bacopa monnieri: Preclinical and Clinical Evidence of Neuroactive Effects, Safety of Use and the Search for Improved Bioavailability - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC12158153/>
49. Randomized controlled trial of standardized Bacopa monniera extract in age-associated memory impairment - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC2915594/>
50. Efficacy and Safety of Bacopa monnieri Extract for Stress Management and Sleep Quality: A Randomized, Double-Blind, Placebo-Controlled Trial - Gavin Publishers, <https://www.gavinpublishers.com/article/view/efficacy-and-safety-of-bacopa-monnieri-extract-for-stress-management-and-sleep-quality-a-randomized-doubleblind-placebocontrolled-trial>
51. Hamdard Khamira Gawzaban Ambari | Helps Manage General Debility: Buy jar of 150.0 gm Paste at best price in India | 1mg, <https://www.1mg.com/otc/hamdard-khamira-gawzaban-ambari-helps-manage-general-debility-otc329606>

52. Khamira Gaozaban Ambari (125 g), <https://www.dehlvionline.com/nervous-system-care/khamira-gaozaban-ambari-125-g>
53. Cipzer Khamira Abresham Hakim Arshad Wala | Strengthen Brain & Heart | Support Liver Health: Buy jar of 125.0 gm Paste at best price in India | 1mg, <https://www.1mg.com/otc/cipzer-khamira-abresham-hakim-arshad-wala-strengthen-brain-heart-support-liver-health-otc823821>
54. Khamira Abresham Hakim Arshad Wala - Healthmug, <https://www.healthmug.com/search?keywords=Khamira+Abresham+Hakim+Arshad+Wala>
55. Ethnopharmacology—A Bibliometric Analysis of a Field of Research Meandering Between Medicine and Food Science? - Frontiers, <https://www.frontiersin.org/journals/pharmacology/articles/10.3389/fphar.2018.00215/full>
56. JOURNAL OF ETHNOPHARMACOLOGY: A BIBLIOMETRIC STUDY - SJSU ScholarWorks, <https://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=9721&context=libphilprac>
57. Review Articles and Meta-analyses - Elsevier, https://legacyfileshare.elsevier.com/promis_misc/ctr_review%20articles%20and%20meta-analyses.pdf
58. Is there a way to find review articles by the keyword? - Academia Stack Exchange, <https://academia.stackexchange.com/questions/40497/is-there-a-way-to-find-review-articles-by-the-keyword>
59. Phytomedicine Journal Submission Guide (2026) - Manusights, <https://manusights.com/blog/phytomedicine-submission-guide>
60. otrs-review-articles.doc - Elsevier, https://legacyfileshare.elsevier.com/promis_misc/otrs-review-articles.doc
61. ROLE OF UNANI MEDICINE IN STRESS MANAGEMENT: AN INTEGRATIVE APPROACH, https://www.researchgate.net/publication/389332376_ROLE_OF_UNANI_MEDICINE_IN_STRESS_MANAGEMENT_AN_INTEGRATIVE_APPROACH
62. Effects of Ashwagandha (Withania Somnifera) on stress and anxiety: A systematic review and meta-analysis - PubMed, <https://pubmed.ncbi.nlm.nih.gov/39348746/>
63. Effects of Ashwagandha Supplements on Cortisol, Stress, and Anxiety Levels in Adults: A Systematic Review and Meta-Analysis - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC12242034/>
64. A Prospective, Randomized Double-Blind, Placebo-Controlled Study of Safety and Efficacy of a High-Concentration Full-Spectrum Extract of Ashwagandha Root in Reducing Stress and Anxiety in Adults - PMC, <https://pmc.ncbi.nlm.nih.gov/articles/PMC3573577/>
65. Role of Unani Medicine in Geriatric Care: A Holistic Approach to Healthy Ageing, <https://ijmspr.in/index.php/journal/article/download/152/245>