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Unani Medicine

Traditional Unani and Contemporary Approaches to Acne: A Unified Review

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Abstract **Review Article**

Acne vulgaris, known as *Busoore Labaniya* in the Unani System of Medicine (USM), is a chronic inflammatory disorder of the pilosebaceous unit, affecting a significant portion of adolescents and adults worldwide. This review integrates conventional and Unani perspectives to provide a comprehensive analysis of its etymology, historical context, epidemiology, pathophysiology, clinical manifestations, diagnosis, psychosocial impact, treatment modalities, prognosis, limitations, and future research directions. Conventional medicine targets sebum overproduction, hyper keratinization, microbial colonization, and inflammation using topical and systemic therapies. USM views *Busoore Labaniya* as a *Maddi* (matter involving) disease caused by *Balgham* (phlegm) imbalance, advocating holistic interventions like dietotherapy, regimenal therapy, pharmacotherapy, and psychotherapy. By synthesizing both systems, this paper highlights their complementary strengths, addresses limitations such as antibiotic resistance and lack of Unani standardization, and proposes strategies to enhance acne management through integrative approaches.

Keywords: *Unani Medicine; Busoore Labaniya; Acne Vulgaris; Dietotherapy; Regimenal Therapy; Pharmacotherapy; Psychotherapy.*

INTRODUCTION

Acne vulgaris, referred to as *Busoore Labaniya* in USM, is one of the most common dermatological conditions, characterized by polymorphic lesions including "comedones, papules, pustules, nodules, and cysts". It affects approximately 90% of adolescents and persists into adulthood in up to 50% of cases, particularly impacting females due to hormonal influences [1]. Conventional medicine employs targeted therapies like retinoids, antibiotics, and laser treatments to address specific pathophysiological mechanisms, while USM adopts a holistic framework, attributing acne to humoral imbalances, particularly *Balgham*, and emphasizing personalized interventions through diet, lifestyle, and psychological support. This review, synthesizes both systems to explore the condition's etymology, historical context, epidemiology, pathophysiology, clinical manifestations, diagnosis, psychosocial impact, treatment approaches, prognosis, limitations, and suggestions for future research. By integrating these approaches, the paper aims to provide a comprehensive framework for effective acne management, addressing both physical and psychosocial dimensions.

Etymology and Historical Contextualization:

The term *acne vulgaris* originates from the Greek *akme*, meaning point, peak, or prime of life, and the Latin *vulgaris*, meaning common, reflecting its high prevalence during adolescence, a period marked by hormonal surges and follicular inflammation [2,3]. Historically, acne has been documented across ancient civilizations. In Egypt, the Ebers Papyrus (circa 1550 BC) described *aku-t* as boils or pustules, treated with animal-derived concoctions and honey to soothe the skin.

Ancient Greek texts referred to acne as *tovoot*, associating it with puberty and facial hair growth, while Palus Aegineta (7th century AD) used terms like *ionthoi* and *vari*, recommending soap for tougher lesions and honey for softer ones. The term *acne* first appeared in the 6th century AD in the works of Aetius Amidenus. Romans employed sulfur baths to cleanse pores, a practice believed to reduce sebum accumulation. During the Elizabethan era (1558–1603), acne was linked to psychosomatic factors and harmful cosmetics like Venetian ceruse (lead-based) and mercury-based makeup, which exacerbated skin issues. In the 18th century, Plenck categorized acne into nine types, and by 1840, Fuchs formally coined *acne vulgaris*, classifying it into subtypes like vulgaris, mentagra, and rosacea, laying the foundation for modern dermatological nomenclature [4].

Busoore Labaniya in USM derives from the Arabic words *Busoor* (boils) and *Laban* (milk), describing the milky appearance of closed comedones, which resemble milk droplets or solidified ghee, also termed *Muhasa* [3]. This descriptive nomenclature facilitates visual identification in clinical practice. Unani scholars have extensively documented acne, integrating Greco-Arabic medical traditions. *Rabban Tabari* (770–850 AD) in *Firdous al Hikmah* described the role of *Ghudade Dahniya* [(sebaceous glands (SGs)] in skin health. *Sabit Bin Qurrah* (836–901 AD) proposed compositions for minor facial eruptions, while *Zakariya Razi* (850–923 AD) referred to acne as *Atiasoos*, outlining its natural course and association with puberty [3,4]. *Ibn Sina* (980–1037 AD) in *Al Qanoon Fit Tib* characterized acne as white pimples resembling *nuqtae-labn* (milk droplets), attributing it to humoral imbalances, particularly *Balgham*. *Abu-Al Hassan Al-Jurjani* (12th century) discussed skin breakouts in detail, and *Dau'd Antaki* (1541–1599) in *Tazkirah oolil albab* emphasized its *Balghami* etiology. Later scholars like *Arzani* (1772) and *Hakeem Aazam Khan* (1813–1902) provided comprehensive descriptions of clinical manifestations and treatments, advocating herbal and regimenal therapies to restore humoral equilibrium. USM's holistic approach contrasts with conventional symptom-focused treatments, emphasizing the interplay of humoral, environmental, and lifestyle factors [4].

Epidemiology: Acne vulgaris is a global health concern, affecting approximately 90% of teenagers, with a reported prevalence of 3,073.3 per 100,000 people in 2019 [5]. It peaks during adolescence (12–20 years) and young adulthood due to hormonal changes but persists into adulthood in about 50% of cases, with 1% of males and 5% of females affected by age 40 [1]. In India, 60–72% of youngsters experience acne influenced by genetic predisposition, humid climates, and dietary factors like high-glycemic foods and dairy, which elevate insulin-like growth factor1 (IGF-1) levels [6].

UNANI PERSPECTIVE

In USM, it is attributed to humoral imbalances, predominantly *Balgham* dominance, compounded by hormonal fluctuations. In regions like India, high humidity and warm temperatures exacerbate *Balgham* production, leading to increased lesion formation. Unani texts highlight dietary habits, such as consumption of *har* (hot) and *saqeel* (heavy) foods like red lentils and black gram, as contributors to *Zoafe hazm* (poor digestion), which generates morbid *Balgham* [7]. USM emphasizes individualized treatment to address these factors, aiming to restore humoral balance and prevent chronicity.

Pathophysiology: Acne vulgaris is a multifactorial disorder driven by four primary mechanisms:

1. **Excessive Sebum Production**: Androgens, particularly testosterone and Insulin-like Growth Factor-1 (IGF-1), stimulate sebaceous glands, increasing sebum output, especially during puberty or in conditions like polycystic ovarian syndrome. This creates an oily environment conducive to follicular obstruction [8,9].
2. **Hyperkeratinization**: Abnormal proliferation and retention of keratinocytes in the pilosebaceous unit lead to microcomedone formation, clogging follicular ducts and trapping sebum [10,11].
3. **Microbial Colonization**: *Cutibacterium acnes* thrive in the anaerobic, sebum-rich environment, producing pro-inflammatory mediators and enzymes that degrade follicular walls, triggering immune responses via Toll-like receptors (TLR-2 and TLR-4) [12,13].
4. **Inflammation**: Cytokines [e.g., Interleukin-6 (IL-6), IL-8, IL-12] and reactive oxygen species released by neutrophils and macrophages cause inflammatory lesions like papules, pustules, and nodules [13]. Environmental factors, including high-glycemic diets, dairy consumption, stress, and pollution, exacerbate these processes by amplifying sebum production and inflammation [14,15]. Genetic predisposition, evidenced by familial clustering, influences sebaceous gland activity and immune responses, increasing susceptibility to acne [16].

Busoore Labaniya is classified in USM as a *Maddi* disease resulting from an imbalance of *Balgham*, characterized by a *barid-ratab* (cold-moist) temperament. The condition arises when *Tabiyat* (the body's natural healing faculty) attempts to expel *Fasid madda* (morbid matter), primarily phlegmatic, through the skin, leading to lesion formation. Key pathophysiological factors include [7]:

- ***Sue Mizaj*** (abnormal temperament): Disruption in the balance of the four qualities—*hararat* (heat), *yaboosat* (dryness), *baroodat* (coldness), and *ratoobat* (moisture)—results in excessive *Balgham* [7].
- ***Sue Tarkeeb*** (incorrect composition): Structural anomalies in the pilosebaceous unit,

such as narrowed sebaceous gland lumens, contribute to obstruction [7].

- ***Tafarruqe Ittisal*** (loss of continuity): Lesion formation damages skin integrity, leading to scarring [7].
- ***Zoafe Hazm*** (poor digestion): Impaired function of *aazae ghiza* (nutritive organs) produces morbid *Balgham*, exacerbated by irregular eating or consumption of *bati-ul hazm* (slow-digestible) foods [7].
- **Environmental Influences**: High humidity and temperature cause *lateef bukharat* (subtle vapors) to condense into *Maddae Sadidiya* (pus), clogging pores and fostering microbial growth (*jaraseem*), particularly *C. acnes* [2].
- ***Ghudade Dahniya*** (sebaceous glands): Overproduction of sebum creates an anaerobic environment conducive to microbial proliferation. Unani scholars, including Hippocrates, emphasize that weak *qoowate dafiya* (expulsion faculty), strong *qoowate masika* (retentive faculty), and viscous *Balgham* lead to pore obstruction. The skin's *moatadil* (balanced) temperament makes it a primary site for morbid matter expulsion, necessitating therapies to restore humoral equilibrium and enhance *Tabiyat* [2].

Clinical Manifestations: Acne vulgaris presents as polymorphic lesions, categorized into non-inflammatory and inflammatory types:

- **Non-Inflammatory Lesions**:
  - **Microcomedones**: Precursor lesions caused by sebum and keratin accumulation within follicles [2].
  - **Open Comedones (Blackheads)**: Darkened due to melanin oxidation and debris, typically 5 mm or larger, commonly on the nose and forehead [17].
  - **Closed Comedones (Whiteheads)**: Flesh-colored or white, 0.1–3 mm, with 75% progressing to inflammatory lesions [2].

- **Inflammatory Lesions**:
  - **Papules**: Small (<5 mm), inflamed nodules with erythema, often painful [2].
  - **Pustules**: Pus-filled lesions with a yellow or white core, indicating bacterial involvement.
  - **Nodules**: Hard, deep-seated lesions resulting from comedone breakdown and intense inflammation [2].
  - **Cysts**: Large, fluctuating lesions prone to rupture, leading to abscesses and scarring. Severe variants like *acne conglobata* (sinus-forming sores) and *acne fulminans* (ulcerated lesions with systemic symptoms like fever and joint pain) are rare but debilitating [2].

Lesions predominantly affect the face (cheeks, forehead, chin), shoulders, chest, and back, areas rich in sebaceous glands. Scarring is a common outcome, including erythematous, hyperpigmented, depressed (ice pick, boxcar, rolling), hypertrophic, and keloidal scars [2,18].

USM classifies *Busoore Labaniya* into six progressive stages, reflecting the severity of *Balgham*-induced lesions [19]:

1. **Stage 1 (Microcomedones/Whiteheads)**: Small, milky pimples caused by *Balgham* accumulation, resembling milk droplets or solidified ghee (*Muhasa*), typically on the face.
2. **Stage 2 (Blackheads)**: Open comedones darkened by oxidation and debris, often on the forehead, cheeks, and nose, resulting from trapped *fasid madda*.
3. **Stage 3 (Papules/Acne Papulosa)**: Inflamed, red lesions with mild pain, caused by *C. acnes* activity and humoral imbalance, indicating progression of *Balgham* pathology.
4. **Stage 4 (Pustules/Acne Pustulosa)**: Pus-filled lesions from secondary infections, often staphylococcal, reflecting advanced *Maddae Sadidiya* accumulation.
5. **Stage 5 (Nodules/Acne Indurata)**: Hard, persistent lesions formed from dried pus, indicating chronic inflammation and *Balgham* solidification.
6. **Stage 6 (Cysts/Acne Cystica)**: Severe, fluctuating lesions, including *acne conglobata* (sinus sores on the chest and back) and *acne fulminans* (ulcerated lesions with systemic symptoms like fever and malaise). Scarring, including erythematous, hyperpigmented, and depressed types, results from the interplay of *Tabiyat* and the viscosity of morbid matter, with solidification being the least favorable outcome, as noted by Hippocrates. Lesions are exacerbated by environmental factors (e.g., humidity, temperature) and poor digestion, which increase *Balgham* production, necessitating holistic interventions to address both symptoms and underlying causes [19].

Diagnosis and Differential Diagnosis: Diagnosis of AV is primarily clinical, based on [17]:

- Adolescent age group (12–20 years).
- Oily skin with visible, patulous follicular openings.
- Presence of comedones (open and closed) and polymorphic lesions (papules, pustules, nodules, cysts).
- Characteristic scarring on the face, shoulders, chest, and back.

Differential diagnoses include rosacea (erythema, telangiectasia, no comedones), folliculitis (perifollicular pustules), milia (small, firm white papules), acne keloidalis nuchae (posterior neck keloids), and acneiform eruptions (e.g., chloracne from chemical

exposure, drug-induced acne from corticosteroids or lithium). Clinical history and lesion distribution are key to distinguishing these conditions [17,20].

In USM, it is diagnosed through clinical observation of milky lesions, oily skin, and signs of *Balgham* dominance, confirmed by assessing the patient's *Mizaj* (temperament), digestion, and lifestyle factors. The condition is characterized by its *barid-ratab* temperament and cheesy, milk-like exudate, distinguishing it from other skin disorders like *waram* (general inflammation) [19].

Differential diagnoses include conditions with similar eruptions, such as *Balghami waram* (phlegmatic inflammation), but *Busoore Labaniya* is identified by its specific humoral etiology and milky appearance. Unani practitioners evaluate environmental triggers (e.g., humidity), dietary habits, and genetic predisposition (*congenital dyscrasia*) to tailor treatment. This holistic diagnostic approach contrasts with conventional reliance on lesion morphology, emphasizing underlying humoral imbalances over quantitative lesion assessment.

Acne Severity Grading: Acne severity is assessed using standardized systems [2]:

- **Global Acne Grading System (GAGS)**: Assigns scores to body regions (face, chest, back) based on lesion type and number, providing a cumulative severity score for accurate monitoring.
- **Pillsbury System**: Grades acne from 1 (mild, comedones, few papules) to 4 (severe, numerous nodules and cysts), based on lesion type and extent.
- **Leeds System**: Counts inflammatory and non-inflammatory lesions on a 0–10 scale, offering a quantitative measure of severity.
- **Cook System**: Uses photographic standards (0–8 scale) for consistent grading. Mild acne is characterized by comedones and sparse papules, while severe acne involves numerous nodules, cysts, and extensive scarring, guiding treatment decisions.

USM does not employ formal numerical grading but categorizes *Busoore Labaniya* by lesion stage (1–6), from microcomedones to cysts, reflecting the progression of *Balgham* accumulation and inflammation. Severity assessment considers [19]:

- **Humoral Imbalance**: The extent of *Balgham* dominance, assessed through clinical signs like oily skin and lesion morphology [7].
- **Temperament:** The patient's temperament influences lesion progression and treatment response [7].
- **Environmental and Lifestyle Factors**: Humidity, poor digestion (*Zoafe hazm*), and stress exacerbate severity, necessitating tailored interventions. For instance, *acne cystica* (stage 6) indicates significant *Balgham* pathology and requires aggressive *Tanqiyae Balgham* (phlegm elimination) and blood purification therapies [19]. Unani's qualitative approach focuses on underlying causes, contrasting with conventional quantitative grading, and emphasizes restoring humoral balance to mitigate severity.

PSYCHOSOCIAL IMPACT

Acne vulgaris significantly impacts quality of life, contributing to psychological conditions such as anxiety, depression, social anxiety disorder, and reduced job prospects. Studies indicate that 41.3% of adolescent acne patients exhibit self-injurious behavior, linked to low self-esteem, hopelessness, and social stigma [21,22]. Severe cases, particularly those with scarring or *acne fulminans*, are associated with mental health admissions for anxiety, adjustment disorders, and personality disorders [21]. The psychological burden underscores the need for holistic management that addresses mental well-being alongside physical symptoms, often requiring counseling or psychiatric support.

USM recognizes psychological factors, such as restlessness, anxiety, and depression, as significant triggers that disrupt humoral balance, particularly increasing *Balgham* production and exacerbating *Busoore Labaniya*. Stress-induced hormonal shifts amplify sebum production and lesion formation, creating a vicious cycle. Unani texts emphasize the mind-body connection, advocating *Ilaj bil Nafsiyat* (psychotherapy) as a core treatment component.

TREATMENT APPROACHES

Conventional treatments target acne's pathophysiological mechanisms, focusing on sebum reduction, keratin normalization, bacterial control, and inflammation management:

- **General Measures [23]**:
  - Daily cleansing with mild, non-comedogenic soap to remove excess oils.
  - Avoiding oil-based cosmetics to prevent pore clogging.
  - Dietary modifications, such as reducing dairy and high-glycemic foods, which increase IGF-1 and sebum production.

- **Topical Therapies**:
  - **Retinoids** (tretinoin, adapalene, tazarotene): Normalize keratinization, reduce sebum, and prevent comedone formation [24,25].
  - **Benzoyl Peroxide (BPO)**: Bactericidal, reduces *C. acnes* and inflammation, prevents antibiotic resistance when used in combination [26].
  - **Antibiotics** (clindamycin, erythromycin): Target *C. acnes* but risk resistance if used alone [27].

- **Azelaic Acid**: Anti-inflammatory, antibacterial, and comedolytic, effective for hyperpigmented skin [28].
- **Salicylic Acid**: Promotes exfoliation, unclogs pores, and has mild anti-inflammatory properties [29].
- **Dapsone**: Effective for inflammatory acne, particularly in sensitive or dark skin types [30].

- **Systemic Therapies**:
  - **Oral Antibiotics** (tetracyclines, macrolides): Used for moderate to severe acne, limited to 3–6 months to minimize resistance [31].
  - **Hormonal Therapies** (combined oral contraceptives, spironolactone): Reduce androgen-driven sebum production in females [32].
  - **Oral Retinoids** (isotretinoin): Gold standard for severe, refractory acne, with significant side effects like teratogenicity, dryness, and potential psychological effects [33].
- **Physical Therapies**: Laser and light-based devices, chemical peels, and intra-lesional steroids reduce scarring and inflammation, particularly for hypertrophic and keloidal scars [34].

USM employs a holistic approach based on *Usoole Ilaj* (principles of treatment), aiming to correct *Balgham* imbalance, expel morbid matter, and restore *Tabiyat*. Key principles include:

1. **Determination and Elimination of Cause [35-38]**: Identify and address *Balgham* dominance, poor digestion, and environmental triggers.
2. ***Tanqiyae Badan wa Dimagh* [35]**: Expel morbid matter from the body and brain.
3. ***Tanqiyae Balgham*[2]**: Use *Munzij wa Mus'hil* therapy to eliminate phlegm.
4. **Blood Purification [2,19]**: Employ *Musaffi wa Moaddile Dam* drugs to improve blood quality.
5. ***Istafraghe Dam* [35]**: Venesection (*Fasd*) for *Imtalae Dam* (blood congestion).
6. **Topical Treatments [19,36]**: Use drugs with *Muhallil* (anti-inflammatory), *Jali* (detergent), *Dafe ta'affun* (antiseptic), *Mujaffif* (desiccative), *Mufatteh* (de-obstruent), and *Mulattif* (demulcent) properties.
7. ***Islahe Hazm wa Jigar* [2,19]**: Correct digestion and liver function to address constipation.
8. **Menstrual Regulation**: Treat hormonal imbalances in females to reduce *Balgham* production.
9. **Lifestyle Modifications [19,39]**: Avoid *har* (hot), *saqeel* (heavy), and *bati-ul hazm* (slow-digestible) foods; promote *Riyaazate Moatadil* (moderate exercise) in open, humid spaces; avoid sun exposure and oil-based cosmetics.

- ***Ilaj bil Ghiza* (Dietotherapy)**:
  - **Restrictions**: Avoid foods like red lentils, black gram, alcohol, red chilies, and oily or spicy dishes that exacerbate *Balgham*[2].
  - **Recommendations**: Consume easily digestible foods such as oranges, pomegranates, apples, pears, papaya, and vegetable soups (ridge gourd, spinach, pumpkin) to support digestion and reduce morbid matter [2,35].
- ***Ilaj bil Tadbeer* (Regimenal Therapy)**:
  - **Systemic**: *Fasd* (venesection of cephalic veins), *Munzij wa Mus'hil* (phlegm elimination), *Amale Ta'areeq* (diaphoresis to expel morbid matter) [2,35].
  - **Topical**: *Hijamah* (cupping), *Amale ta'aleeq* (leech therapy), *Inkebab* (hot fomentation with saline water), and regular cleansing with lukewarm water to reduce inflammation and clear pores [2,35].

- ***Ilaj bil Dawa* (Pharmacotherapy)**:
- **Systemic**:
  - **Anti-infective**: *Neem* (*Azadirachta indica*), *Saad Kufi* (*Acorus calamus*), *Turbud* (*Operculina turpethum*) [2,40].
  - **Blood Purifiers**: *Sarphooka* (*Tephrosia purpurea*), *Unnab* (*Ziziphus jujuba*), *Itrifal Shahatara*, *Sharbat-i-Unnab* [40,41].
  - **Digestive/Liver Correctives**: *Tukhme Kasni* (*Cichorium intybus*), *Badiyan* (*Foeniculum vulgare*), *Majoon Dabeedul Ward* [42].

- **Topical [40,41]**:
  - **Anti inflammatory**: *Shoniz* (*Nigella sativa*), *Naushadar* (*ammonium chloride*), *Bura Armani* (*Armenian bole*).
  - **Detergent**: *Sirka* (vinegar), *Shoniz*.
  - **Anti-putrefactive**: *Neem*, *Saad Kufi*.
  - **Formulations**: *Tila-i Muhasa* (topical oil), *Zimad* (e.g., *Shoniz* with *Sirka*), *Ubtan* (e.g., *Turmus* [lupin beans], *Zafran* [saffron], *Katira* [gum tragacanth]) [40,41].

- ***Ilaj bil Nafsiyat* (Psychotherapy) [2,43]**:
  - Reassurance and education to reduce anxiety and improve treatment compliance.
  - Cognitive-behavioral therapy (CBT) to address obsessive behaviors, low self-esteem, and stress.
  - Avoidance of psychological triggers like excessive mirror-checking and use of irritant cosmetics.

PROGNOSIS

Acne vulgaris typically resolves by age 25–35, with 1% of males and 5% of females experiencing significant lesions by age 40. Systemic isotretinoin achieves lasting remission in approximately 60% of cases, but relapses occur in 20% within three years [20].

Scarring, including erythematous, hyperpigmented, and depressed types, remains a challenge, particularly in severe cases. Psychological distress, such as anxiety and depression, persists without early intervention. Timely use of antibiotics, retinoids, or physical therapies reduces complications, but antibiotic resistance and isotretinoin side effects complicate long-term management [44].

In USM, the prognosis of *Busoore Labaniya* depends on restoring humoral balance, particularly eliminating *Balgham* and correcting *Mizaj*. Therapies like *Tanqiyae Balgham* (phlegm elimination), *Musaffi Dam* (blood purification), and *Islahe Hazm* (digestive correction) prevent recurrence by addressing root causes [19,40]. Early intervention with topical formulations like *Tila-i Muhasa* and *Zimad* minimizes scarring by promoting healing and reducing inflammation. Unani's holistic approach, incorporating dietotherapy, regimenal therapy, and psychotherapy, improves long-term outcomes by enhancing *Tabiyat* and addressing environmental and psychological triggers2, [40]. Persistent cases are linked to chronic *Balgham* accumulation or hormonal imbalances, requiring sustained treatment to prevent chronicity and scarring.

Table No. 01: Researches on *Busoore Labaniya*

S. No	Title	Type	Interventions	Findings
1	"Therapeutic Evaluation of a Topical Unani Formulation, Tila-i Muhāsā in Buthūr Labaniyya (Acne Vulgaris): A Randomized, Controlled Clinical Study" [45]	RCT	Test drug: *Tilai Muhasa* Control drug: 5% BPO	*Tilai Muhasa* was safe and effective
2	"Efficacy of local application of an Unani formulation in acne vulgaris" [46]	Clinical trial	*Shoniz, Naushadar, Bura Armani* and *Sirka*	Safe and effective
3	"A preliminary study on the efficacy and safety of two 1084nani pharmacopoeial formulations (iṭrīfal shāhtarah and sharbat-i-'unnāb) in adolescent and young adults cases of acne vulgaris (busūr labaniyyah): single armed open 1084nani1084y clinical study" [47]	Single Armed Open Labelled Clinical Study	*Iṭrīfal Shāhtarah* and *Sharbat-i-Unnāb*	Well tolerated safe and effective
4	"Effect of a Polyherbal *Unani* formulation in acne vulgaris: A preliminary study" [48]	Open Labelled Non- RCT	*Zimade Muhasa*	Safe and effective
5	"The *In vitro* anti-acne activity of two Unani drugs" [49]	In vitro lab based experimental study	*Darchini* (*Cinnamomum zeylanicum*) & *Tukhm Khashkhash* (*Papaver somniferum*).	Both herbs show anti-acne potential and may counter bacterial resistance.
6	"Clinical trial of Unani herbomineral cream to evaluate its topical effects on Acne vulgaris" [50]	Single blind RCT	Unani herbo-mineral cream	Effectively treats acne.
7	"The effect of Unani antiacne formulation (Zimade Muhasa) on acne vulgaris: A single-blind, randomized, controlled clinical trial" [51]	Single blind RCT	*Zimade Muhasa*	Well tolerated and effective
8	"A case report of acne vulgaris (1084nani1084y 1084nani1084ya), treated by 1084nani formulation" [52]	Clinical trial	*Zimade Muhasa*	Remarkable response
9	"Efficacy of an Unani Formulation in Reducing Post Inflammatory Acne Hyperpigmentation Marks, A Clinical Study" [53]	Clinical Study	*Shoniz, Naushadar, Bura Armani* and *Sirka*	Improved acne marks.
10	"Efficacy of Unani formulation in acne vulgaris, An open labeled single-arm clinical trial" [54]	Single Armed Open Labelled Clinical Study	*"Murdarsang* (lead oxide), *Bura Armani* (Borax), and *Roghan gul* (Rose oil)".	Effective
11	"Therapeutic evaluation of herbal formulation in acne vulgaris and its influence on quality of life, A single-arm clinical trial" [55]	Single Armed Clinical Study	*Ṭilā-i Muhāsa*	Well tolerated and effective

S. No	Title	Type	Interventions	Findings
12	"Management of Acne in USM, A Case Report" [56]	Case Report	*Majoon Ushbah*	Effective
13	"Efficacy of Unani Combination Therapy in the Management of Acne Vulgaris, A Randomised Standard Controlled Study" [57]	RCT	Test drug: *Shahtara* cap. & *Zimad Muhasa,* Control drug: Azithromycin & BPO	More effective and safer than control drug.
14	"Effect of Acne Vulgaris and its Impact on Quality of Life of Adolescents in Bengaluru" [58]	Cross sectional study	-	Acne severity affects QoL
15	"An Open Intervention Field Trial of Ghaazae Husn Afza in Busoore Labaniya (Acne Vulgaris) among Workers of Micro, Small and Medium Enterprises (MSME)" [59]	Open Intervention Field Trial	*Ghaazae Husn Afza*	Proven safe and highly effective.
16	"Efficacy of a Topical Unani Formulation, *Zimad Irsa* and *Kharbaq Safed* in Basoore Labaniya (Acne Vulgaris) -A Case Study" [60]	Case Study	*Zimad Irsa* and *Kharbaq Safed*	Effective
17	"Unani approach in acne management: a case study on the efficacy of *dawa-e-musaffi*" [61]	Case Study	*Dawa-e-musaffi*	Effective

LIMITATIONS

1. **Antibiotic Resistance**: Prolonged use of topical and systemic antibiotics fosters *C. acnes* resistance, reducing treatment efficacy and complicating management.
2. **Side Effects**: Isotretinoin carries risks of teratogenicity, mucocutaneous dryness, and potential psychological effects, limiting its use in certain populations. Hormonal therapies are restricted to females and may cause side effects like weight gain or mood changes.
3. **Cost and Accessibility**: Advanced treatments like lasers and isotretinoin are expensive and often inaccessible in low-resource settings, restricting equitable care.
4. **Lack of Standardization**: Unani formulations like *Tila-i Muhasa* and *Zimad* etc. vary in composition across practitioners, hindering reproducibility and consistent outcomes.
5. **Limited Clinical Evidence**: While some RCTs and open-label studies validate Unani treatments, the evidence base is smaller compared to conventional therapies, limiting global acceptance.
6. **Accessibility of Regimenal Therapies**: Procedures like *Fasd* (venesection) and *Hijamah* (cupping) require trained practitioners, who are scarce in many regions, particularly outside South Asia.
7. **Patient Compliance**: Complex dietary restrictions (e.g., avoiding *har* foods) and regimenal therapies are challenging to sustain, especially in modern lifestyles.
8. **Scientific Validation**: The humoral theory underpinning USM lacks integration with modern pathophysiology, making it difficult to align with contemporary scientific frameworks and gain mainstream medical acceptance.
9. The primary limitation of the studies mentioned in table no. 01 is the predominance of small-scale, single-arm, or open-label trials, which may introduce bias and limit the generalizability of findings due to the lack of robust controls and larger, diverse participant pools.

Limiting Limitations and Suggestions for Future Research

1. **Addressing Antibiotic Resistance**: Develop novel antimicrobials or combination therapies (e.g., BPO with antibiotics) to minimize resistance. Research into probiotics and bacteriophage therapies could offer non-antibiotic alternatives for *C. acnes* control.
2. **Mitigating Side Effects**: Explore lower-dose isotretinoin regimens to reduce side effects while maintaining efficacy. Develop patient education programs to manage side effects of retinoids and hormonal therapies, improving compliance.
3. **Improving Accessibility**: Subsidize advanced treatments like lasers and isotretinoin in low-resource settings and promote affordable generic formulations to enhance equitable access.
4. **Holistic Integration**: Incorporate dietary and psychological interventions into standard protocols, drawing inspiration from Unani's holistic approach to address underlying triggers like stress and high-glycemic diets.
5. **Standardizing Formulations**: Develop standardized protocols for Unani formulations through pharmacopeial guidelines to ensure consistency and reproducibility across practitioners.
6. **Training and Infrastructure**: Establish training programs for Unani practitioners specializing in *Fasd*, *Hijamah*, and other regimenal therapies. Develop specialized Unani clinics to improve access, particularly in regions with limited traditional medicine infrastructure.
7. **Improving Patient Compliance**: Simplify dietary and regimenal guidelines using patient-friendly tools like mobile apps or educational booklets to

enhance adherence. Tailor recommendations to modern lifestyles while maintaining therapeutic efficacy.

8. **Bridging Scientific Gaps**: Foster interdisciplinary research to integrate humoral theory with modern pathophysiology, exploring correlations between *Balgham* and biomarkers like sebum production or inflammation. Validate Unani concepts through molecular and clinical studies to enhance credibility.
9. To address the limitation of studies in table no. 01 small-scale, single-arm, or open-label trials, future studies should implement large-scale, double-blind RCTs with diverse populations, standardized controls, objective outcome measures, and longer durations to enhance rigor and generalizability.

CONCLUSION

Busoore Labaniya (acne vulgaris) is a complex, multifactorial condition with significant physical, psychological, and social impacts. Conventional medicine offers targeted therapies like retinoids, antibiotics, and physical treatments, effectively addressing sebum production, microbial colonization, and inflammation. USM provides a holistic framework, classifying acne as a *Maddi* disease caused by *Balgham* imbalance and advocating personalized interventions through dietotherapy, regimenal therapy, pharmacotherapy, and psychotherapy. Clinical studies validate Unani formulations like *Tila-i Muhasa* and *Zimad Muhasa*, highlighting their efficacy in reducing lesions and scarring. Despite limitations such as antibiotic resistance in conventional treatments and lack of standardization in Unani therapies, integrating both systems offers a synergistic approach, combining allopathic precision with Unani's preventive and holistic strategies. Future research should focus on standardizing Unani protocols, conducting comparative RCTs, and bridging scientific gaps to optimize global acne management, ensuring effective, accessible, and patient-centered care.

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