



Insomnia and its Management with Unani Regimenal Therapies: A Review

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ABSTRACT

Insomnia is defined as the subjective perception of difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity for sleep. It is linked to a shortened lifespan due to an increased risk of heart disease, stroke, and cancer^{2,3}. *Chronic insomnia* is often a waxing and waning disorder, with spontaneous or stress-induced exacerbations⁵. Patients with chronic insomnia usually have accompanying daytime impairment of cognition, mood, or performance with an increased risk for depression, anxiety, substance use, suicide, and possible immune dysfunction.⁸ Various studies worldwide have shown the prevalence of insomnia in 10%–30% of the population, some even as high as 50%–60%.¹ As far as management of chronic insomnia is concerned, hypnotic medications are typically employed. However, residual daytime effects, development of dependence, and withdrawal symptoms associated with these drugs are of considerable concern in public health⁹. It is vital to look for a safe and efficient method of treatment for the management of persistent insomnia in light of the limitations of sleep medicines. Ibn Sina's definition of *Sahar*, which is "sleeplessness" or "awakening" that essentially stems from a temperamental imbalance in the brain, corresponds to insomnia in the Unani System of Medicine. The Unani system of medicine has been a part of the healthcare system since time immemorial. For the treatment of diseases, four main approaches are typically used: regimenal therapy, dietotherapy, pharmacotherapy and surgery. Regimenal therapy is an important mode in which the morbid matter present in the body is either dispersed/excreted or its unnecessary production is blocked or its flow is restricted and the diseases are cured by natural healer of the body, consequently bring back the humoural stability. Nearly 30 regimens have been mentioned in classical Unani literature. Commonest regimenal therapies recommended for the management of *Sahar* include Riyādat (exercise), *Dalk* (massage), Natūl (irrigation) etc. These regimenal procedures are completely based on holistic approach and are potential but needs to be explored scientifically. This review outlines the therapeutic applications of regimenal therapies used in unani system of medicine for the management of *Sahar*.

KEYWORDS: Chronic insomnia, morbid humours, regimenal therapy, Unani medicine, *Sahar*.

INTRODUCTION:

DEFINITION

The word "Insomnia" originates from the Latin "in" (no) and "somnus" (sleep). It is a disorder characterized by inability to sleep or a total lack of sleep¹. According to the American Academy of Sleep Medicine, it is defined as "a complaint of trouble initiating or maintaining sleep which is associated with daytime consequences and is not attributable to environmental circumstances or inadequate opportunity to sleep²." Insomnia is associated with an increased risk of depression, anxiety, substance use, suicide, and possible immune dysfunction³.

PREVALANCE

It occurs in individuals of all ages and races, and has been observed across all cultures and countries. The actual prevalence of insomnia varies according to the stringency of the definition used. Insomnia symptoms occur in approximately 33% to 50% of the adult population; insomnia symptoms with distress or impairment (i.e., general insomnia disorder) in 10% to 15%; and specific insomnia disorders in 5% to 10%⁴. Chronic insomnia represents a more complex condition than acute transient insomnia. Patients with chronic insomnia frequently experience concomitant daytime impairment of cognition, mood, or performance that affects not only the patient and his family but also friends, co-workers, and caregivers. An estimated 6%–10% of the adult population suffers from chronic insomnia. The prevalence of chronic insomnia increases with age and is more common in women⁵.

PATHOPHYSIOLOGY

Insomnia results due to an imbalance between sleep inducing neurotransmitters gamma-aminobutyric acid (GABA) and adenosine present in the ventrolateral preoptic nucleus in the hypothalamus and the arousal neurotransmitters (noradrenaline, serotonin, acetylcholine, orexin and dopamine)⁵.

CLASSIFICATION

Earlier, the ICSD and the DSM both provided descriptions of different forms of insomnia. These included psychophysiological insomnia, insomnia owing to a medical disorder, insomnia due to a drug or substance, paradoxical insomnia, idiopathic insomnia, behavioural insomnia of childhood, and insomnia due to medical disorder. However, the mechanism underlying insomnia is poorly known, and in clinical practice, it was challenging to distinguish between the various subtypes. Therefore, in the most recent manual editions, the subtypes were consolidated into chronic insomnia (ICSD-3) and persistent insomnia disorder (DSM-5)⁶. The Third Edition of the International Classification of Sleep Disorders (ICSD-3) identifies three distinct types of insomnia namely short-term insomnia, chronic insomnia, and other insomnia (when the patient has insomnia symptoms but does not meet the criteria for the other two types of insomnia)^{7,8}.

DIAGNOSIS

The clinical diagnosis of insomnia is based on the complaint of trouble falling asleep, trouble staying asleep, or early morning awakening, and resultant daytime dysfunction⁶. This daytime dysfunction can manifest in a wide range of ways, including fatigue, malaise; impairment in attention, concentration or memory; impaired social, family, occupational or academic performance; mood disturbance, irritability, sleepiness, hyperactivity, impulsivity, aggression, reduced motivation, proneness for errors, and concerns about or dissatisfaction with sleep. The duration serves a key in diagnosing chronic insomnia (ICSD-3) or persistent insomnia (DSM-5). Symptoms must be present for at least three days a week for at least three months in order to qualify as chronic insomnia under the third edition of the International Classification of Sleep Disorders (ICSD-3) or as persistent insomnia under the DSM-5. Short term insomnia (ICSD-3) or episodic insomnia (DSM-5) has the same criteria as chronic insomnia, but lasts for fewer than three months.⁶

MANAGEMENT

Looking at the management of chronic insomnia, the goal of management includes improving the quality and quantity of sleep, reduction of distress and anxiety that occurs with insufficient sleep, as well as an improvement in daytime functioning. A common approach to the management of insomnia is a combination of non-pharmacological management (cognitive behavioural therapy) and pharmacological treatment. Cognitive behavioural therapy (CBT-i) components include sleep hygiene education, cognitive therapy, relaxation therapy, stimulus-control therapy and sleep restriction therapy⁹. Consequently, the American College of Physicians has recommended this intervention as the first line treatment for adults with insomnia^{6,10}. Licensed prescription drugs, over-the-counter medications, and herbal therapy are among the pharmacological options available for treating persistent insomnia. Generally, hypnotic medications are used for the management of chronic insomnia⁹. However, residual daytime effects, development of dependence, and withdrawal symptoms associated with most hypnotic drugs are of considerable concern in public health.⁷

UNANI CONCEPT

In the unani system of medicine, insomnia is referred to as *Sahar*, which is a condition marked by "excessive awakening," or the inability to go to sleep or stay asleep¹¹. This disease has been described by several Unani authorities, and etiologically considered as multifactorial, of which precipitative, predisposing and progressive causes are *Yabusat-i-sada* (simple dryness), *Hararat wa Yabusat-i-sada* (simple heat and dryness), *Ghalbae Safra wa Sauda* (dominance of bile and black bile), *Ratoobat-i-boriqi* (alkaline fluid), Pain, *Khauf* (fear), *Fikr* (stress) and *Gham* (grief)^{11,12}. The underlying mechanism of the disease is disturbance in equilibrium between *Nawm-o-Yaqza*, and owing to that, the normal temperament gets affected and becomes *Yabis* (dry), leading to the widespread *Yabusat* that predominates the brain^{11,12}. The clinical outcome of *Sahar* irrespective of its etiology leads to *Du'f Naf's* (debility in psyche), *Du'f Tabyat* (weakness in physic), impairs digestion and produces dryness in the body. It also produces *Ikhtelat* (disorientation), *Tashannuj* (spasm), and *Junoon* (mania)^{13,14}. Based on etiology, the unani physicians have been managing *Sahar* with an organized line of treatment, by correcting the disequilibrium, either in *Nawm-o-Yaqza*, or by correcting *Mizaj (Sada / Maddi)* through *Istifragh* and *Tadeel*, along with the dietary management. For that purpose drugs with *Murattib* (emollient) and *Munawwim* (sedative) properties have been used orally and topically in the form of *Roghanyat* (oils) and *Dimadat* (paste) along with other regimes like *Dalk*, *Natul* and *Saut*^{1,11,15}. Almost all Unani physicians have advocated regimetal therapies in the management of *Sahar*. Some of the common and widely recommended regimetal therapies are shown below in Fig 1.

REGIMENAL THERAPIES IN UNANI MEDICINE FOR THE MANAGEMENT OF CHRONIC INSOMNIA



Figure 1

Massage (Dalk)



Figure 2

Massage is referred to as *Dalk* in unani system of medicine. It is a systematic manipulation of body tissues with the hands or tools. This age-old method, which involves applying mechanical pressure to the patient's body, is frequently utilised in wellness, sports-related regeneration, and medical. There are myriads of different types of massages. The impact of therapeutic massage on the amelioration of anxiety and depression has been reported in the literature¹⁶. A putative stress-relieving method of massage therapy involves lowering cortisol levels and raising active neurotransmitters like dopamine and serotonin¹⁷. Following massage therapy, postmenopausal women with symptoms of insomnia reported better sleep, according to Hachul and colleagues¹⁸.

Unani physicians have used various oils for head massage in chronic insomnia like Roghane Kahu (Lactuca sativa oil) or Roghane Kaddu (Bottle gourd oil) or Roghane Khashkhash (Poppy seed oil)^{15,19}. Similarly massage with Roghane Kaddu (Bottle gourd oil) or Roghane Til (Sesame oil) or Roghane Banafsha (Viola odorata oil) or Roghane Badam (Almond oil) over soles have also been indicated for insomnia²⁰.

Irrigation (*Natūl*)



Figure 3

Natūl is a classical and well established unani regimenal therapy wherein a liquid, either a decoction of some drugs, infusion or medicated oil is poured slowly and steadily from some height over the affected area. Some amount of drug may penetrate through skin. In unani system of medicine, *Natūl* therapy has been strongly recommended for chronic insomnia²⁰. The decoction of various drugs described in unani literature that are being used in *natul* therapy either alone or in combination with each other for the management of chronic insomnia include *Viola odorata*, *Nymphaea alba*, Rose, *Lactuca sativa* seeds, Fresh, *Coriander sativum*, *Anethum Sowa*, Poppy seeds etc. Some of the oils used are Bottle gourd oil, *Lactuca sativa* oil etc^{20,21}.

Exercise (*Riyādat*)



Figure 4

In unani system of medicine, exercise is referred to as *Riyādat* and is one of the regimes that have been recommended by the unani physicians for the management of insomnia. The nature of the exercise should be gentle not vigorous²⁰. Sleep and exercise established a reciprocal interaction including bodily and psychical processes. There are several theories for how regular exercise impacts sleep, including endocrine effects on the hypothalamus,

interactions with circadian rhythm, metabolic and immunological responses, and thermoregulation^{22,23}. Recent research has focused on exercise-related hippocampus neurogenesis, which involves the integration of newly formed neurons. Although the mechanisms underlying exercise-induced neurogenesis are not fully known, this type of morphological and functional plasticity is thought to have the capacity to sustain brain function while also promoting neuroplasticity. Erickson and coauthors' RCT found that seven weeks of an aerobic exercise programme improved cognitive abilities such as spatial memory. Importantly, exercise-induced hippocampus neurogenesis appears to be associated with the antidepressant benefits of exercise²⁴. Physical activity not only promotes neurogenesis but also improves well-being by increasing plasma β -endorphin levels. In 2018, Kovacevic and colleagues did a comprehensive review to investigate the acute and long-term effects of resistance exercise on sleep quality. Regular resistance exercise improved sleep quality greatly, and combining it with aerobic exercise provided further advantages. On the other hand, the evidence for the acute effects of resistance exercise on sleep quality was limited and inconsistent²⁵. To this end, regular exercise seems to be a good alternative treatment **Aroma therapy** (*Lakhlakha*)



Figure 5

The application of concentrated essential oils produced from fragrant floral parts is the foundation of aromatherapy, which aims to enhance both physical and mental well-being. Unani physicians have employed various aromatic drugs for the management of insomnia e.g, Viola odorata oil, Nymphaea alba juice, Crocus sativus, Santalum album, Coriander, aqueous water of rose and vinegar, camphor, aloeswood, lavender, sandalwood etc^{20,26}. Typically, aromatherapy is administered through inhalation²⁷. The effectiveness of aromatherapy may be attributed to direct biological activity or subjective psychological processes²⁸. Some essential oils contain terpenes that cross the blood-brain barrier and possess cholinergic activity or act on gamma-aminobutyric acid receptors²⁹. Some odors, such as those extracted from lavender, such as linalyl acetate and linalool, can induce sleep and relaxation³⁰.

Nasal drops (*Su'oot*)



Figure 6

The process of administering oily or watery preparations of drugs in the form of nasal drops is called *Su'oot* in unani system of medicine. The commonly used nasal drops in unani medicine for the management of chronic insomnia include Roghane gul (rose oil), Roghane Kaddu (Bottle gourd oil), Roghane badam (Almond oil), Roghane neelofar (Nymphaea alba oil)²⁰. In a randomized, double-dummy, double-blind placebo controlled clinical trial ,the

intranasal use of the multi-herbal preparation was found to improve chronic insomnia and to reduce the dose of conventional hypnotic medications in insomniac patients³¹.

Foot bath (*Pāshoya*)



Figure 7

Footbath is referred to as *Pāshoya* in unani medicine. This method includes immersing the foot in a medicinal stew to cure a number of medical ailments. A foot bath with Babool leaves (Acacia Arabica leaves), barley flour, Khatmi flowers (Althea officinalis flowers), Maku (Solanum nigrum), Gulle Banafsha (Viola odorata flowers) and Gulle Nilofar (Nympha alba flowers) has been demonstrated to be beneficial for insomnia^{27,32}.

CONCLUSION

The Unani system of medicine is based on the Hippocratic doctrine of four humors: dam' (sanguineous), balgham (phlegm), safra' (yellow bile/bilious), and sawda' (black bile/melancholic), each with temperamental qualities such as hot-moist, cold-moist, hot-dry, and cold-dry, respectively. According to the Unani system of medicine, diseases are primarily caused by qualitative or quantitative abnormalities in these humors. To treat diseases, such morbid humors should be evacuated from the body or diverted from the affected part to the rest of the body to restore humoral equilibrium. This treatment phenomenon is achieved through the use of various Unani treatment modalities, such as regimental therapy and pharmacotherapy. Regimental therapy is one of the momentous modalities of Unani treatment in the healthcare system. Several regimens, such as riyādat (exercise), dalk (massage), natūl (irrigation), pāshoya (foot bath), lakhlakha (inhalation), etc., have been recommended by Unani physicians for the treatment of *Sahar* (insomnia). Unani physicians also defined appropriate indications, application sites, contraindications, standard operating procedures, complications, and mechanism of action based on Unani principles. However, in the present scenario, only a few scientific research on specific Unani regimens have been conducted to substantiate them. Detailed investigations on the mechanism of action and well-designed standard operating procedures for these regimental operations, supported by scientific studies to explore new treatment paths, and global acceptability would aid in the safe and efficient implementation of these regimens.

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