Volume 10, Issue 8, August – 2025 International Journal of Innovative Science and Research Technology
ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

Unani Perspectives on Oligospermia (*Qillat-e-Mani*): A Comprehensive Review of Classical Concepts and Contemporary Evidence

Malik Kashif[1*]; Zaibunissa Begum[2]; Ather Moin Rasheeda[3]

[1]P.G. Scholar, [2]HOD & Professor, [3]Assistant Professor

[1,2,3]Department of *Ilmul Advia* (Pharmacology), Govt. Nizamia Tibbi College, Charminar, Hyderabad, Telangana, India.

Corresponding Author: Malik Kashif[1*]

Publication Date: 2025/08/28

Abstract: Oligospermia, defined as a sperm count below 15 million/mL of semen, is a major contributor to male infertility. It is often accompanied by poor sperm morphology, motility, and vitality. Globally, infertility affects 60–80 million couples, with male factors implicated in a significant proportion. In India, male infertility accounts for approximately 23% of cases among couples seeking treatment, with recent estimates suggesting it may be as high as 50%. Conventional treatments, though effective, are often costly and associated with adverse effects, prompting growing interest in complementary and alternative systems—particularly herbal medicine.

The Unani system of medicine, rooted in Greco-Arabic traditions, offers a holistic framework for managing reproductive disorders. In Unani, oligospermia is termed *Qillat-e-Mani* or *Qillat-e-Haiwan-e-Manvia*. Treatment is guided by *Usool-e-Ilaj* (principles of therapy), which emphasize correcting underlying humoral imbalances through general and organ-specific tonics, semen-enhancing drugs, and thickening agents. Depending on the etiological factors—such as dryness, coldness, or excess heat—Unani employs dietary therapy (*Ilaj bil Ghiza*), pharmacotherapy (*Ilaj bil Dawa*), and regimental therapy (*Ilaj bil Tadbeer*), including massage, warm baths, moderate exercise, and regulated sexual activity. Recent pharmacological studies support the efficacy of several Unani herbs, such as *Withania somnifera*, *Mucuna pruriens*, and *Nigella sativa*, which have shown potential in improving sperm parameters and hormonal balance via modulation of the hypothalamic-pituitary-gonadal axis. This review critically examines Unani approaches to oligospermia, integrating classical concepts with contemporary scientific evidence.

Keywords: *Oligospermia; Unani Medicine; Qillat-E-Mani; Infertility; Male Infertility; Herbal Interventions.*

How to Cite: Malik Kashif; Zaibunissa Begum; Ather Moin Rasheeda (2025). Unani Perspectives on Oligospermia (*Qillat-e-Mani*): A Comprehensive Review of Classical Concepts and Contemporary Evidence. *International Journal of Innovative Science and Research Technology*, 10(8), 1436-1444. https://doi.org/10.38124/ijisrt/25aug977

I. INTRODUCTION

Oligospermia, a prevalent male reproductive disorder, involves a decrease in sperm count to below 15 million per millilitre of semen (WHO)[1–4] . Oligospermia denotes a deficiency of spermatozoa in the semen, with reduced sperm concentration, marked abnormalities in sperm morphology, motility, and vitality, affecting the quality and quantity of semen[3]. It is closely linked to male infertility, defined as the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected Sexual intercourse[5].

Oligospermia is classified in 3 grades;

- *Mild:*
  Sperm counts 10 million – 15 million sperm/mL
- *Moderate:*
  Sperm counts 5 million – 10 million sperm/mL
- *Severe*:
  Sperm counts less than 5 million sperm/mL[6]

Infertility, the inability to conceive after a year of unprotected intercourse, is a significant global health issue. While precise global prevalence figures are elusive, estimates

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

suggest that a substantial number of couples worldwide face fertility challenges[7].

- *Prevalence:*

The World Health Organization (WHO) estimates that between 60 and 80 million couples struggle with infertility[8]. This figure varies across regions, with an estimated 8-12% of couples globally affected[9,10]. Furthermore, a concerning trend has emerged: a 15% decline in fertility rates among men under 30 worldwide[11].

The WHO reports that the overall prevalence of primary infertility, where a couple has never conceived, ranges from 3.9% to 16.8%[8]. The prevalence of infertility varies considerably across different regions and countries.

- *Regional Prevalence:*

In India, for instance, estimates range from 3.7% in states like Uttar Pradesh, Himachal Pradesh, and Maharashtra[12] to 5% in Andhra Pradesh[13] and a higher 15% in Kashmir[14]. Additionally, disparities exist within regions, with variations observed among different tribes and castes[12,15]. Infertility can stem from a multitude of factors affecting both men and women. A study conducted by the WHO from 1982 to 1985 revealed that 20% of cases were attributed to male factors, 38% to female factors, 27% to factors affecting both partners, and 15% remained unexplained[16].

In India, male factors account for approximately 23% of infertility cases among couples seeking treatment[14]. A recent report suggests that nearly 50% of infertility in India is linked to reproductive anomalies or disorders in men. Moreover, a substantial portion of infertility cases, exceeding 25%, remains unexplained even after thorough testing. This category is often referred to as unexplained infertility[17].

In the light of the financial burden, complexity, and potential side effects associated with conventional male infertility treatments, there has been a notable surge in interest in complementary and alternative medicine (CAM) options. Herbal interventions have gained popularity due to their perceived availability, affordability, and accessibility, making them an attractive alternative for many couples seeking fertility solutions. The growing acceptance of these traditional remedies is reflected in their acknowledgment by some medical bodies, such as the European Association of Urology, which has recognized the use of complementary herbal medicines for male infertility[18].

The Unani system of medicine which emerged as a result of Greco-Arabic tradition and has been long used to treat any form of infertility and other reproductive disorders. Based on the somatic theory and holistic concepts promoted by *Buqrat* (Hippocrates), *Jalinoos* (Galen), *Ibn Sina and Al-Zahrawi,* this tradition of practice is centred on restoring balance in the *Akhlat* (humours) of the body and encouraging the *Quwwat-e-Tanasuliya (*Reproductive faculty) to establish reproductive health. Classical Unani literature describes *Qillat-e-Mani* (Oligospermia), *Dauf-e-Bah (*sexual debility), and *Uqr* (infertility) and goes on to prescribe detailed treatment on them, involving *Ilaj bil Ghiza* (dietotherapy), *Ilaj bil Dawa* (pharmacotherapy) and *Ilaj bil Tadbeer* (regimental therapy). These ancient interventions correct the aetiologies of infertility as well as promote vitality in general, hormonal balance and general health. These practices that were resilient in themselves as they used natural remedies and focused on tailored approach of prescribing, serves to explain the relevance of Unani medicine that continues to be used in treatment and management of infertility even centuries later despite the biomedical developments in the modern times.

II. METHODOLOGY

A manual literature review of classical Unani texts was conducted to compile information on *Qillat-e-Mani* (oligospermia), including its description, causes, etiopathology, principles of treatment, and therapeutic approaches. Concurrently, electronic searches were performed in PubMed, Google Scholar, and ScienceDirect to identify pharmacological interventions, modern concepts, and clinical and preclinical studies on drugs used for oligospermia. Relevant English-language publications up to 2025 and Urdu translations of classical Unani works were reviewed. Terminology followed the *Standard Unani Medical Terminology* (CCRUM-WHO). Keywords included "Unani Medicine," "oligospermia," *"Qillat-e-Mani," "Qillat-e-Haiwan-e-Manvia*," "infertility," "in vivo study," and "clinical trial," with all traditional terms recorded in both Urdu and English.

III. RESULT

A. *Etiology and pathophysiology*

Oligospermia, characterized by a low sperm count, can arise from a wide range of underlying conditions. The diagnostic process for patients presenting with oligospermia can be intricate and often inconclusive. Despite thorough investigations, 60-75% of cases remain unexplained, highlighting the complexity of this condition.

➢ *The Role of the Hypothalamic-Pituitary-Gonadal (HPG) Axis*

The hypothalamic-pituitary-gonadal axis plays a central role in male reproductive health. Normally, the hypothalamus produces and releases gonadotropin-releasing hormone (GnRH) in a pulsatile manner into the hypothalamo-hypophyseal portal system. This specialized circulation delivers GnRH to the anterior pituitary gland, where it stimulates gonadotroph cells to secrete two critical hormones into the systemic bloodstream. Luteinizing Hormone (LH) acts on the Leydig cells in the testes, promoting the synthesis and release of testosterone. Follicle-Stimulating Hormone (FSH) targets Sertoli cells in the seminiferous tubules of the testes, where it plays a key role in driving spermatogenesis, the process of sperm production.

➢ *Feedback Mechanisms and Hormonal Balance*

The hormonal regulation of spermatogenesis is a finely tuned process involving feedback mechanisms; Testosterone, partly converted into oestradiol, and inhibin B, secreted by Sertoli cells, exert negative feedback on the hypothalamus and pituitary.

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

This feedback reduces the secretion of GnRH, LH, and FSH, ensuring hormonal balance.

➢ *Endocrine Disruptions and Their Impact*

Disturbances in this delicately balanced axis can lead to endocrine-related causes of oligospermia. For instance, any condition that suppresses gonadotropin secretion can have downstream effects, including Impaired intratesticular testosterone production. Disruption of spermatogenesis, resulting in reduced sperm production[2,5,19].

B. Causes Of Oligospermia

- Hormone Issues, varicocele[20,21], cryptorchidism, Klinefelter's syndrome[22–26].
- Damaged testes due to trauma or infections (syphilis, tuberculosis, mumps)[27].
- Neoplasm of testes, kidney and liver diseases.
- smoking, alcoholism, Wearing Tight underwear[28].
- Working at high temperature places like welding, dyeing, blast furnace, cement and steel factories etc[29].

C. Unani Concept

In the Unani system of medicine, the general term of Du'f al-Bah is used commonly in the management of semen and semen related problems[30]. A reduction in the Quantity of Haiwan-e-Manvia (spermatozoa) within the seminal fluid is referred to as "Qillat-e-Mani" or "Qillat-e-Haiwan-e-Manvia." This is the equivalent term for "Oligospermia[31]. Classical Unani texts highlight semen-related issues under the terms Qillat-e-Mani (semen deficiency) and Riqqat-e-Mani (excessive fluidity of semen). Both conditions contribute to various sexual disorders, including Zof-e-Bah (sexual dysfunction), Surat-e-Anzal (premature ejaculation), Ehtelam (nocturnal emissions), Uqr (infertility), and Jiryan (spermatorrhoea)[32-34].

➢ *Concept of Al-Umur-al-Tabi'yah (Principles of Human Physiology)*

In the Unani system of medicine, the human body is regarded as a harmonious composition of seven essential components, collectively referred to as *Al-Umur-al-Tabi'yah* (Principles of Human Physiology). The term *Al-Umur-al-Tabi'yah* originates from the Arabic word *Tabi'at* (meaning nature or physis), which represents the innate governing force of the body. This intrinsic force, also known as *Al-Tabi'at-al-Mudabbirah-lil-Badan* (The Nature that Governs the Body), is considered the ultimate regulator responsible for maintaining the body's existence and preserving health[32,35,36].

The seven natural principles fundamental to the human body, as outlined in this traditional system of medicine, are as follows:

- *Arkan (Elements):*

The foundational components that form the basis of all matter, including the human body.

- *Mizaj (Temperament):*

The unique physiological and psychological constitution of an individual, determined by the balance of elements.

- *Akhlat (Humours):*

The vital fluids that sustain the body and its functions, playing a critical role in maintaining homeostasis.

- *A'za' (Organs):*

The anatomical structures that perform specific roles essential for life and health.

- *Arwah (Pneuma):*

The life force or vital energy that animates the body and facilitates its functions.

- *Quwwa (Faculties or Powers):*

The inherent capabilities or energies that enable the body to perform its physiological and metabolic processes.

- *Af'al (Functions):*

The actions and operations carried out by the organs and faculties, ensuring the proper functioning of the body[32,35,36].

Each cell, tissue, organ, and the entire human body is inherently endowed with a remarkable power, referred to as "*Tabiyat*." This intrinsic force plays a pivotal role in maintaining *Etedal Mizaj* (homeostasis) by regulating various systems and mechanisms essential for the preservation of both the individual and the species.

The operations of these mechanisms are governed by three fundamental faculties: *Quwwa Tabaiya* (natural faculty), *Quwwa Haiwaniya* (vital faculty), and *Quwwa Nafsaniya* (psychic faculty). Some of these processes occur at the cellular level, ensuring proper intracellular function, while others are active within individual organs. Additionally, certain mechanisms work across the entire body to coordinate interactions between different organs, ensuring a harmonious balance essential for health and survival[32,35,36].

✓ *Quwwa (faculties or Power)*

Quwwa refers to the inherent and specialized powers bestowed upon a living body to perform its designated functions effectively. These faculties support the body's organs, enabling them to preserve both the individual's health and the continuity of the species. It is of three types;

- *Quwwat-e-Tabaiya (Natural Faculty):*

This faculty oversees the body's physiological processes, ensuring natural growth, nourishment, and repair.

- *Quwwat-e-Nafsaniya (Psychic or Mental Faculty):*

Responsible for cognitive functions, emotions, and mental well-being, this faculty governs the mind's control over the body.

- *Quwwat-e-Haiwaniya (Vital or Physical Faculty):*

This faculty manages vital functions such as respiration, circulation, and physical energy, which are essential for sustaining life[32,35-37].

✓ *Al-Quwwa-al-Tanasuliyah (Reproductive Faculty)*

The *Quwwat-e-Tabaiya* (Natural Faculty) encompasses a specialized sub-faculty known as *Quwwat-e-Tanasuliya* (Reproductive Faculty), which plays a central role in the

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

continuity of life by generating new individuals within a species. This faculty operates in coordination with its subordinate powers to ensure effective reproduction and preservation[35,36]. *Ibn Nafis* considered *Quwwat-e-Tanasuliya* as a subset of *Quwwat-e-Tabaiya*, asserting that it interacts with food to support proper digestion (*Hazim*), leading to the production of semen (*Mani*). This faculty is vital for the creation of the foetus (*Janeen*), ensuring the continuation of the species and compensating for losses caused by mortality[36].

Based on its specific functions, *Quwwat-e-Tanasuliya* is further categorized into two key faculties:

✓ *Quwwat Muwallida (Generative Faculty):*

According to *Ibn Nafis*, *Al-Quwwa-al-Muwallidah* is the faculty responsible for separating the essence of Mani (semen) from the components of the body (*Amshaj-i-Badan*) within the testis and ovary. This faculty ensures that each part of the reproductive material develops into specific organs[32,35-37].

Ibn Nafis elaborates on this concept, identifying two distinct types of *Quwwat-e-Muwallidah*:

- *Quwwat-e-Mufassilah (Differentiating Faculty):*

The first part of the Generative Faculty, which transforms bodily fluids and secretions into semen and transports it to the testicles, is known as the *Quwwat-e-Mufassilah* (Differentiating Faculty).

- *Quwwat Mughayyira Ula (Primary Transformative Faculty):*

The second part, which prepares each of its parts to become a specific organ, is called *Quwwat-e-Mughairah-e-Ula* (Primary Transformative Faculty).

this second part of the body's generative force works by giving different parts of the semen their own special qualities. In one part, it creates a quality that builds nerves. In another part, it makes a different quality that forms bones. By doing this, it guides how each organ and tissue grows[36].

✓ *Quwwat Musawwira (Formative Faculty):*

Ibn Nafis describes *Al-Quwwa-al-Musawirah* (the formative faculty) as the power responsible for shaping and structuring every part of the Mani (sperm and ovum) according to the specific requirements of the species it belongs to, or to closely resemble the characteristics of the individual. This faculty defines the precise form of the organs by creating lines, cavities, depressions, and other structural details essential for proper functionality and identity[36].

Similarly, *Ali Abbas* supports this view, emphasizing the critical role of *Al-Quwwa-al-Musawirah* in shaping the physical and functional aspects of an organism, maintaining harmony with its species-specific traits and lineage[38].

✓ *The Role and Function of Quwwat-e-Tanasuliya (Reproductive Power)*

The proper functioning of *Quwwat-e-Tanasuliya* (reproductive power) is essential for maintaining a healthy sexual life. A comprehensive understanding of the origin and functions of this faculty is crucial for identifying and addressing issues related to sexual disorders.

When a male reaches puberty, the maturation of the gonads activates one of the key subordinate faculties of *Quwwat-e-Tanasuliya*, known as *Quwwat-e-Muwallida* (generative faculty). This faculty initiates its full range of functions, resulting in the synthesis of semen by the vital organ (*A'za-e-Ra'eesa*). This process often leads to *Ehtelam* (involuntary semen discharge) and the emergence of pleasurable sensations, marking the onset of puberty.

All these processes are meticulously overseen and harmonized by *Tabi'at* (Nature), which ensures their smooth execution. Once activated, *Quwwat-e-Taulidiya* (reproductive faculty) remains active in males throughout their lifetime, supporting reproductive health and functionality[32,35-37,39].

✓ *The Concept of Mani (Semen)*

Ancient Greek and Arab physicians possessed profound knowledge of *Jauhar-e-Mani* (sperm), acquired through their observational skills and extensive experience. They believed that *Mani* (semen) carried a living essence, treating it as the vessel of life itself. Despite their limited access to advanced technology, these scholars had a remarkable understanding of the functions and significance of semen.

Mani is a specific whitish fluid produced in the *khusiya*tain (Gonads) of both males and females. Under suitable conditions, it transforms into a living being resembling the one it originated from. Semen has a distinct smell, similar to *seindi* (palm wine/palm toddy) or tadi which is collected from *tala-e-khurma (*the fresh shoot of date palm), also known as *gabh* in Urdu[35].

Hippocrates stated that semen is a specific fluid and *Mushabiha al Imtizaj* (homologous compound) which, although it appears uniform and homogeneous in nature. This is because its essence is drawn from every part of the body, and hence, its various components give rise to different organs. For example, it forms hard structures like bones, soft tissues like fat, transparent parts like the cornea and skin, as well as dense structures like ligaments and tendons[35,36]. Qarshi noted that *Jauhar-e-Mani* (sperm) is derived from *Amshaj-i-Badan* (Inherent Bodily Mixtures)[36]. According to Ibn Sina, mani (semen) is derived after the completion of *'Hazme chaharum'* fourth stage of digestion. He added that mani is produced by extremely *lateef dam*[39].

Hakeem Jurjani affirmed this, stating in Zakheerah Khwarzam Shahi that the Quwwat-e-Muwallida (generative faculty) extracts Mani during the fourth stage of digestion[40]. Hakim Ajmal Khan described it as a thick white fluid with a distinct smell, composed of three parts: clear viscous fluid, immature sperm cells (spermatids), and spermatozoa, tiny worm-like structures with head, midsection, and tail[34].

✓ *Components of Mani (Semen):*

- *Jauhar-e-Mani (Sperm):*

This is the primary reproductive agent, synthesized by the *Quwwat-e-Muwallida* (generative faculty) within the

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

Khusyatain (testes). It represents the solid component essential for reproduction[34-36].

- *Rutubat-e-Manvia (Seminal Plasma):*

This fluid provides nourishment to the *Jauhar-e-Mani*. It is formed through the collaborative action of *Quwwat-e-Tabaiya* (natural faculty) and *Quwwat-e-Ghazia* (faculty of assimilation) during cellular metabolism (*Hazim-e-Uzuwi*) within the testes[34-36].

According to Ali Abbas, all types of *Quwwat-e-Tabaiya*, including the *Quwwat-e-Muwallida*, originate in the liver. He proposed that the liver synthesizes *Rutubat-e-Manvia* (seminal fluid), including its components like carbohydrates and proteins, which are transported to the reproductive system via vessels (*Urooq*). He also highlighted the vital coordination between the *Quwwat-e-Tanasuliya* (reproductive power) and the natural faculties in maintaining reproductive health[38].

➢ *Usool E Ilaj (Principle of Treatment)*

- it is crucial to eliminate its underlying causes and adopt a comprehensive approach.
- General Strengthening Measures: Administer a diet rich in general tonics (*Muqawwi-e-Aam*) and organ-specific tonics (*Muqawwi Aza-e-Raeessa*) to improve overall vitality and the health of vital organs.
- Use of Spermatogenic (*Muallid-e-Mani*) and Semen-Thickening (*Mughalliz-e-Mani*) Medications: Appropriate medications that stimulate the production and quality of semen should be prescribed.
- If Oligospermia is Due to Dryness (*Yaboosat*) of Reproductive Organs: Prescribe moistening (*Murattib*) diets, such as: Milk-based preparations (e.g., *Hareera*), Simple broths (*Sada Shorba*), Additionally, *Turanjabeen* (a herbal remedy known to increase semen production) may be administered.
- If Oligospermia is Due to Coldness (*Baroodat*) of Reproductive Organs: Prescribe warm, energy-enhancing electuaries, such as: *Majoon-e-Muqawwi-e-Bah*, *Majoon-e-Laboob*, *Majoon-e-Zanjabeel*. These formulations improve reproductive health by generating warmth and vigour.
- If Oligospermia is Due to Excess Heat (*Hararat*): Prescribe cooling and soothing remedies to counteract heat, such as: *Sheera Tukhm-e-Kharfa* (Portulaca seed syrup), Milk, Buttermilk (*Chhachh*).
- If Oligospermia is Due to Excess Moisture (*Ratoobat*): Administer drying (*Yabisa*) medications and a diet consisting of dry and spiced foods, such as: *Itrifal* formulations Dry and aromatic foods (e.g., spiced broths, kebabs, and grilled meats flavoured with warming spices like cinnamon and cumin).
- Ensure the patient maintains a balanced lifestyle, including regular exercise and adequate rest, to promote healthy metabolism and reproductive function.
- Stress management is also vital, as psychological factors can influence semen production[33].

D. Ilaj (Treatment)

In the Unani system, the term *Muqawwi-e-Bah* (aphrodisiac or semen-strengthening remedies) is commonly used for managing conditions related to seminal disorders. These remedies focus on restoring balance to the body's systems, strengthening vital organs, and enhancing overall reproductive health.

In Unani system of Medicine various types of treatments are employed, such as

➢ Ilaj bil Ghiza (dieto-therapy)
➢ Ilaj bil Dawa (Pharmacotherapy)
➢ ilaj bit – Tadbeer (Regimental therapy)
➢ Jarahat or llaj bil Amaliyat (Surgery) [33].

- *Ilaj bil ghiza (dieto-therapy) :*

Unani system of Medicine deals great attention on treating ailments by administration Of specific diets or by regulating the quality (Kaiflyat) and quantity of food (Miqdar). In Oligospermia are advised the following dietary Modification these dietary modifications should strictly follow by the patient.

✓ Modifying the diet with high protein contents like, Beef, Mutton, chicken and fish.
✓ If the patient is vegetarian they are advised to take more pulses, like *Moong ki dal*, Soya been, *Chana Mash-ki-dal*, Arvi and *Bhendi* which are having properties of Increasing the seminal fluid, the sperm count and motility as well as it increase the sexual Power.
✓ Patients are advised not to take the food which decrease the sexual function and sperm Count e.g. Sour foods[33].

- *Ilaj bil dawa (pharmacotherapy) :*

The Unani physians mentioned various single and compound drugs to treat the *Qillat-e-Mani* (Oligospermia). These drugs have the properties such as *Muwallid-e-Mani* (Spermatogenic), *Mughalliz-e-Mani* (increase viscosity of semen), and *Muqawwi-e-Bah* (Aphrodisiac).

- *Single drugs (Mufradat);*

✓ Plant-origin Drugs are Shown in Table 1.
✓ Animal-origin drugs in Unani system of medicine used in Oligospermia are Beer Bahuti (Dactylopius coccus), Kharateen (Pheretima posthuma),
✓ Mineral origin drugs are Silajeet (Styrax preapratum)[42,44].

- *Compound Formulations (Murakkabat) Are;*

✓ Laboob-e-Sagheer
✓ Majoon-e-Arad khorma
✓ Laboob-e-Kabir
✓ Majoon-e-Payaz
✓ Dawa-e-Turanjabeen
✓ Lauq-e-Basal
✓ Majoon-e-Salab
✓ Majoon-e-Kalan
✓ Majoon-e-Jalinoos Lolowi
✓ Halwa-e-Maghz-e-Sarkanjash
✓ Halwa-e-Baiza-e-Murg[33].

- *Ilaj bil tadbeer (regimental therapy):*

In the management of Oligospermia, along with dietary modifications (Ilaj bil Ghiza) and pharmacotherapy (Ilaj bil

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

Advia), incorporating regimental therapy can significantly enhance treatment outcomes. These supportive therapies include:

✓ *Dalak (Massage):*
Gentle body massage with appropriate oils can help improve blood circulation, relieve stress, and promote overall well-being, which may positively influence reproductive health.

✓ *Hamam-e-Har (Warm Bath):*
Taking a warm bath helps relax muscles, improves peripheral circulation, and supports general physical relaxation, which is beneficial in reducing stress-related factors contributing to oligospermia.

✓ *Riyazat (Moderate Exercise):*
Engaging in regular, moderate-intensity physical activity can enhance overall fitness, boost metabolism, and improve hormonal balance, all of which are crucial for optimal reproductive function.

✓ *Mental and Physical Relaxation:*
Reducing mental stress and physical fatigue through relaxation techniques, such as deep breathing, meditation, or recreational activities, is essential for maintaining hormonal equilibrium and improving semen quality.

✓ *Controlled Sexual Activity:*
It is advisable to avoid excessive sexual activity, including frequent masturbation and intercourse, as it can lead to exhaustion and depletion of seminal fluid. Moderation in sexual habits is crucial for semen conservation and regeneration[33].

E. Pharmacological Studies

➢ *Withania somnifera (Asgand)*
The pilot study evaluated the effect of *Withania somnifera* (Ashwagandha) root extract on 46 oligospermic men for 90 days. Treatment significantly increased sperm concentration, semen volume, and motility compared to placebo. Hormonal analysis showed improved testosterone and luteinizing hormone levels. The findings suggest Ashwagandha has notable spermatogenic potential in oligospermia[45].

➢ *Mucuna pruriens (Tukhm-e-konch)*
This study investigated *Mucuna pruriens* seed powder in infertile men and found it restored sperm count, motility, and semen quality. It also reduced oxidative stress markers and improved antioxidant levels, while normalizing serum testosterone, luteinizing hormone, and dopamine, indicating its action via the hypothalamus–pituitary–gonadal axis to enhance male fertility[46].

➢ *Tribulus terrestris (Khar-e-khasak)*
This in vitro study tested *Tribulus terrestris* extract on semen from 40 healthy men. Incubation with 40–50 µg/mL extract significantly improved sperm total and progressive motility, curvilinear velocity, and viability over 60–120 minutes, without affecting DNA fragmentation. The results suggest *T. terrestris* may enhance sperm quality parameters relevant to male fertility[47].

➢ *Nigella sativa (Kalonji)*
This randomized, double-blind, placebo-controlled trial evaluated *Nigella sativa* seed oil in infertile men with abnormal semen quality. Daily supplementation for two months significantly improved sperm count, motility, morphology, and semen volume compared to placebo, indicating its potential as a safe and effective therapy for male infertility[48].

➢ *Zingiber officinale (Zanjabil)*
This double-blind randomized clinical trial assessed the effect of *Zingiber officinale* (ginger) supplementation on infertile men. After three months, the ginger group showed significant improvements in sperm concentration, motility, and morphology, along with reduced sperm DNA fragmentation compared to placebo, suggesting ginger's potential role in enhancing male fertility[49].

➢ *Allium sativum (Sīr / Lehsun)*
This study investigated the protective effects of *Allium sativum* (garlic) extract against busulfan-induced oxidative stress in mice sperm. Treatment with garlic extract significantly reduced oxidative damage, improved sperm count, motility, and viability, indicating its potential to counteract chemotherapy-induced reproductive toxicity[50].

➢ *Chlorophytum borivilianum (safed musli)*
This study evaluated a standardized extract of *Safed Musli* (*Chlorophytum borivilianum*) in male Wistar rats. The extract significantly enhanced aphrodisiac effects by improving sexual behavior and increased sperm quality without adverse effects, indicating it is both effective and safe for boosting male reproductive health[51].

➢ *Anacyclus pyrethrum (Akar-karha)*
This study investigated the protective effect of *Anacyclus pyrethrum* root extract on male rats exposed to cadmium-induced reproductive toxicity. Treatment with the extract significantly improved sperm count, motility, viability, and reduced DNA damage[52].

➢ *Crocus sativus (Zafran)*
This study showed that sodium valproate causes DNA damage, chromosomal abnormalities, and testicular harm in albino rats. Co-treatment with saffron (*Crocus sativus*) significantly reduced these toxic effects by improving antioxidant levels and protecting sperm and testicular tissue, highlighting Safron's potential to guard against drug-induced reproductive damage[53].

IV. MODERN VS UNANI COMPARISON

Modern medicine and Unani medicine describe the same problem — low sperm count — but use different language. Modern doctors call it "oligospermia," measure it with numbers (WHO cutoffs) and look for clear causes: infections, varicocele, hormonal problems or harmful exposures (like heat). They explain it by changes in the hypothalamic–pituitary–gonadal (HPG) axis that lower testosterone and reduce sperm production. Unani calls the condition ***Qillat-e-***

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

Mani and explains it as a disturbance of ***mizāj*** (temperament), and *Quwwa* (Faculties) especially *Quwwat-e-tanasuliya* (Reproductive faculty) other than that excess dryness or heat also weakens the reproductive power. Treatment in Unani is aimed at restoring balance using food, specific medicines and lifestyle regimens.

The two systems meet on practical points. Modern research shows that prolonged heat exposure at work (welders, furnace workers, etc.) reduces sperm count, so reducing heat or protecting the testes is recommended. Unani texts describe the same effect as dryness/heat and therefore recommend liquid containing diets and medicines, Milk-based preparations (e.g., *Hareera*), Simple broths (*Sada Shorba*), *Turanjabeen*.

Many Unani herbs used for *Qillat-e-Mani*, for example *Withania somnifera L.* (asgand), *Tribulus terrestris L. (Khar-e-khasak), Nigella sativa L. (Kalonji), Chlorophytum borivilianum L. (safed musli)* and *Mucuna pruriens L.(Tukhm-e-konch)*[45–54], have been shown in modern studies to reduce oxidative stress, support testosterone levels and improve sperm count or motility. In simple terms: modern medicine identifies the cause and Unani prescribes diet containing liquid preparation and tonics that, by reducing "dryness/heat" and supporting hormonal balance, can help restore sperm production. So, the two approaches can be complementary.

V. DISCUSSION

The review paper delves into the intricate nature of oligospermia, a key contributor to male infertility, by integrating both modern medical understanding and the traditional Unani system of medicine. According to modern definitions, oligospermia is a decrease in sperm count to below 15 million per millilitre of semen. The diagnostic process is often complex and can be inconclusive, with 60-75% of cases remaining unexplained despite thorough investigations. The paper highlights the crucial role of the Hypothalamic-Pituitary-Gonadal (HPG) axis in regulating male reproductive health. Disturbances in this axis can lead to endocrine-related causes of oligospermia, such as impaired testosterone production and disrupted spermatogenesis. Infertility is a significant global health concern, with the WHO estimating that 60 to 80 million couples worldwide face fertility challenges. The prevalence varies by region, with a concerning 15% decline in fertility rates among men under 30 globally. In India, male factors are responsible for a substantial portion of infertility cases, with some studies attributing up to 50% of cases to male reproductive anomalies.

The Unani system of medicine offers a holistic framework for understanding and treating oligospermia, referred to as "*Qillat-e-Mani" or "Qillat-e-Haiwan-e-Manvia*". This approach is based on the concept of "*Al-Umur-al-Tabi'yah"* (Principles of Human Physiology), which views the body as a harmonious composition of seven essential components. The Unani treatment principles, *"Usool e ilaj*," focus on addressing the root causes by using a combination of dietotherapy, pharmacotherapy, and regimental therapies. This tailored approach, which considers factors like dryness, coldness, or excess heat, explains the enduring relevance of Unani medicine. The paper presents a compelling convergence between traditional Unani remedies and modern pharmacological studies. For instance, Unani drugs like *Withania somnifera (Asgand), Mucuna pruriens (Tukhm-e-konch),* and *Nigella sativa (Kalonji)* have been scientifically shown to improve sperm parameters, hormonal levels, and overall reproductive health. This provides a strong rationale for the continued use and further investigation of these traditional interventions as viable and potentially effective alternatives to conventional treatments.

VI. FUTURE SCOPE OF RESEARCH

Any future research into the study of oligospermia must attempt to integrate both ancient Unani knowledge on medicine and modern scientific confirmation. Although Unani herbs-*Withania somnifera L., Mucuna pruriens L.,* etc. have a known spermatogenic potential as indicated by empirical studies, larger and more strictly designed clinical studies of large scale are inevitable to standardize the dosage, assess the long-term effectiveness and safety of this type of medication in heterogeneous populations. It is even possible that the mechanisms of hypothalamic-pituitary-gonadal axis modulation and semen quality change by means of Unani interventions, especially dietotherapy and regimental therapy, may be explained using current research. In addition, reinterpretation of classical Unani notion of Mani (semen) and its components as presented by such scholars as Ibn Sina and Hakim Ajmal Khan under the prism of the modern laboratory examination could bring new perspectives to the field of reproductive biology. Such an interdisciplinary research agenda would help strengthen the plausibility of Unani medicine and the foundations of integrative, evidence-based treatment of infertile men.

VII. CONCLUSION

Oligospermia is a complex and prevalent condition contributing significantly to male infertility. The comprehensive review highlights the strengths of both modern medical diagnostics and the holistic Unani approach in addressing this disorder. Unani medicine, with its focus on restoring balance within the body through individualized treatments such as diet, pharmacotherapy, and regimental therapy, offers a valuable perspective. The pharmacological validation of many Unani herbs, demonstrating their positive effects on sperm quality and hormonal balance, provides a scientific basis for their traditional use. Therefore, the Unani system presents a promising and effective alternative for managing oligospermia, underscoring the potential for integrating traditional and modern medical knowledge to enhance male reproductive health outcomes.

Table 1 Single Drugs (Plant-Origin) of Unani System of Medicine Used in Oligospermia[41-43]

Sr No	Mufradat (Single Drugs)	Botanical name	Part Use
1	Tukhm-e-Konch	Mucuna pruriens Linn.	Seed
2	Asgand	Withania somnifera Linn.	root

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

3	Tal-Makhana	Hygrophilia spinosa T.Ander	seed
4	Salab Misri	Orchis latifolia Linn.	Root
5	Singhadha	Trapa natans L.	fruit
6	Satavar	Asparagus racemosus Wild.	root
7	Bozidan	Tanacetum umbelliferum Linn.	root
8	Todri	Cheiranthus cheiri Linn.	seed
9	Basal	Allium cepa L.	bulb
10	Behman Safaid	Centaurea behen Linn.	Root
11	Behman Surkh	Salvia haematoed Linn.	Root
12	Panba dana	Gossypium herbaceum Linn.	seed
13	Tukhm-e-Kadu-e-Sheerin	Cucurbita maxima	seed
14	Maghz-e-Kharboza	Cucumis melo	seed
15	Maghz-e-Funduq	Corylus avellana	seed
16	Maghz-e-Chilghoza	Pinus gerardiana	seed
17	Khurma	Phoenix dactylifera	fruit

REFERENCES

[1]. Nieschlag E, Behre HM, Kliesch S, Nieschlag S, editors. Andrology: male reproductive health and dysfunction. Fourth edition. Cham, Switzerland: Springer; 2023. 161 p.

[2]. Jones RE, Lopez KH. Human reproductive biology. 3rd ed. Amsterdam ; Boston: Elsevier Academic Press; 2006. 443-445,561 p.

[3]. WHO Laboratory Manual for the Examination and Processing of Human Semen. 6th ed. Geneva: World Health Organization; 2021.

[4]. Cooper TG, Noonan E, von Eckardstein S, Auger J, Baker HWG, Behre HM, et al. World Health Organization reference values for human semen characteristics. Hum Reprod Update. 2010;16(3):231–45.

[5]. Campbell MF, Walsh PC, Wein AJ. Campbell-Walsh-Wein handbook of urology. Partin AW, Kavoussi LR, Peters C, Dmochowski RR, Cooper CS, Greene KL, et al., editors. Philadelphia, PA: Elsevier; 2022. 340–350 p.

[6]. Padubidri VG, Daftary SN. Shaw's Textbook of Gynecology. 16th ed. London: Elsevier Health Sciences APAC; 2014. 243–249 p.

[7]. Boivin J, Bunting L, Collins JA, Nygren KG. International estimates of infertility prevalence and treatment-seeking: potential need and demand for infertility medical care. Hum Reprod Oxf Engl. 2007 Jun;22(6):1506–12.

[8]. Infecundity, infertility, and childlessness in Developing Countries - DHS Comparative Reports No. 9 [Internet]. [cited 2025 Jan 23]. Available from: https://www.who.int/publications/m/item/infecundity-infertility-and-childlessness-in-developing-countries---dhs-comparative-reports-no.-9

[9]. Sciarra J. Infertility: an international health problem. Int J Gynaecol Obstet Off Organ Int Fed Gynaecol Obstet. 1994 Aug;46(2):155–63.

[10]. Jejeebhoy SJ, Population Council (India), editors. Looking back, looking forward: a profile of sexual and reproductive health in India. Jaipur : New Delhi: Rawat Publications ; Population Council; 2004. 240 p.

[11]. Martin JA, Hamilton BE, Sutton PD, Ventura SJ, Menacker F, Kirmeyer S. Births: final data for 2004. Natl Vital Stat Rep Cent Dis Control Prev Natl Cent Health Stat Natl Vital Stat Syst. 2006 Sep 29;55(1):1–101.

[12]. Kumar N, Singh AK. Trends of male factor infertility, an important cause of infertility: A review of literature. J Hum Reprod Sci. 2015;8(4):191–6.

[13]. Unisa S. Childlessness in Andhra Pradesh, India: Treatment-seeking and consequences. Reprod Health Matters. 1999 Jan 1;7(13):54–64.

[14]. Zargar AH, Wani AI, Masoodi SR, Laway BA, Salahuddin M. Epidemiologic and etiologic aspects of primary infertility in the Kashmir region of India. Fertil Steril. 1997 Oct;68(4):637–43.

[15]. Kumar D. Prevalence of female infertility and its socio-economic factors in tribal communities of Central India. Rural Remote Health. 2007;7(2):456.

[16]. Infertility T of. Towards More Objectivity in Diagnosis and Management of Male Infertility: Results of a World Health Organization Multicentre Study. Blackwell Scientific Publications; 1987. 53 p.

[17]. Kumar TCA. In vitro fertilization in India. Curr Sci. 2004;86(2):254–6.

[18]. Minhas S, Bettocchi C, Boeri L, Capogrosso P, Carvalho J, Cilesiz NC, et al. European Association of Urology Guidelines on Male Sexual and Reproductive Health: 2021 Update on Male Infertility. Eur Urol. 2021 Nov;80(5):603–20.

[19]. Gardner DG, Shoback D, Greenspan FS, editors. Greenspan's basic & clinical endocrinology. 10. edition. New York Chicago San Francisco Athens London Madrid Mexico City Milan New Dehli Singapore Sydney Tonronto: McGraw Hill Education; 2018. 413–442 p. (A Lange medical book).

[20]. Masson P, Brannigan RE. The varicocele. Urol Clin North Am. 2014 Feb;41(1):129–44.

[21]. Modgil V, Rai S, Ralph DJ, Muneer A. An update on the diagnosis and management of ejaculatory duct obstruction. Nat Rev Urol. 2016 Jan;13(1):13–20.

[22]. Salzano A, D'Assante R, Heaney LM, Monaco F, Rengo G, Valente P, et al. Klinefelter syndrome, insulin resistance, metabolic syndrome, and diabetes: review of literature and clinical perspectives. Endocrine. 2018 Aug;61(2):194–203.

[23]. Bojesen A, Juul S, Gravholt CH. Prenatal and postnatal prevalence of Klinefelter syndrome: a national registry study. J Clin Endocrinol Metab. 2003 Feb;88(2):622–6.

ISSN No: 2456-2165 https://doi.org/10.38124/ijisrt/25aug977

[24]. Morris JK, Alberman E, Scott C, Jacobs P. Is the prevalence of Klinefelter syndrome increasing? Eur J Hum Genet EJHG. 2008 Feb;16(2):163–70.
[25]. Hopps CV, Mielnik A, Goldstein M, Palermo GD, Rosenwaks Z, Schlegel PN. Detection of sperm in men with Y chromosome microdeletions of the AZFa, AZFb and AZFc regions. Hum Reprod Oxf Engl. 2003 Aug;18(8):1660–5.
[26]. Krausz C, Casamonti E. Spermatogenic failure and the Y chromosome. Hum Genet. 2017 May;136(5):637–55.
[27]. Meistrich ML. Effects of chemotherapy and radiotherapy on spermatogenesis in humans. Fertil Steril. 2013 Nov;100(5):1180–6.
[28]. Durairajanayagam D. Lifestyle causes of male infertility. Arab J Urol. 2018 Feb 13;16(1):10–20.
[29]. Thonneau P, Bujan L, Multigner L, Mieusset R. Occupational heat exposure and male fertility: a review. Hum Reprod Oxf Engl. 1998 Aug;13(8):2122–5.
[30]. Central Council for Research in Unani Medicine. Standard Unani Medical Terminology. New Delhi: Central Council for Research in Unani Medicine, Department of AYUSH, Ministry of Health & Family Welfare, Government of India; 2012. 268 p.
[31]. National Formulary of Unani Medicine. first ed. Vol. 4. New Delhi: Controller of Publications, Ministry of Ayush, Government of India; 2006. 179 p.
[32]. Kausar chand puri. Mojaz Al Qanoon. New Delhi: Taraqqi Urdu Bureau; 1988. 40.64-66,372-377.
[33]. Kabiruddin M. Sharah-e-Asbab (Tarjuma-e-Kabir). Vols. 3 and 4. New Delhi: Idara-e-Kitabul Shifa; 74–90 p.
[34]. Maseehul-mulk Hakeem Ajmal khan. Haziq. New Delhi: Idara-e-Kitabul Shifa; 2002. 414–439 p.
[35]. Kabiruddin M. Ifādah-yi Kabīr: mufassal. New Delhi: Idara-e-Kitabul Shifa; 14,15,141-166.
[36]. Nafis B. Kulliyat-e-Nafisi (Tarjuma-wo-Sharah). Vol. 1. New Delhi: Idara-e-Kitabul Shifa; 1954. 12,13,103-114.
[37]. Kabiruddin M. Ifādah-yi Kabīr: mujammal. Deoband: Faysal publications; 9,48-51.
[38]. Majusi AA. Kamil-Us-Sana. Translated by Gulam Husain Kantoori. Vol. 1. Lucknow, U.P: Munshi Nawal Kishor Press; 1889.
[39]. Ibn Sina. Al Qanoon fil'tib (Urdu Translation). New Delhi: Idara-e-Kitabul Shifa; 2007. 255–262 p.
[40]. Jurjani I. Zakheerah Khwarzam Shahi. Vol. 1. Lucknow, U.P: Munshi Nawal Kishor Press; 1960. 35–37 p.
[41]. Baitar I. Al Jami-il-Mufradat Al-Adwiya-wal-Aghziya (Urdu Translation). Vol. 1. New Delhi: CCRUM, Ministry Of AYUSH, Govt. Of India.
[42]. Najamul Ghani. Khazain ul Advia. New Delhi: Idara-e-Kitabul Shifa; 2011.
[43]. Khan HMA. Muheet-e-Azam (Urdu Translation). Vol. 1. New Delhi: CCRUM, Indian Offset Press; 2014.
[44]. Abdul Wadud. Text Book Of Single Drugs. Bengaluru: NIUM Publications; 2023.
[45]. Ambiye VR, Langade D, Dongre S, Aptikar P, Kulkarni M, Dongre A. Clinical Evaluation of the Spermatogenic Activity of the Root Extract of Ashwagandha (Withania somnifera) in Oligospermic Males: A Pilot Study. Evid-Based Complement Altern Med ECAM. 2013;2013:571420.
[46]. Shukla KK, Mahdi AA, Ahmad MK, Shankhwar SN, Rajender S, Jaiswar SP. Mucuna pruriens improves male fertility by its action on the hypothalamus-pituitary-gonadal axis. Fertil Steril. 2009 Dec;92(6):1934–40.
[47]. Khaleghi S, Bakhtiari M, Asadmobini A, Esmaeili F. Tribulus terrestris Extract Improves Human Sperm Parameters In Vitro. J Evid-Based Complement Altern Med. 2017 Jul;22(3):407–12.
[48]. Kolahdooz M, Nasri S, Modarres SZ, Kianbakht S, Huseini HF. Effects of Nigella sativa L. seed oil on abnormal semen quality in infertile men: a randomized, double-blind, placebo-controlled clinical trial. Phytomedicine Int J Phytother Phytopharm. 2014 May 15;21(6):901–5.
[49]. Hosseini J, Mardi Mamaghani A, Hosseinifar H, Sadighi Gilani MA, Dadkhah F, Sepidarkish M. The influence of ginger (Zingiber officinale) on human sperm quality and DNA fragmentation: A double-blind randomized clinical trial. Int J Reprod Biomed. 2016 Aug;14(8):533–40.
[50]. Soleimanzadeh A, Mohammadnejad L, Ahmadi A. Ameliorative effect of Allium sativum extract on busulfan-induced oxidative stress in mice sperm. Vet Res Forum Int Q J. 2018;9(3):265–71.
[51]. Das S, Singhal S, Kumar N, Rao CM, Sumalatha S, Dave J, et al. Standardised extract of safed musli (Chlorophytum borivilianum) increases aphrodisiac potential besides being safe in male Wistar rats. Andrologia. 2016 Dec;48(10):1236–43.
[52]. Mahmoud AA, Shaaban MAM, Basal WT. Anacyclus pyrethrum enhances fertility in cadmium-intoxicated male rats by improving sperm functions. BMC Complement Med Ther. 2024 Nov 27;24(1):409.
[53]. Sakr SA, Zowail ME, Marzouk AM. Effect of saffron (*Crocus sativus* L.) on sodium valporate induced cytogenetic and testicular alterations in albino rats. Anat Cell Biol. 2014;47(3):171.
[54]. Ahmad MK, Mahdi AA, Shukla KK, Islam N, Jaiswar SP, Ahmad S. Effect of *Mucuna pruriens* on semen profile and biochemical parameters in seminal plasma of infertile men. Fertil Steril. 2008 Sep 1;90(3):627–35.