



## Clinical Study

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# Evaluation of mycological cure of Unani medicine vs modern medicine: A comparative clinical trial

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## ABSTRACT

**Introduction:** Qooba (Dermatophytosis) is a clinical condition caused by fungal infection of skin in humans and other vertebras. The fungi that cause dermatophytosis feed on keratin, the material found in the outer layer of skin, hair and nails. **Aims & objective:** The purpose of this study was to evaluate mycological cure of Unani medicine in comparison with Modern medicine. **Methods:** The study was conducted on 60 cases of qooba (dermatophytosis). Patients were randomly allocated to test (A) and control (B) groups. Group A patients were given Unani medicines 'zimad daad' and 'naqooh shahtara' while, group B patients were treated with allopathic medicines. The duration of treatment was fixed as 30 days. **Results & Discussion:** All the patients were kept under strict observation and assessment for mycological cure rate was done weekly. At the end of the study clinical and statistical results demonstrate the efficacy of naqooh shahtara and zimad daad in the mycological cure of fungal infections. The effect of drug on mycological cure of disease was found to be extremely significant. **Conclusion:** The combination can also serve as mycological cure for fungal infections without any apparent side effects.

**Keywords:** Qooba, Dermatophytosis, Dermatophytes, Mycological cure, Naqooh shahtara, Zimad daad.

## INTRODUCTION

The skin is in intimate contact with the environment and as such very much exposed to infective agents like bacteria, fungi and viruses. Mycotic infection has been considered to be a major public health problem in many parts of the world. The superficial mycotic infections had risen to such a level that skin mycoses now affect more than 20-25% of globe population [1,2] making them one of the most frequent form of infections [3,4].

Dermatophytosis is a common contagious disease caused by fungi known as dermatophytes. Dermatophytes fit in to a cluster of organisms that are able to break down the keratin in tissues such as epidermis, hair and nails. Some dermatophytes (anthropophilic species) are adapted to human, and are usually transmitted from person to person. Others (zoophilic species) are adapted to animals. A few (geophilic) species normally live in the environment, but occasionally act as parasites. The zoophilic and geophilic species are sometimes transmitted from animals to people [5].

These fungi are categorized into three genera, viz: Microsporum, Trichophyton and Epidermophyton. They are capable of colonizing keratinized tissues such as stratum corneum of epidermis, nails and hair. By their metabolic activities, they evoke inflammatory response in the form of erythema, vesiculation, pustulation, micro-abscess formation and scaling [6]. A typical lesion of tinea is an arcuate or annular plaque which spreads centrifugally. The edge is active, showing papulo-vesiculation, pustulations and scaling while center is relatively clear [7]. Dermatophytosis is classified according to the site of affection such as tinea capitis (head), tinea barbae (beard), tinea faciei (face), tinea corporis (body), tinea inguinalis or cruris (groin), tinea manus (hands), tinea pedis (foot), tinea unguim (nails) [8,9]. Predisposing factors for the disease are skin trauma, hydration state of macerated skin, occlusion, elevated temperature and humidity along with the state of host defenses.

In Unani literature disease has been delineated in detail, Zakariya Razi (850-923 A.D), an eminent Unani physician described qooba as a skin disease which is characterized by dryness and scaling, sometimes vesicle formation associated with intense itching and burning [10]. Ibne Sina (980-1037 A.D) described the disease as blisters having itching, irritation and burning [11]. Countless supplementary words have additionally been utilized for this illness e.g. karyoon, daryoon and daad [12]. In Unani system of medicine, the principle of treatment is aimed at the alteration or removal of morbid material, which is the main culprit for the genesis of pathology leading to development of disease [12-14]. Many ancient healers have recommended drugs

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possessing musaffie dam (blood purifier) and mudammil qurooh (healing) properties for the treatment of the qooba [15]. The drugs endowed with such properties seem to have the potential to counteract the underlying pathology. Thus, musaffie effect may selectively negotiate with the morbid material, either by neutralizing or removing it; while mudammil effect may promote the healing once the morbid matter is removed from the body, inflammation is resolved; proper healing takes place and chances of recurrence minimize automatically. Along with oral use of drugs, Unani physicians have given great emphasis on the topical treatment in the form of zimad (paste), tilaa (embrocations) and marham (ointment) [14].

## MATERIALS AND METHOD

The trial was initiated only after getting approval from Institute's Ethics Committee. The study was conducted on 60 cases of qooba (dermatophytosis) in the skin OPD of A & U Tibbia College & Hospital, Karol Bagh, New Delhi. The study was designed as an open label, randomized, standard controlled clinical trial. Diagnosis was confirmed on the basis of clinical presentation and the KOH examination of affected part. Selection was made based on the inclusion and exclusion criteria. Inclusion criteria comprised of patients of either sex between the age group of 18-65 years; patients not taking any other drugs for qooba; patients who are willing and able to provide informed consent; patients who are willing and able to understand and follow the protocol for the duration of the study. Exclusion criteria comprised of presence of complications such as secondary bacterial infection of the lesions, *T. Incognito* etc.; patients of *T. Unguium* and *T. Capitis*; patients with diabetes mellitus; patients with uncontrolled hypertension; patients with cardio vascular complications; patients with hepatic abnormality or renal disease; patients of AIDS/HIV infection; pregnant and lactating women; patient taking steroids & antibiotics for prolonged time.

Patients, fulfilling the selection criteria, were randomly allocated to test (A) and control (B) groups after obtaining their informed consent. Group A patients were given Unani medicines 'zimad daad' for local application twice daily and 'naqooh shahtara' 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. All the patients were kept under strict observation and assessment for mycological cure rate was done weekly.

### Method of Potassium hydroxide (KOH) Scraping

#### Technique:

Mount specimen on glass slide, adding 10% KOH for half an hour; nail clippings require longer 2 hours. The fungus is easily detected using the lower power objective lens.

#### Samples to be taken depend on the site of infection:

Site	Sample
<i>T. capitis</i>	Plucked, broken hair/scales
<i>T. cruris</i>	Scales from edge
<i>T. corporis</i>	Scales from edge
<i>T. unguium</i>	Clippings of discolored nail plate; subungual debris.

#### Interpretation:

Type	Interpretation
<i>T. capitis</i>	Branching hyphae Spores within or around the hair
<i>T. cruris</i>	Branching hyphae
<i>T. corporis</i>	Branching hyphae

#### Direct Microscopy with 10% KOH



Fig. 1: Red arrow showing spores of the fungus



Fig. 2: Blue arrow showing hyphae on the fungus

## RESULTS AND DISCUSSION

The present study was aimed to evaluate the mycological cure of Unani compound drugs in qooba and results were compared with allopathic medicine, i.e. Tab fluconazole and clotrimazole ointment as standard control.

#### Demographic data

In this study the higher incidence of cases was observed in the age group of 21-30 years (38.33%) followed by age group of 31-40 years (20%), 41-50 years (18.33%), 51-60 years (13.33%). This data suggests that the disease is more prevalent in young adults. This is in accordance with the description given by Peerapur B.V. et al [16]. The higher incidence was observed in males 75% and only 25% incidence was observed in females. This finding indicates male preponderance and is in accordance with finding mentioned by Peerapur B.V. et al [16] and Hugo Degreef [17]. The higher incidence was observed from damvi mizaj patients (43.33%) followed by saudavi mizaj patients (26.66%) and balghami mizaj patients (18.33%) then by safravi mizaj patients (11.66%). This finding is in

consonance with classical Unani literature in which dame raqeeq mutaharriq converts into sauda to produce qooba [18,19].

**Mycological cure assessment at the end of the study:** At end of the study out of 30 patients in control group, 29 patients were categorized as “mycologically cured” i.e. negative on KOH examination for fungus. Whereas, out of 30 patients in test group, 27 patients were “mycological cured”.

The overall improvement in the disease in test group may be due to various effects like daafe ta’affun (anti-septic), jaali (detergent), jazibe ratoobat (absorbent), muhallil (resolvent) and anti-dermatophytic effect of zimad daad [20-24]. Musaffie dam (blood purifier), muhallil (resolvent) mulattif (demulcent) and musakkin (relaxant) effect of naqooh shahtara [20-24] may be a key factor in bringing the constituents of akhlat (humours) in equilibrium after purifying them from morbid humour and promoting the healing of the lesions.

## CONCLUSION

The control drug showed better mycological cure whereas test group showed better effective treatment i.e. TS<3. However, test group was also found to be effective in mycological cure as no fungus was detected in 90% of patients at the end of the study. The test drug was also found relatively safe, as the safety parameters remained within normal limits after the treatment, no obnoxious side effects were observed. These results conclude that the test drug is also effective and safe in the mycological cure of fungal infection.

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