ORIGINAL RESEARCH PAPER

Unani Medicine

AN INTEGRATIVE REVIEW OF POSTMENOPAUSE: BIOMEDICAL CONCEPTS AND THE UNANI PERSPECTIVE ON MANAGEMENT

KEY WORDS:

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ABSTRACT

Postmenopause is the life stage following the final menstrual period and is characterized by permanent cessation of ovarian follicular activity, reduced estrogen production and progressive systemic changes. Menopause is clinically confirmed after 12 consecutive months of amenorrhea in the absence of another physiological or pathological cause. The postmenopausal period may be associated with vasomotor symptoms, sleep disturbance, psychological symptoms, genitourinary syndrome of menopause, sexual dysfunction, changes in body composition, osteoporosis and increasing cardiometabolic risk. Contemporary biomedical management emphasizes individualized care, lifestyle modification, risk-factor assessment, nonhormonal therapy, local vaginal treatment and menopausal hormone therapy where benefits outweigh risks. Unani medicine approaches postmenopause as an age-related physiological transition. Although a direct classical equivalent of menopause is not uniformly described, it is generally correlated with Sinn al-Yas, Sinn-i-Inhitat and Ihtibas al-Tamth. The Unani explanation emphasizes age-related alteration in Mizaj (temperament), decline in Hararat-e-Ghariziyya (innate heat), disturbed humoral equilibrium and reduced functional strength of the reproductive organs. Management is based on Ilaj bil-Tadbir (regimental therapy), Ilaj bil-Ghidha (dietotherapy), Ilaj bil-Daw (pharmacotherapy) and supportive lifestyle measures. This narrative integrative review synthesizes biomedical concepts of postmenopause with the Unani understanding of age-related female reproductive decline. It proposes a patient-centred model in which evidence-based biomedical diagnosis and treatment remain essential, while safe, standardized and clinically evaluated Unani interventions may be considered as adjuncts for symptom relief, lifestyle support and improvement of quality of life. Current evidence for individual botanicals is promising but heterogeneous; therefore, rigorous clinical trials, pharmacovigilance and product-standardization studies are necessary before broad therapeutic recommendations can be made.

INTRODUCTION

Menopause is a normal biological event that marks the permanent end of menstruation due to depletion of ovarian follicles and loss of ovarian reproductive function. It is confirmed retrospectively after 12 consecutive months of amenorrhea without another identifiable cause. The menopausal transition usually begins in the mid-40s, and the average age at the final menstrual period is approximately 51 years, although timing differs between populations and individuals.

Postmenopause extends from the final menstrual period until the end of life. It is associated with reduced production of estradiol and progesterone, increased gonadotropin levels, and alterations in reproductive, skeletal, metabolic, cardiovascular, urogenital and neuropsychological health. The experience of postmenopause is highly variable. Some women have minimal symptoms, whereas others experience severe vasomotor symptoms, sleep disturbance, genitourinary complaints or reduced quality of life.

Biomedical care has advanced substantially through evidence-based diagnosis, risk stratification, menopausal hormone therapy, nonhormonal treatments and preventive strategies. However, many women seek traditional, complementary and integrative approaches for a more holistic, culturally acceptable and individualized model of care. Traditional medicine has long emphasized the interaction of body, mind, behaviour, diet and environment. The World Health Organization recognizes the potential contribution of traditional, complementary and integrative medicine, but stresses that its integration must be safe, scientifically evaluated, regulated and evidence-informed.

Unani medicine, also called Unani Tibb, is a traditional Greco-Arabic medical system practised widely in South Asia and other regions. It provides a personalized approach based on *Mizaj*, humoral balance, lifestyle regulation and individualized therapy. This review discusses postmenopause through both biomedical and Unani perspectives and proposes an evidence-informed approach for integrative care.

Objectives

This review aims to:

- Describe the biomedical concept, endocrinology and clinical manifestations of postmenopause.
- Discuss the Unani interpretation of postmenopausal changes.
- Review contemporary biomedical management of common postmenopausal symptoms.
- Identify potential roles and limitations of Unani regimens and botanicals.
- Propose an evidence-informed integrative approach to postmenopausal care.

Biomedical Concept of Postmenopause

Definition and Stages

Natural menopause is defined as permanent cessation of menstruation resulting from the loss of ovarian follicular activity. Postmenopause begins after the final menstrual period has been confirmed by 12 months of amenorrhea.

Important related terms include:

Term	Biomedical meaning
Perimenopause	Menopausal transition before the final menstrual period, often marked by irregular cycles and fluctuating hormonal levels

Menopause	Final menstrual period, confirmed retrospectively after 12 months of amenorrhea
Postmenopause	Life stage after menopause
Early menopause	Menopause occurring between 40 and 44 years of age
Premature ovarian insufficiency	Loss of ovarian function before 40 years of age
Surgical menopause	Abrupt menopause following bilateral oophorectomy
Iatrogenic menopause	Menopause caused by chemotherapy, radiotherapy or medical treatment

Menstrual changes can occur during perimenopause, but bleeding after menopause is not considered normal and must be evaluated. Causes may include endometrial atrophy, polyps, endometrial hyperplasia, infection, medication effects and genital tract malignancy.

Endocrinological Changes

The menopausal transition results from a progressive decline in the number and quality of ovarian follicles. As ovarian activity decreases, estradiol and inhibin production decline. Reduced negative feedback at the hypothalamic–pituitary level results in increased secretion of follicle-stimulating hormone and luteinizing hormone.

The Principal Hormonal Changes Include:

- Decline in ovarian estradiol production.
- Decline in progesterone because ovulation and corpus luteum formation become irregular and finally cease.
- Decline in inhibin B, leading to a pronounced rise in FSH.
- Increase in LH, though generally less marked than the rise in FSH.
- Predominance of estrone, produced by peripheral aromatization of androgen precursors, after menopause.
- Relative alteration in the estrogen-androgen balance, which may contribute to mild facial hair growth in some women.

Hormone levels fluctuate during the menopausal transition. Therefore, in women aged 45 years or older with characteristic symptoms and menstrual changes, diagnosis is usually clinical rather than based on routine FSH or estradiol testing.

Clinical Manifestations

Vasomotor Symptoms

Vasomotor symptoms include hot flashes and night sweats. They may present as sudden warmth of the face, neck or chest, flushing, sweating, palpitations and chills. Night sweats can disrupt sleep and contribute to fatigue, irritability and impaired daytime functioning.

The severity and duration of symptoms vary widely. Persistent severe flushing, especially when accompanied by weight loss, fever, unusual palpitations or other red-flag features, warrants evaluation for conditions other than menopause.

Sleep and Psychological Symptoms

Sleep disturbance is common, particularly in women with night sweats. Some women report irritability, reduced concentration, low mood, anxiety, memory concerns and fatigue. These symptoms are multifactorial and may be influenced by sleep loss, psychosocial stress, depression, thyroid disease, chronic illness and medication use.

Genitourinary Syndrome of Menopause

Genitourinary syndrome of menopause includes symptoms caused by estrogen-related changes in the vulva, vagina, urethra and bladder. Common features include:

- Vaginal dryness, burning and irritation.
- Reduced vaginal lubrication.
- Dyspareunia.
- Reduced tissue elasticity.
- Urinary urgency and frequency.
- Dysuria.
- Recurrent urinary tract symptoms.
- Sexual discomfort and reduced quality of life.

Unlike hot flashes, genitourinary symptoms may persist or progress over time without treatment.

Skeletal and Musculoskeletal Effects

Estrogen deficiency accelerates bone turnover and contributes to bone loss. This increases the risk of osteopenia, osteoporosis and fragility fractures. Bone-health assessment should include age, previous fracture, family history, smoking, alcohol use, low body weight, glucocorticoid exposure, rheumatoid arthritis and other secondary causes of osteoporosis.

Musculoskeletal complaints, including joint pain, muscle aches and reduced muscle mass, are also frequently reported. Aging, inactivity, vitamin D deficiency, obesity and osteoarthritis may contribute and should be considered clinically.

Cardiometabolic Changes

Postmenopause is often associated with increased central adiposity, reduced lean mass, changes in lipid profile and worsening insulin sensitivity. However, these changes are not caused by estrogen decline alone. Aging, diet, physical inactivity, sleep disturbance, obesity and pre-existing metabolic disease also play major roles.

Cardiovascular risk prevention should include regular blood-pressure assessment, lipid screening, diabetes risk assessment, exercise, healthy diet, smoking cessation and weight management. Systemic hormone therapy should not be prescribed solely to prevent cardiovascular disease.

Unani Perspective on Postmenopause

Terminology and Conceptual Correlation

Classical Unani literature does not provide one universally identical term for biomedical menopause. However, the phenomenon of cessation of menstruation with advancing age is commonly correlated with:

- Sinn al-Yas — age of cessation or despair, commonly used in relation to menopause.
- Sinn-i-Inhitat — age of decline.
- Sinn-i-Kuhulat or later-life transition, depending on the classical source and clinical context.
- Ihtibas al-Tamth — cessation or retention of menstruation.

The modern biomedical definition of menopause should not be treated as fully interchangeable with these classical terms. Rather, the Unani terms offer a conceptual framework for understanding age-related reproductive decline, altered temperament and health maintenance.

Mizaj and Humoral Balance

Unani medicine is founded on the principles of four elements, four qualities, four humours and individual temperament. Health is understood as a state of balanced Mizaj and humours, whereas disease or dysfunction results from qualitative or quantitative imbalance.

In the Unani interpretation, advancing age is associated with progressive decline in Hararat-e-Ghariziyya and Rutoobat-e-Ghariziyya—innate heat and innate moisture. This may lead to relative predominance of Barid-Yabis Mizaj or cold-dry temperament. Menstrual cessation may be viewed in relation to reduced formation and movement of Dam (blood), altered uterine function and systemic age-related change.

Symptoms such as dryness, sleep disturbance, fatigue, myalgia, anxiety, low mood and weight changes may be interpreted within this framework. The purpose of management is not simply suppression of symptoms but

restoration of balance, preservation of organ function and promotion of healthy aging.

Principles of Management in Unani Medicine

The four principal modes of treatment in Unani medicine are:

Unani principle	Meaning	Potential role in postmenopausal care
Ilaj bil-Tadbir	Regimental therapy	Exercise, massage, hammam where appropriate, sleep regulation and mental relaxation
Ilaj bil-Ghidha	Dietotherapy	Individualized dietary advice, adequate nourishment and avoidance of dietary excess
Ilaj bil-Dawa	Pharmacotherapy	Carefully selected, standardized and clinically evaluated botanical preparations
Ilaj bil-Yad	Surgery/manual intervention	Limited relevance; biomedical referral is essential when indicated

Unani management should be individualized after assessment of *Mizaj*, symptoms, age, body composition, sleep, diet, bowel habits, psychosocial stress and comorbid illness.

Contemporary Biomedical Management

Lifestyle Intervention

Lifestyle management is the foundation of postmenopausal care. Recommended measures include:

- Regular aerobic activity and resistance training.
- Weight-bearing exercise to support bone health.
- Adequate dietary protein, calcium and vitamin D as clinically appropriate.
- Consumption of fruits, vegetables, whole grains, legumes and healthy fats.
- Reduction of ultra-processed foods, excess salt and added sugars.
- Smoking cessation.
- Limitation of alcohol consumption.
- Sleep hygiene and assessment for sleep disorders.
- Stress-management practices and mental-health support.
- Regular screening for hypertension, diabetes, dyslipidemia, breast cancer, cervical cancer and colorectal cancer according to national guidelines.

Menopausal Hormone Therapy

Systemic menopausal hormone therapy is the most effective treatment for troublesome vasomotor symptoms and may help prevent bone loss in appropriately selected women. Treatment should be individualized according to age, time since menopause, symptoms, uterus status, comorbidities, route of administration and patient preference.

Women with an intact uterus who use systemic estrogen generally require a progestogen for endometrial protection. Estrogen-only therapy may be appropriate after hysterectomy, subject to individualized clinical evaluation.

Hormone therapy is not suitable for all women. Important contraindications or situations requiring specialist assessment include unexplained vaginal bleeding, certain estrogen-sensitive cancers, active or previous thromboembolic disease, stroke, significant liver disease and high-risk cardiovascular conditions. The North American Menopause Society identifies hormone therapy as the most effective treatment for vasomotor symptoms and genitourinary syndrome of menopause, while emphasizing individualized assessment of benefits and risks.

Nonhormonal Treatment

Nonhormonal approaches may be considered for women who cannot use, do not wish to use or do not respond adequately to hormone therapy. Depending on individual circumstances, these may include selected SSRIs or SNRIs, gabapentin, clonidine and neurokinin-3 receptor antagonists where available and clinically appropriate.

For vaginal dryness and dyspareunia, first-line options may include lubricants and vaginal moisturizers. Low-dose vaginal estrogen or other locally acting therapies can be considered when symptoms persist and there is no contraindication. Nonhormonal options for vasomotor symptoms may include selected antidepressants, gabapentin, fezolinetant where available and clinically appropriate, and other evidence-based interventions. Choice depends on symptom pattern, comorbidities, drug interactions, patient preference and local availability. Complementary and traditional remedies should be discussed openly because evidence, product quality and drug interactions vary.

Postmenopausal bleeding

Any postmenopausal bleeding, including staining or spotting, requires prompt clinical evaluation. While endometrial atrophy is a common cause, bleeding may indicate endometrial hyperplasia, polyps or cancer. Evaluation may involve pelvic examination, transvaginal ultrasonography, endometrial sampling or hysteroscopy depending on clinical findings.

Integrative Management Through Unani Medicine

An integrative model does not mean replacing biomedical care with traditional medicine. It means combining safe, appropriate and evidence-informed traditional practices with biomedical evaluation and treatment.

Ilaj bil-Tadbir

Regimental measures may be useful as supportive approaches:

- **Riyazat (physical activity):** Regular, individualized exercise can support mood, sleep, weight management, muscle strength and bone health.
- **Dalk (massage):** Gentle massage may promote relaxation and reduce the subjective burden of muscle discomfort. It should be avoided or modified in acute inflammation, thrombosis, severe osteoporosis or skin disease.
- **Hammam or Warm Bathing:** May promote relaxation and temporary relief of musculoskeletal discomfort. Care is needed in women with uncontrolled hypertension, cardiac disease, frailty or heat intolerance.
- **Tadeel-e-Nawm wa Yaqzah:** Regulation of sleep and wakefulness may benefit insomnia, fatigue and mood symptoms.
- **Tafreeh-e-Nafs:** Recreation, social support, prayer, meditation, breathing exercises and counselling may help manage stress and improve psychological well-being.

Ilaj bil-Ghidha

Dietary advice should aim for balanced nourishment rather than unsubstantiated "hormone-balancing" claims. An integrative diet may include:

- Adequate protein from pulses, dairy, eggs, fish or other appropriate sources.
- Calcium-rich foods and vitamin D assessment where indicated.
- Fibre-rich foods, fruits, vegetables, nuts and whole grains.
- Hydration and regular meals.
- Reduced intake of tobacco, excess caffeine, excess refined sugar and highly processed foods.
- Attention to body weight, diabetes, hypertension and dyslipidemia.

Diet should be individualized in women with kidney disease, diabetes, liver disease, gastrointestinal disorders or drug–food interactions.

Ilaj bil-Dawa: Botanicals

Several botanicals used in Unani medicine have been

investigated for menopausal symptoms. These include Withania somnifera (Asgandh), Nigella sativa (Shuniz), Melissa officinalis (Badranjboya), Foeniculum vulgare (Badiyan), Crocus sativus (Za'faran), Matricaria chamomilla (Babuna), Salvia officinalis, Vitex agnus-castus and Glycyrrhiza glabra.

Research findings should be interpreted cautiously. The available trials differ in botanical preparation, dose, standardization, duration, study design, symptom scales and participant characteristics.

Therefore:

- Botanicals should not be presented as substitutes for indicated hormone therapy, osteoporosis treatment, cancer screening or evaluation of abnormal bleeding.
- Preparations must be accurately identified, standardized and obtained from regulated sources.
- Women should disclose all herbal products to their physician and Unani practitioner.
- Potential interactions with anticoagulants, antidiabetic drugs, antihypertensives, thyroid medicines, psychotropic medicines and hormone therapies must be reviewed.
- Women with hormone-sensitive cancers, liver disease, renal disease, epilepsy, bleeding disorders or polypharmacy require special caution.
- Adverse effects should be recorded and reported through appropriate pharmacovigilance systems.

Proposed Integrative Clinical Framework

1) Confirm the Clinical Stage

Assess menstrual history, menopausal symptoms, pregnancy possibility where relevant, medication use and medical history. In women aged 45 years or older with typical symptoms, menopause is usually diagnosed clinically.

2) Identify red flags

Immediate biomedical assessment is required for:

- Any postmenopausal bleeding.
- New breast lump or nipple discharge.
- Severe pelvic pain or abdominal distension.
- Unexplained weight loss, fever or persistent fatigue.
- Severe depression, suicidal thoughts or disabling anxiety.
- New severe headache, neurological symptoms or chest pain.
- Suspected fragility fracture.
- Premature menopause or amenorrhea before 40 years of age.

3) Assess Symptoms and Risks

Evaluate vasomotor symptoms, sleep, mood, sexual health, urinary symptoms, cardiovascular risk, bone health, body weight and medication use. Use validated symptom measures where feasible.

4) Provide Shared Decision-making

Discuss the benefits, limitations and risks of:

- Lifestyle measures.
- Hormonal treatment.
- Nonhormonal pharmacotherapy.
- Local genitourinary treatment.
- Unani diet and regimental measures.
- Carefully selected adjunctive botanical therapy.

5) Monitor Outcomes and Safety

Review symptom relief, quality of life, adverse effects, adherence, blood pressure, weight, glucose and lipid profile as clinically indicated. Reassess the need for each intervention periodically.

DISCUSSION

Postmenopause is a complex biological stage involving endocrine changes, but its clinical expression is highly individual. The original view that all late-life conditions in women are direct consequences of estrogen deficiency is overly simplistic. Vasomotor symptoms, genitourinary changes and accelerated bone loss are closely related to ovarian hormone decline, whereas cardiovascular disease, obesity, cognitive symptoms and cancer risk are influenced by multiple interacting factors.

Several commonly used statements require careful qualification. Hormone concentrations vary between laboratories and individuals, so fixed serum thresholds should not be used as universal diagnostic criteria. Similarly, routine FSH testing is not required for most women aged 45 years or older with typical symptoms. Claims that hormone therapy prevents Alzheimer's disease or cardiovascular disease should be avoided because current evidence does not support prescribing systemic hormone therapy for those primary-prevention purposes.

A modern approach should therefore combine symptom relief with preventive healthcare, shared decision-making and attention to the woman's personal goals. Menopause care should also incorporate sexual health, mental health, bone health, cardiovascular risk and the possibility of serious causes of abnormal bleeding.

Postmenopause should be understood as a normal life transition with diverse biological, psychological and sociocultural dimensions. Biomedical science explains the decline in ovarian hormone production and its systemic effects, while Unani medicine provides a holistic interpretation based on temperament, humoral balance, diet, lifestyle and preservation of innate vitality.

The two perspectives may be complementary when their respective limits are recognized. Biomedical care is indispensable for diagnosing menopause-related conditions, excluding malignancy, managing osteoporosis, evaluating cardiovascular risk and treating severe symptoms. Unani medicine may contribute through person-centred lifestyle counselling, dietary regulation, psychological support and selected adjunctive interventions.

The principal challenge is evidence quality. Traditional use alone does not establish clinical safety or effectiveness. WHO supports evidence-based, regulated integration of traditional medicine and emphasizes quality assurance, pharmacovigilance, practitioner competence and rigorous scientific validation.

Future research should prioritize adequately powered randomized trials of standardized Unani formulations, transparent reporting of ingredients and doses, long-term safety monitoring, comparison with placebo and standard care, and validated outcomes such as the Menopause Rating Scale, Menopause-Specific Quality of Life questionnaire, sleep measures and bone-health outcomes.

CONCLUSION

Postmenopause is a significant physiological stage characterized by ovarian follicular depletion, estrogen deficiency and variable systemic effects. Common clinical manifestations include vasomotor symptoms, sleep disturbance, mood changes, genitourinary syndrome of menopause, sexual concerns, bone loss and increased cardiometabolic risk. Postmenopause is a normal but clinically important phase characterized by persistent ovarian failure, low estrogen activity and elevated gonadotropin concentrations. It may produce vasomotor symptoms, genitourinary changes, sleep and mood disturbances, altered body composition, bone loss and increasing cardiometabolic risk. Diagnosis is usually clinical in women aged 45 years or older, while younger women and those with atypical presentations require additional evaluation. Management should be individualized and should include lifestyle modification, prevention of osteoporosis and cardiovascular disease, treatment of vasomotor and genitourinary symptoms, and prompt assessment of

postmenopausal bleeding. Contemporary care should avoid unsupported claims, recognize individual variation and use shared decision-making when considering hormone therapy.

Unani medicine interprets this phase through concepts of age-related decline, altered Mizaj, reduced Hararat-e-Ghariziyya and Ihtibas al-Tamth. Its emphasis on lifestyle regulation, diet, individualized regimens and supportive botanical therapy may offer value within an integrative model of care.

However, integrative practice must remain evidence-based. Postmenopausal bleeding and other red-flag symptoms require prompt biomedical evaluation. Unani interventions should be used as supportive measures only after consideration of diagnosis, safety, product quality, interactions and available clinical evidence. A coordinated approach involving gynecologists, primary-care clinicians and qualified Unani practitioners can support safe, culturally sensitive and patient-centred postmenopausal care.

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