

ASGANDH NAGORI (WITHANIA SOMNIFERA) AS MUQAWWI-E-BAH: A CORRELATIVE REVIEW OF UNANI APHRODISIAC CONCEPTS AND MODERN EVIDENCE ON MALE REPRODUCTIVE HORMONES AND FERTILITY

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ABSTRACT

Withania somnifera (L.) Dunal, known in Unani medicine as Asgandh or Asgandh Nagori, has been classified by classical Unani physicians as Muqawwi-e-Bah (aphrodisiac), Moallid-e-Mani (semen-producer), and Muqawwi-e-Aza-e-Raesa (tonic for vital organs) for over a millennium. Contemporary pharmacological and clinical research has independently converged on many of the same domains, demonstrating measurable effects of standardized root extracts on serum testosterone, spermatogenesis, and semen parameters in men. This review correlates the classical Unani rationale for the use of Asgandh Nagori in male sexual and reproductive debility with modern evidence drawn from randomized controlled trials, systematic reviews, and mechanistic studies published between 2013 and 2026. Particular attention is given to the Unani concept of Mizaj (hot-dry temperament) as a qualitative

precursor to the herb's now well-documented steroidogenic and hypothalamic-pituitary-gonadal (HPG) axis- modulating activity, mediated primarily by withanolides, the steroidal lactones that constitute the root's principal bioactive phytochemical class. The review also

addresses emerging safety concerns raised by European regulatory bodies, situating them alongside classical Unani cautions on dose and preparation. The Unani aphrodisiac framework for *Asgandh*, though pre-scientific in its vocabulary, anticipated several mechanisms subsequently validated by modern reproductive endocrinology, and further hypothesis-driven research bridging the two systems is warranted.

KEYWORDS: *Asgandh Nagori, Withania somnifera, Unani medicine, Muqawwi-e-Bah, testosterone, male infertility, withanolides, Mizaj.*

INTRODUCTION

Sexual and reproductive debility (*zoaf-e-bah*) has been recognized as a distinct clinical entity in Unani medicine (*Tibb-e-Unani*) since its foundational texts, with a dedicated category of drugs, *Muqawwi-e-Bah*, prescribed specifically to restore sexual vigor. Among these, *Asgandh Nagori*, the root of *Withania somnifera* (L.) Dunal, occupies a central position. Secondary Unani pharmacognosy literature attributes an early description of the drug to Dioscorides in *Kitab-ul-Hashaish* (78 AD), with subsequent elaboration across generations of Unani scholarship. *Asgandh* has traditionally been used singly (*Mufrad*) and in compound formulations (*Murakkab*) such as *Majoon-e-Asgand* for the management of sexual weakness, oligospermia, and general debility, as documented in classical Unani formularies (*Qarabadeen*) including *Qarabadeen-e-Azam* and *Qarabadeen Qadri*.^[1,2,4,20,21]

Over the past decade, this classical indication has attracted renewed scientific scrutiny. Randomized controlled trials have reported measurable increases in serum testosterone, improvements in semen parameters, and enhanced sexual function scores following standardized *Withania somnifera* root extract supplementation. This convergence between a centuries-old therapeutic category and a modern, hormonally defined outcome set offers a rare opportunity for structured correlation between traditional and modern medical epistemologies.^[9,10,11]

This review aims to (i) delineate the classical Unani conceptual basis for classifying *Asgandh Nagori* as *Muqawwi-e-Bah*, (ii) synthesize modern clinical and mechanistic evidence on its reproductive and hormonal effects, (iii) construct an explicit correlation between the two frameworks, and (iv) discuss safety considerations relevant to both systems of practice.



Figure 1: *Withania somnifera* (L.) Dunal (Asgandh Nagori). (a) Freshly harvested roots with attached foliage and mature orange-red berries; (b) whole plant with roots, fruiting branches, and powdered root (Sufoof); (c) field harvesting, showing the fleshy tuberous taproot system in situ.

METHODOLOGY

This narrative review draws on classical and pharmacopeial Unani sources documenting Asgandh specifically, including Makhzan-ul-Mufradat, Khazain-ul-Advia, Bustan-ul-Mufradat, Unani Advia-e-Mufradah, Mufradat-e-Azeezi, Muheet-e-Azam, and The Unani Pharmacopoeia of India, accessed through their standard published editions where available, and supplemented by citations in secondary Unani pharmacognosy review literature where original editions were not directly accessible. In parallel, a structured search of PubMed, Scopus, ScienceDirect, and Google Scholar was conducted using the terms "*Withania somnifera*", "Ashwagandha", "Asgandh", combined with "testosterone", "fertility", "sexual function", "aphrodisiac", and "reproductive hormones", restricted to publications between 2013 and 2026. Regulatory and safety literature published in 2025-2026 was additionally reviewed. Priority was given to randomized controlled trials, systematic reviews, and meta-analyses; preclinical and mechanistic studies were included where they clarified a proposed mode of action.

THE UNANI CONCEPTUAL FRAMEWORK

Botanical and Unani Pharmacognostic Profile

Table 1 summarizes the scientific taxonomic classification of *Withania somnifera*, and Table 2 lists selected vernacular names by which Asgandh Nagori is known across Indian and Middle Eastern languages.^[19]

Table 1: Scientific Classification of *Withania somnifera*.

Taxonomic Rank	Classification
Kingdom	Plantae
Division	Angiosperms
Class	Dicotyledon
Order	Tubiflorae
Family	Solanaceae
Genus	Withania
Species	somnifera

Table 2: Selected Vernacular Names of *Asgandh Nagori*.

Language	Vernacular Name
Arabic	Kakanj Hindi
English	Winter cherry
Hindi	Asgandh, Punir
Persian	Asgandh Nagori, Kaknjae Hindi
Sanskrit	Ashwagandha, Gandhrapatri, Palashparni, Varahapatri
Urdu	Asgand Nagori

Table 3 presents the complete classical Unani pharmacognostic profile of *Asgand*, consolidating its Mizaj, taste, odor, special action, dosing, corrective and substitute drugs, and compound formulations as documented in the Unani materia medica literature.^[19]

Table 3: Unani Pharmacognostic Profile of *Asgand* (*Bikh-i-Asgand*)

Attribute	Description
Unani Name	Asgand
Botanical Name	<i>Withania somnifera</i> (Linn.) Dunal (Family: Solanaceae)
Synonyms	<i>Withania ashwagandha</i> Kaul; <i>Physalis flexuosa</i> Linn.
Mizaj (Temperament)	Hot and Dry in the third degree
Maza (Taste)	Mucilaginous, bitter and acrid
Boo (Odor)	Pungent; resembling the odor of horse's urine
Nafa-e-Khas (Special Action)	Muqawwi-e-Bah (Aphrodisiac)
Parts Used	Dried roots
Chemical Constituents	Withanolides (steroidal lactones, principal bioactive class), alkaloids (withanine, somniferine, somnine), and free amino acids (glycine, tyrosine, alanine, proline, tryptophan, glutamic acid, cystine)
Muzir (Adverse Effect)	Harmful for the throat; not advised for persons of hot temperament
Musleh (Corrective)	Gargling with Joshanda Shehtoot Shereen for throat irritation; Kateera and Roghan for persons of hot temperament
Badal (Substitute)	Qust, Suranjan, and Behman Safaid
Miqdar-e-Khorak (Dose)	3-5 g (up to 14 g in some formulations)
Murakkabat	Majoon Muqawwi Reham, Majoon Zanjabeel, Habb-e-Asgand,

(Compound Formulations)	Majoon Suhaga, Majoon Salab, Majoon Samagh, Kushta Godanti, Halwa Gheekwar, Zimad Muhallil
Af'al (Actions)	Muqawwi-e-Bah (aphrodisiac), Moallid-e-Mani (semen producer), Muqawwi-e-Aam (general tonic), Muqawwi A'sab (nervine tonic), Musakkin (relaxant/sedative), Munawwim (hypnotic), Muhallil-e-Waram

Attribute Description

(anti-inflammatory), Muffatteh-e-Sudad (deobstruent), Musaffi-e-Khoon (blood purifier), Moaddil-e-Akhlat (humor-normalizing)^[1,2,3,5,6,7,8,19]

Of the Af'al (actions) listed above, this review focuses specifically on Muqawwi-e-Bah (aphrodisiac) and Moallid-e-Mani (semen producer), the two actions most directly relevant to male reproductive and sexual function; the remaining actions (nervine tonic, anti-inflammatory, sedative, deobstruent, blood-purifying, and humor-normalizing effects) are noted here for completeness but fall outside this review's primary scope.

Mizaj (Temperament) of Asgandh Nagori

Classical Unani pharmacognosy assigns Asgandh a Har-Yabis (hot and dry) Mizaj. The Unani Pharmacopoeia of India specifically grades it as Hot and Dry in the third degree. In Unani humoral theory, a hot-dry temperament is considered inherently stimulating to bodily heat (harart-e-ghariziya) and is thought to counteract cold-moist states of debility, including diminished sexual vigor, believed to result from an excess of cold and moist humors suppressing reproductive function.^[7]

Ghani's Khazain-ul-Advia similarly records the drug's hot-dry classification alongside its restorative indications. This qualitative reasoning, while pre-empirical, provided the theoretical basis on which later Unani physicians justified the drug's warming, stimulant, and restorative actions.^[2]

Muqawwi-e-Bah and Related Classical Indications

Unani classical texts describe Asgandh through several overlapping therapeutic categories directly relevant to sexual and reproductive health. The Unani classification of Muqawwi-e-Bah drugs draws on a broader tradition of Greco-Arab humoral medicine, within which South Asian encyclopedic compilations, most notably Hakim Azam Khan's Muheet-e-Azam, consolidated and documented the pharmacognosy of individual Mufradat, including Asgandh, for the Indian Unani tradition.^[5]

Within this broader tradition, later South Asian Unani pharmacopeial texts specifically attribute the following properties to Asgandh Nagori:

- Muqawwi-e-Bah (aphrodisiac) — enhances sexual desire and performance, and is used in the management of zoaf-e-bah (sexual debility) and psychogenic impotence.^[1,3]
- Moallid-e-Mani (semen-producer) — classically prepared as a powder taken with cow's milk to increase the quantity of mani (semen).^[2]
- Muqawwi-e-Aza-e-Raesa (tonic for vital organs) — strengthens the brain, heart, and reproductive organs collectively, reflecting a systemic rather than organ-isolated model of sexual health.^[6,7]
- Musakkin (sedative/calmative) — calms nervous excitability, addressing what modern medicine would term the psychogenic or stress-related component of sexual dysfunction.^[8]
- Muqawwi A'sab (nervine tonic) — strengthens the nervous system, an action classically linked to sexual and reproductive vigor given the nervous system's role in libido and erectile function.^[19]
- Musammin-e-Badan (body-nourishing/weight-promoting tonic) — promotes body weight and general nourishment, reflecting the classical view that sexual debility often co-occurs with, and is aggravated by, systemic wasting and poor nutritive state.^[19]

This constellation of indications is significant: Unani physicians did not conceive of sexual debility as a purely local or mechanical problem but as a systemic imbalance involving temperament, nervous constitution, and organ vitality simultaneously, a framework that anticipates the multi-axis (HPG-HPA-nervous system) model now used in reproductive endocrinology.

Classical Textual Sources

Table 4 lists the principal classical and pharmacopeial Unani texts in which Asgandh Nagori's aphrodisiac and reproductive-tonic properties are documented, together with the specific therapeutic categories each source attributes to the drug.

Table 4: Classical Unani Textual Sources for Asgandh Nagori.

Classical Text	Author / Era	Relevant Category Cited	Reference No.
Muheet-e-Azam	Hakim Azam Khan (1813-1902 CE)	Comprehensive encyclopedic compilation of Unani Mufradat, consolidating classical and South	[5]

		Asian pharmacognosy	
Makhzan-ul-Mufradat	Hakim Kabiruddin, 20th c. CE	Muqawwi-e-Bah classification of Asgandh	[1]
Khazain-ul-Advia	Hakim Najmul Ghani, 1920	Moallid-e-Mani and Muqawwi-e-Bah indications; preparation with milk	[2]
Bustan-ul-Mufradat	Hakim Abdul Hakeem, 2002	Musakkin (sedative) and nerve-calming properties	[8]
Unani Advia-e-Mufradah	S. S. Ali, 8th ed., 1997	Confirms Muqawwi-e-Bah classification of Asgandh Nagori	[3]
Mufradat-e-Azeezi	M. A. Haleem	Aza-e-Raeesa (vital organ) tonic classification	[6]
The Unani Pharmacopoeia of India	Dept. of AYUSH, Govt. of India, 2007	Official Mizaj grading (Hot and Dry, 3rd degree); standardized pharmacopeial description of Asgand	[7]

MODERN PHARMACOLOGICAL AND CLINICAL EVIDENCE

Phytochemical Basis: Withanolides

The pharmacological activity of *Withania somnifera* root is principally attributed to its withanolide content, steroidal lactones structurally related to endogenous steroid hormones, alongside alkaloids such as withanine, somniferine, and somnine. Structural similarity between withanolides and mammalian steroid precursors has been proposed as a partial mechanistic explanation for the herb's demonstrated steroidogenic activity, including stimulation of testicular Leydig cell function and downstream elevation of serum testosterone.^[4,18]

Effects on Male Reproductive Hormones and Fertility

A pilot randomized controlled trial in oligospermic men receiving 675 mg/day of full-spectrum Ashwagandha root extract over 90 days reported substantial improvements in semen quality and hormonal status.^[9]

Table 5: Summary of Key Clinical Trials on *Withania somnifera* and Male Reproductive Outcomes.

Study (Year)	Design / n	Population	Key Reproductive/Hormonal Outcome
Ambiye et al. (2013) [12]	RCT, n=46	Oligospermic men	167% increase in sperm count, 53% increase in semen volume, 57% increase in motility, elevated serum testosterone
Nasimi Doost Azgomi et al. (2018) [13]	Triple-blind RCT	Idiopathic male infertility	Comparable improvement in sperm parameters versus pentoxifylline
Chauhan et al. (2022) [14]	RCT	Adult males	Improved well-being and sexual performance scores

Frontiers in Reproductive Health (2026) [15]	RCT, 8-week	Healthy men	Notable increase in total and free testosterone; improved sexual function and quality-of-life domains
Mishra & Kumar, cited in Brendler (2025) [13]	RCT, n=60 (dose-dependent)	Both sexes	Testosterone increased at 60 mg and 120 mg doses in males only; changes remained within normal physiological range

Across these studies, the pattern is consistent: standardized root extracts, at daily doses ranging roughly from 300 mg to 675 mg over 8 to 12 weeks, produce measurable increases in total and/or free testosterone alongside improvements in semen parameters and subjective sexual function, generally without significant adverse events in short-to-medium term use.^[9,10,11,12]

Mechanistic Correlates: HPA-HPG Axis Modulation

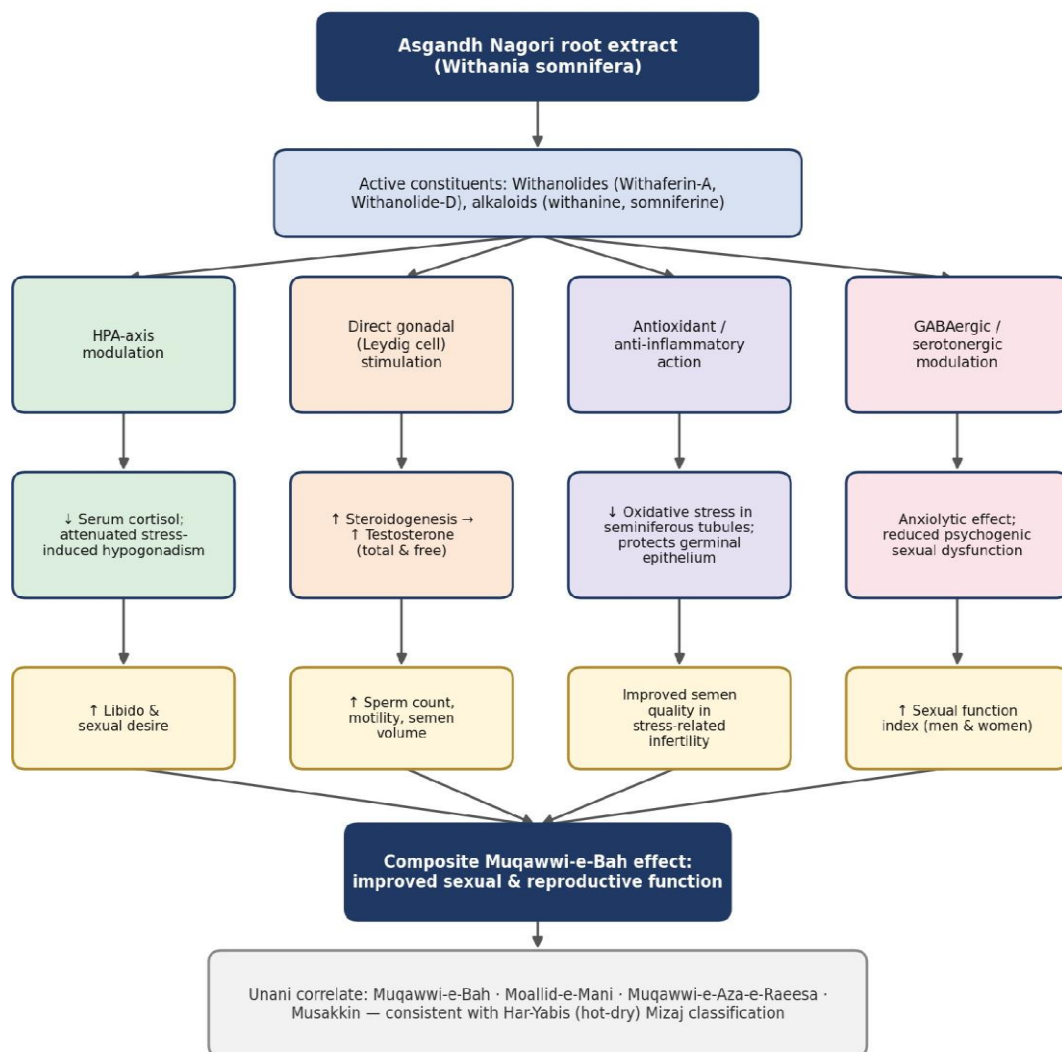
A 2025 systematic evaluation assessed the hormonal activities of *Withania somnifera* across the thyroid, hypothalamic-pituitary-adrenal (HPA), and hypothalamic-pituitary-gonadal (HPG) axes. It found that testosterone increased in a dose-dependent manner with extract dosage in men, and proposed that fertility benefits are likely mediated substantially by this testosterone elevation, layered on top of the herb's independently documented cortisol-lowering, anti-stress effect. This dual action, direct gonadal stimulation combined with attenuation of stress-induced hypogonadism via HPA axis modulation, offers a plausible modern mechanistic counterpart to the combined Muqawwi-e-Bah (direct tonic) and Musakkin (calmative) classification assigned by Unani physicians centuries earlier.^[13,14]

Integrated Mechanism of Action

Figure 2 synthesizes the proposed mechanistic pathways by which *Asgandh Nagori* root extract exerts its Muqawwi-e-Bah effect, integrating withanolide-mediated steroidogenesis, HPA-axis modulation, antioxidant protection of the germinal epithelium, and anxiolytic/GABAergic action into a single schematic, alongside their corresponding classical Unani categories.^[9,13,12,14]

Mechanism of Action: Asgandh Nagori (*Withania somnifera*)

From Unani Muqawwi-e-Bah classification to modern reproductive-endocrine pathways



Schematic synthesis based on Ambiyé et al. 2013; Brendler 2025 (Phytother. Res.); Frontiers Reprod. Health 2026; Lopresti & Smith 2021. Arrows indicate proposed mechanistic sequence, not all pathways are fully characterized in humans.

Figure 2: Proposed integrated mechanism of action of Asgandh Nagori (*Withania somnifera*) underlying its classical Muqawwi-e-Bah classification.

Unani-Affiliated Institutional Research

Beyond phytopharmacological trials conducted in general clinical or nutraceutical settings, at least one relevant preclinical study originates directly from a Unani-affiliated medical institution. A 2024 preclinical study from the Department of Pharmacology, Hamdard Institute of Medical Sciences and Research (HIMSR), the modern biomedical research wing of Jamia Hamdard, examined *Withania somnifera*'s neurobehavioural and immunological effects in an animal model of post-traumatic stress disorder, providing mechanistic support relevant to the classical Musakkin (calmative) classification.^[15]

This institutionally grounded study indicates that research relevant to Asgandh's Muqawwi-e-Bah indication is being pursued, albeit at a smaller scale and with fewer large randomized trials, from within institutions connected to the Unani academic tradition, strengthening the case for continued correlative and translational research.

CORRELATING UNANI AND MODERN FRAMEWORKS

Table 6 summarizes the correlation between specific Unani therapeutic categories historically applied to Asgandh Nagori and their corresponding modern pharmacological or clinical correlates.

Table 6: Correlation Between Unani Therapeutic Categories and Modern Pharmacological Evidence.

Unani Concept	Classical Attribution (Asgandh Nagori)	Modern Pharmacological Correlate	Representative Evidence
Mizaj (Temperament)	Har-Yabis (hot and dry), 3rd degree, per The Unani Pharmacopoeia of India	Steroidogenic and thermogenic activity; withanolide-mediated stimulation of Leydig cell steroidogenesis	[7]
Muqawwi-e-Bah (Aphrodisiac)	Principal indication in Unani classics; enhances sexual vigor and treats sexual debility (zoaf-e-bah)	Significant increases in total and free serum testosterone in men; improved sexual function indices	[9,12]
Moallid-e-Mani (Semen producer)	Powder with milk traditionally used to increase quantity of mani (semen)	Increased sperm concentration, semen volume, and motility in oligospermic men (167% rise in count)	[9]
Muqawwi-e-Aza-e-Raeesa	Tonic for vital organs (brain, heart, reproductive organs)	Modulation of the hypothalamic-pituitary-gonadal (HPG) and HPA axes; cortisol reduction lowering stress-induced hypogonadism	[13]
Musakkin (Sedative/Calmative)	Calms nervous excitability contributing to psychogenic sexual dysfunction	Anxiolytic effect via GABA-mimetic and cortisol-lowering action, alleviating stress-related dysfunction	[14]

The correlation is strongest for the direct aphrodisiac and semen-related indications (Muqawwi-e-Bah, Moallid-e-Mani), where modern RCT endpoints (testosterone, sperm count, motility) map closely onto classical descriptions. The correlation is more inferential

for systemic categories such as Muqawwi-e-Aza-e-Raeesa, where the Unani framework's holistic, multi-organ model corresponds only loosely to discrete modern axes (HPG, HPA) that were not conceptually separated in classical humoral theory.

SAFETY CONSIDERATIONS: CLASSICAL CAUTION AND CONTEMPORARY REGULATORY CONCERN

Unani pharmacological texts have historically emphasized dose-dependent grading of Mizaj and caution against indiscriminate or prolonged use of hot-dry drugs, implicitly recognizing a therapeutic window. This principle has acquired renewed relevance: since 2023, regulatory bodies in Denmark, the Netherlands, France, Belgium, Germany, and Poland have raised concerns regarding ashwagandha's safety in food supplements, with pharmacovigilance databases recording hepatobiliary adverse event reports associated with its use, prompting the European Union to consider a restrictive procedure under Regulation (EC) No. 1925/2006.^[16]

A 2025-2026 series of papers has since evaluated these concerns systematically; available data suggest that standardized root-extract formulations at studied doses are generally well tolerated, though dose vigilance and caution in individuals with pre-existing hepatic impairment remain warranted. This modern regulatory debate resonates with the older Unani caution that a hot-dry Mufrad, however therapeutically valuable, requires attention to dose, preparation, and individual temperament (Mizaj) rather than indiscriminate use.^[17]

DISCUSSION

The convergence between Unani Muqawwi-e-Bah indications and modern reproductive endocrinology findings for Asgandh Nagori is notable in both its extent and its limits. Where classical description was specific and testable, increased semen quantity, enhanced sexual vigor, modern trials have largely corroborated the claim using contemporary hormonal and seminal parameters. Where classical description was systemic and qualitative, hot-dry temperament restoring vital organ strength, the correlation is necessarily interpretive, since Unani humoral physiology and modern endocrinology do not share a common ontology. Nonetheless, the directional agreement across a millennium of clinical observation and a decade of controlled trials strengthens the case for continued translational research using Unani indications as a hypothesis-generating framework rather than a merely historical curiosity.

Limitations of the current evidence base should be acknowledged. Most clinical trials are of

short duration (8-12 weeks), employ heterogeneous proprietary extracts that are not directly interchangeable, and are frequently sponsor-funded. Sample sizes in fertility-specific trials remain modest. Comparative studies explicitly designed to test Unani-predicted outcomes, such as differential effect by baseline Mizaj classification of the patient, do not yet exist and represent an important gap for future integrative research.

CONCLUSION

Asgandh Nagori's classification as Muqawwi-e-Bah in Unani medicine anticipated, in qualitative and systemic terms, several mechanisms now substantiated by modern reproductive endocrinology, including testosterone elevation, improved spermatogenesis, and stress-axis modulation. Modern regulatory scrutiny over safety echoes, in a contemporary idiom, the classical Unani emphasis on dose and temperament-based caution. Structured, hypothesis-driven trials that explicitly test Unani-derived predictions represent a promising direction for future integrative pharmacological research on this widely used drug.

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