



QŪBĀ (DERMATOPHYTOSIS) AND ITS MANAGEMENT: A COMPREHENSIVE OVERVIEW IN THE LIGHT OF UNANI MEDICINE

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ABSTRACT: The term "ringworm fungi" refers to a class of filamentous fungi known as dermatophytes. They infect keratinized tissues and cause largely superficial infections of the skin, hair, and nails. They are among the most widespread contributors to skin conditions worldwide, while the true frequency is probably understated. In Unani System of Medicine this is called *Qūbā*. The equivalent English term of *Qūbā* is ringworm or dermatophytosis. Initially, it appears as a small kerion or any dot like spot, and further it progresses in a circumscribed shape, and acquires a large area by spreading over skin surfaces. This presentation appears particularly over a smooth skin surface. Unani physicians had classified the illness in terms of humours, *Mizāj*, and the causative agent. The modern therapeutic approaches consist of, oral and topical antifungal drugs such as itraconazole, fluconazole, ketoconazole, terbinafine, griseofulvin, and clotrimazole on the basis of various degree of the resistance and certain side effects such as erythema, itching, dryness, irritation and urticaria, nausea, headache, abdominal discomfort, etc. In Unani medicine the line of treatment is based on *Ilāj-bi'l Did*. Firstly, made the diagnosis according to the classification then choose the way of treatment, i.e. '*Ilāj bi'l Ghidhā*' (dieto-therapy), '*Ilāj bi'l Dawā*' (pharmacotherapy) and '*Ilāj bi'l Tadbīr*' (Regimental therapy).

Keywords: *Qūbā, Dermatophytosis, Tinea, Unani System of Medicine.*

INTRODUCTION

Unani System of Medicine refers to Graeco-Arabic medicine, which was developed into a sophisticated medical system in the middle-ages by Arabian and Persian scholars like *Razi (Rhazes)*, *Ibn Sina (Avicenna)*, *Zuhrāwi (Avenzoar)* etc. It is based on the teachings of Greek physician *Hippocrates* and Roman physician *Galen*.^[1] The fundamental framework of this system is based on the holistic approach of Hippocratic theory of four *Akhlāt* (Humours)– *Dam* (blood), *Balgham* (phlegm), *Safṛā'* (yellow Bile), and *Sawdā'* (black Bile).^[2]

The skin is the largest organ of the body, accounting for about 15% of the total adult body weight. It performs many vital functions, including protection against external physical, chemical, and biologic assailants, as well as prevention of excess water loss from the body and a role in thermoregulation.^[3] It is much more susceptible to infection and diseases like eczema, dermatophytosis, psoriasis, dermatitis, urticaria etc., among which dermatophytes are the most common and toughest skin diseases.

The term "ringworm fungi" refers to a class of filamentous fungi known as dermatophytes. They infect keratinized tissues and cause largely superficial infections of the skin, hair, and nails. They are among the most widespread contributors to skin ailments worldwide, while the true frequency is probably understated.^[4]

Skin mycoses are currently one of the most common types of infections, affecting more than 20–25% of the global population due to a significant increase in the incidence of superficial mycotic infections over the past several decades.^[5]

Dermatophytes develop at surface temperatures of 25 to 28 °C, and warm, humid environment favours skin infection. These factors make it such that superficial fungal infections are frequently seen in tropical regions and are made worse by the use of occlusive clothes. Additionally, there are more instances of dermatophytosis in low socioeconomic areas because of cramped living circumstances, frequent skin-to-skin contact, close closeness to animals, and maybe poor cleanliness. Furthermore, superficial skin infections have a weak self-limitation ability, and the lack of or inadequate medical treatment contributes to the epidemic development of skin mycoses.^[5] Compared to developing countries, the prevalence of dermatophytosis has dramatically decreased in many industrialized countries due to the former's higher social, economic, health care, and hygiene standards.^[6]

There are three major categories for dermatophytes: Anthropophilic (on Human skin), Zoophilic (on Animal skin), and Geophilic (in Soil). The individuals in these three categories are capable of infecting humans. Nearly 40 species of dermatophytes have been found in three genera, including Epidermophyton, Trichophyton, and Microsporum.^[7]

The patient's quality of life is also negatively impacted by dermatophytosis in numerous ways. Families of *Qūbā* sufferers may experience difficulties. The patient may have severe symptoms, particularly itch, occasionally pain, discomfort, and can experience serious psychological disturbances. There can be a limited selection of clothing. Social activities, such as going out with friends or participating in sports, swimming, or other physical activities, may become challenging, frequently due to a fear of what people may think if they saw the infected skin.^[8] The irritation, appearance, and potential for sleep disruption may interfere with work.

METHODOLOGY

All relevant articles up to 2023 were referred including 17 Classical Unani and text-books, 22 research and review papers. *Qūbā* details were explored extensively in classical Unani and modern medical texts for its Unani description, clinical presentation, aetiology, therapeutic approaches and Unani formulations. Standard Unani Medical Terminology published by Central Council for Research in Unani Medicine in collaboration with World Health Organization was used to describe the appropriate Unani terminologies. Moreover, Google Scholar, Medline, Research Gate and other search engines were browsed and various published journals of PubMed, Scopus indexed were selected by using terms like *Qūbā*, dermatophytosis, its types, description, clinical presentation and therapeutic approaches and clinical research studies.

BACKGROUND

According to observations worldwide, dermatophytosis is the most common of the superficial fungal infections. It is more common in tropical region and may present in epidemic proportions in areas with high rates of humidity.^[4] In India, it is more prevalent in Southern states as the climate of these areas are hotter and more humid which is favourable for the dermatophytes.^[4]

Dermatophytes attack skin, hair and nails, but they cannot invade living cells. There are many species which vary in their geographical distribution and in their predilection for different sites. The three most common species of the organisms which infect the skin and appendages of the body are *Trichophyton rubrum*, *Epidermophyton*, and *Microsporum canthidis*.^[4] In India, *Trichophyton rubrum* accounts for the majority of the cases of *Qūbā*. The organism invades the *Stratum corneum*, possibly aided by the warm, moist and occlusive conditions, and resides in it.^[9]

Qūbā (Dermatophytosis) may be transmitted by direct contact with other infected individuals or by infected animals.^[9] Although, *Qūbā* is distributed worldwide, it is highly prevalent in tropical and subtropical areas. Other predisposing factors are poor personal hygiene, poor nutrition, occlusive clothing, and debilitating systemic disease like diabetes, and other endocrine disorders.^[9]

The Dermatophytosis is classified according to the involvement of the anatomical area. Thus, the fungal infection encountered are *Tinea corporis* (glabrous skin- chest, back & abdomen), *Tinea cruris* (groin), *Tinea capitis* (head), *Tinea pedis* (foot), *Tinea mannum* (hands), *Tinea unguium* (nails), *Tinea barbae* (beard), *Tinea faciei* (face) are common. Other clinical variants are *Tinea imbricate*, *Tinea pseudoimbricata*, *Tinea incognito* and *Majocchi granuloma*.^[10]

Tinea corporis (ringworm of the glabrous skin) is a superficial dermatophytic infection which affects the glabrous skin of the trunk (chest, back & abdomen) and limbs, leaving the other parts of the body like scalp, beard, hands, feet, and groin.^[10] It is characterized by one or more annular or arcuate, sharply circumscribed and slightly erythematous, dry scaly, usually hypo pigmented patches. Progressive central clearing produces annular outlines that give the name “ringworm”.

Tinea cruris or Jock Itch affects the groins, genitalia, pubic area, perineal and perianal areas.^[10] The symptoms include burning, pruritus, and erythematous lesions with scale, raised sharply, demarcated borders and central clearing.

Tinea capitis is more common in children and more often in boys. A patch of alopecia with broken hair and ring formation at periphery. Inflammation and secondary infection lead to secondary processes, such as scaling, alopecia, erythema, exudate and edema.^[11]

Tinea pedis is the dermatophytosis of the planter surface of the feet and toe webs. The warmth and moisture produced by shoes and key factors in establishing and maintaining the infection. It is often seen among people wearing shoes for extended periods of time and famously known as Athlete’s Foot. The incidence of *Tinea pedis* is significantly more in adults than in children.^[12] Clinical signs of *Tinea pedis* appear in different forms, including inflammation and ulcer (with pustules and vesicles on sole), with scaly and thick keratinized sole and heel with itching and burning.^[13]

Tinea mannum is a superficial skin infection which involves the palmer surface of the hands and interdigital parts unilaterally and bilaterally. In this type, the palms become erythematous, diffusely dry and scaly.^[13]

Tinea unguium (onychomycosis) is an infection of fingernails and toenails. Typical clinical demonstrations of onychomycosis comprise deformity and discolouration, chalky and yellowish thickened nail, broken and dystrophic nails. It occurs more often in adolescents and adults rather than children.^[14]

Tinea barbae is the Dermatophytosis of the facial beard area of men. The clinical condition incorporates itching, kerion, scaling, folliculitis, burning and inflammatory response.^[14]

In Unani System of Medicine (USM), *Qūbā* is defined as type of rough or scaly skin which is black or red in colour. It is caused by acrid pungent fluid mixed with black bile which is more viscous than the humour responsible for scabies.^[15] Dermatophytosis refer to superficial fungal infection of keratinized tissues caused by keratinophilic dermatophytes.^[10] *Qūbā* is a well-known disease since Greco-Arabic period. Ancient Unani scholars described the disease in detail in their treatises.

In USM, the concept of four humours (*Akhlāt-i-Arba*) forms the basis of health and disease. Derangement in equilibrium of these four humours leads to cause *Qūbā* as described in various classical text of Unani Medicine. The English equivalent of *Qūbā* is ringworm or dermatophytosis.^[15] The cause of *Qūbā* is similar to that of the *Sa’fa*; that is the *Raqīq Tez Khilt* (thin irritating humour) and *Hirrif* (pungent), fluid which is mixed with *Ghaliz Sawdāwī Khilt* (viscous melancholic humour), it is more viscous than the matter of *Jarab* (scabies). It may also occur due to *Balgham Māliḥ* (saline phlegm) which is burnt and converted into *Sawdā* (melancholic humour).^[16]

Accordingly, *Qūbā* may be *Damwī* (sanguineous) due to impurities of blood and morbidic fluids mixed in the blood; *Ruṭūbi* due to morbidic heat and infection acting on *Ruṭūbat* and *Sawdāwī* due to *Sawdāwī Muhtaraq Khilt* (oxidized black bile).^[17]

Qūbā clinically presents according to its causative humours. It appears as a roughness which is associated with itching. There will be the oozing of fluid if the cause is *Khilt-i-Ratab*, and scaling is associated with *Khilt-i-Yābis*. It is characterized by burning, itching and secretion in case of *Tez Raqīq Khilt*, roughness and dryness of skin with moderate itching and burning sensation due to *Ghaliz Sawdāwī Khilt*. If it is caused by *Khilt-i-Ṣafrā’* (yellow bile), the patient feels severe discomfort with intense burning sensation. There may be intense desire of itching if caused by *Khilt-i-Hirrif*. *Qūbā* may be painful without intense desire of itching indicating presence of *Hād Lāzi’ Khilt*.^[17]

According to *Aḥmad bin Muḥammad Ṭabari*, *Qūbā* resembles the *Sharā* (Urticaria) which appears over the skin surfaces. Initially, it appears as a small kerion or any dot like spot, and further it progresses in a circumscribed shape, and acquires a large area by spreading over skin surfaces. This presentation appears particularly over a smooth skin surface.^[17]

Classification with clinical presentation: ^[18]

A. According to *Zakariyya Razi* it is classified on the basis of causative humour:

1. **Qūbā Raṭab (Damwī):** It manifests as reddish in colour and some fluid ooze out on itching. This type is associated with *Dam* (blood) converted into *Sawdā* (black bile), and it is easily cured by treatment.
2. **Qūbā Yābis (Sawdāwī):** It manifests as whitish in colour. This type is associated with *Balgham Māliḥ* (saline phlegm) which is burnt to be converted into *Sawdā* (Razi, 1991).

B. According to *Ibn Sina* on the basis of causative factors, disease pattern and appearance of the disease (Ibn Sina, 1998):

1. *Qūbā-i-Damwī (Raṭab):* Some oozing on itching. It is easily curable.
2. *Qūbā-i-Sawdāwī (Yābis):* Due to *Sawdā*, which is formed by the *Istihāla* (metabolism) of *Balgham Shor* and the *Ihtirāq* (combustion) of *Balgham Māliḥ* (saline phlegm).
3. *Qūbā-i-Mutaqashshir:* This type resembles as *Baraṣ Aswad*, due to extreme dryness leading to scaling.
4. *Qūbā-i-Ghayr Mutaqashshir:* It does not scale.
5. *Qūbā-i-Sā'ī Khabāth:* This type is spreading in nature and not easily curable.
6. *Qūbā-i-Wāqif:* This type is always localized.
7. *Qūbā-i-Hād:* It is an acute in condition with short duration and easily curable.
8. *Qūbā-i-Raddī:* It has poor prognosis.

C. According to the famous Unani classical book *Ḡhina Muna*, *Qūbā* is described on the basis of extension of the disease:

1. *Kāghazi Dād:* Lesions are superficial.
2. *Bhainsa Dād:* Infection is invaded up to the deepest layer of the skin (up to muscle) (Qumri, 2008).

D. According to Unani physician *Ahmad Tabari* in his famous book *Al-Mu'ālajāt al-Buqrātiya*, *Qūbā* is classified into three forms.

1. *Jins-i-Damwī:* It appears due to *Fasād al-Dam* (abnormality in blood) and *Rutūbat-i-Fāsida* (morbid fluid).
2. *Jins-i-Rutūbi:* It occurs by the *'Ufūnat* (infection), heat and *Fāsīd Rutūbat*.
3. *Jins-i-Sawdāwī:* It is produced by the *Khilt* which burnt and converted into *Sawdā*.

E. As mentioned in the classical text book "*Kitāb al-Mukhtārāfi'l-tibb*", *Qūbā* has been classified as:

1. *Khushk Dād:* the causative agent is melancholic humour.
2. *Tar Dād:* It is produced when melancholic humour is mixed with blood which is red in colour (Ibn Hubal, 2007).

Diagnosis: Simply can be diagnosed with clinical features like-

Prototype lesion: Is an annular or arcuate lesion which spreads centrifugally. The margin is active, showing papulo-vesiculation, pustulation, and scaling. Centre is relatively clear, though in chronic lesions there may be nodules, hyperpigmentation and even lichenification in the centre. These features may be modified, depending on: Site of infection and Strain of fungus: Anthropophilic fungi (transmitted from human to human) induce less inflammation. While zoophilic fungi (transmitted from animal to man) and geophilic fungi (from soil to man) induce significant inflammation.

Dermoscopy and Wood's Lamp can also be used to identify the lesions. Furthermore, potassium hydroxide (KOH) scraping, cultures and skin biopsies can be done for confirmation.^[19]

Differential Diagnosis

T. capitis	T. corporis	T. cruris	T. unguium
Alopecia areata	Discoïd eczema	Candidal intertrigo	Nail psoriasis
Psoriasis	Pityriasis rosea		
Pityriasis capitis			

TREATMENT

In conventional medicine, oral and topical antifungal drugs such as itraconazole, flucanazole, ketoconazole, terbinafine, griseofulvin, lulliconazole and clotrimazole are used in the treatment of *Qūbā* with various degrees of the resistance and certain side effects such as erythema, itching, dryness, irritation and urticaria, nausea, headache, abdominal discomfort, etc. ^[20]

The approach of Unani physicians in the management of *Qūbā* are *Tanqiya-i-Badan*, *Mundij therapy*, *Mushil therapy* and *Tabriid therapy*, *Irsāl-i-Alaq*, use of *Muṣaffiyāt*, *Hijāmah* and other Unani formulations like *Roghan-i-Nārjīl*,^{[21][22]} *Qurs-i-Aṣfar*^[21], *Marham-i-Khārish Jadīd*,^[21] *Marham-i-Qūbā*,^[21] *Habb-i-Qūbā*^[21] etc. Moreover drugs possessing the properties of *Mujaffif* (siccative), *Jālī* (detergent), *Mudammil-i-Qurūh* (wound healer), *Musakkīn* (analgesic), *Dafi'-i-Khārish* (antipruritic), *Muḥallil* (anti-inflammatory), *Dāf'-i-Ufūnat* (anti-septic) are also used in the management of the *Qūbā* such as, *Gandhak* (sulphur)^[23], *Sang-i-Jarāhat* (Magnesium silicate)^[23], *Tūtiyā Sabz* (Copper sulphate)^[23], *Nawshādar* (Ammonium chloride),^[23] *Suhāga* (Borax),^[24] *Roghan-i-Kunjad* (*Sesamum indicum* L),^[23] etc. Although many Greco-Arab physicians thought that impurity in the blood is the leading cause of skin diseases (*Qūbā*). Blood may become morbid by various reasons such as unhealthy food, irregular dietary habit, external environment, stress, lack of sleep, lack of exercise, improper ventilation etc (Tabri, 1997). Unani drugs particularly blood purifying drugs are used successfully in the treatment of skin diseases especially *Qūbā*.^[25] Some commonly used and very effective Single Unani drugs considered as blood purifiers are:^[26]

Name of Drug	Botanical name	Family	Pharmacological actions
1. Chirayita	<i>Swertiachirata</i>	Acanthaceae	Blood purifier, aperient, anti-inflammatory, emollient, astringent, diuretic, emmenagogue, gastric and liver tonic, carminative, anthelmintic, antipyretic, antibacterial, antifungal, antiviral, hypoglycemic, hypocholesterol emic, and adaptogenic effects. ^[27]
2. Neem	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Detoxification of blood, Blood purifier, anti-inflammatory, antipyretic, and antibacterial. ^[28]
3. Haldi	<i>Curcuma longa</i>	Zingiberaceae	Bactericidal, Blood purifier, Desiccant, Analgesic. ^[29]
4. Mundi	<i>Sphaeranthus indicus</i> L.	Asteraceae	stomachic, restorative, alterative, pectoralgia, demulcent and externally soothing, blood purifier. ^[30]
5. Kasini	<i>Cichorium intybus</i> L.	Asteraceae	Resolvent, Refrigerant, hepatoprotective, blood purifier, antibacterial and anti-inflammatory. ^[31]
6. Dar-e-hald	<i>Berberis aristata</i>	Berberidaceae	Emmenagogue, laxative, diaphoretic, antipyretic, antiseptic and blood purifier. ^[32]

7. Rehan/Tulsi	<i>Ocimum sanctum</i>	Labiatae	Antistress/adaptogenic, antioxidant, Immunomodulator, anti-inflammatory and blood purifier. ^[33]
8. Gul-e-ghafis	<i>Gentiana Olivieri</i> Griseb.	Gentianaceae	Antibacterial, antifungal, hypotensive, anti-inflammatory, anti-nociceptive, gastroprotective, hepatoprotective, antidiabetic effect and blood purifier. ^[34]
9. Babchi	<i>Psoralea corylifolia</i>	Leguminosae	Blood purifier, anti-inflammatory, re-pigmentation in vitiligo. ^[35]
10. Shahtra	<i>Fumaria indica</i> Pugsley	Fumariaceae	Anti-helminthic, antidyseptic, cholagogue, diaphoretic, diuretic, laxative, stomachic and blood purifier. ^[36]

DISCUSSION

Qūbā is a challenging tough disease for the physicians because it has a high recurrency rate and it takes time to heal. But it is curable; there are many treatments available in all systems of medicine. In Unani System of Medicine there are many formulations and prescriptions are available in the classical textbooks and in the ancient manuscripts which are lack of evidence so there should be clinical trials performed on those formulations. As mentioned by the Unani physicians, they categorised the disease according to humours and according to *Mijaz* and according to causative agent so we first of all diagnosed it accordingly and then use *Ilaj bi'l Did*. Many clinical studies have been already reported worldwide to evaluate the safety and efficacy of Unani formulations in the management of dermatophytes.

A study was done to evaluate the mycological cure of Unani compound drugs in *Qūbā* and results were compared with allopathic medicine. In this study total 60 patients were divided into two groups of 30 patients each of either sex between 18-65 years age. Group A received '*Dimād Dād*' for local application twice daily and *Nuqu 'Shahatra* for systemic administration once daily; while, group B patients were treated with modern medicines- Tab. fluconazole, 150 mg orally weekly and ointment clotrimazole 1% for local application twice daily. The treatment period in test and control groups was fixed as 30 days. At the end of the study clinical and statistical results demonstrates the efficacy of *Nuqu 'Shahatra* and *Dimād Dād* in the mycological cure of fungal infections. The effect of drug on mycological cure of disease was found to be extremely significant without any apparent side effects.^[37]

A single blind, randomized and standard controlled clinical trial was done with 60 diagnosed cases of ringworm aged between 15-60 years fulfilling the inclusion criteria and randomly allocated after obtaining voluntary informed consent into two groups of 30 each. Unani topical formulation, Ushaq (*Dorema ammoniacum*) & Sirka (Vinegar) in test group and Terbinafine 1% Cream in control group was applied locally twice a day for 60 days. The test and control drugs showed statistically significant reduction in scores of most of the subjective parameters and KOH ($p < 0.001$) for intra group analysis, while as no significant difference for inter group analysis ($p > 0.05$) was observed statistically. Which means the Unani topical formulation, Ushaq (*Dorema ammoniacum*) & Sirka (Vinegar) is equally effective and safe as Terbinafine 1% Cream in treating ringworm.^[38]

A randomized, active-controlled and open-label clinical study was done to assess the efficacy and safety of the Unani herbo-mineral preparations *Qurs-i-Asfar* and *Rogan-i-Narjil* in dermatophytosis. The study was done with the 78 participants diagnosed with dermatophytosis. They were randomized into treatment group (n=40) receiving oral *Qurs-i-Asfar* (778 mg twice a day) and topical *Rogan-i-Narjil* and control group (n=38) receiving oral Itraconazole (100 mg/day) and topical Terbinafine hydrochloride (1%) for 6 weeks. After intervention the improvement was found as, in itching by 86.3% vs. 78% (treatment vs. control group), erythema by 96.4% vs. 94.3%, scaling by 93% vs. 92.2% and peripheral raised margins by 82.3% vs. 81%. Furthermore, this study showed that the differences in the mean Total Signs and Symptoms Score (TSSS) and positive KOH mount were clinically and statistically significant ($p < 0.05$) in both the groups. On comparing inter group, the differences in mean TSSS ($p = 0.07$) and positive KOH mount ($p = 0.717$) were found statistically insignificant.^[39]

CONCLUSION

Therapeutic approaches for *Qūbā* consist of antifungal antibiotics like itraconazole, fluconazole etc. and topical antifungal creams like luliconazole, fluconazole, clotrimazole etc. but nothing can give a satisfactory result. In USM the line of treatment is *Ilaj bi'l Did* and evacuation of bad morbid *Khilt* from the body using *Mundij* and *Mushil* therapy and several compound formulations provide a satisfactory result and improve the quality of life of patients. On the basis of above article, it was found that the oral and topical preparations have significant results in treating *Qūbā* or dermatophytosis. So, the clinical trials for safety and efficacy of various compound formulations should be carried out which are unexplored. It may possible to give better tomorrow to the patients suffering from *Qūbā*.

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