

## Effect of Unani Formulation in *Bars* (Vitiligo)- A Case Study

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### ABSTRACT:

*Bars* (Vitiligo) is an autoimmune pigmentation skin disorder with multiple predisposing and triggering factors, characterized by white macules that increase in its size. According to the Unani system of Medicine, *Bars* is caused due to weakness of *quwwat-e-mughayyarah* of the skin, *fasad-e-hazm*, excessive *burudat* in the *mizaj* of the body, and *fasad-e-khoon*. In this case study, a 10-year-old male child was registered with complaints of bilateral multiple irregular milky patches over both upper eyelids that have spread rapidly within two years. On examination, he was diagnosed as a patient of non-segmental vitiligo. The patient was advised to take 4gm of compound Unani formulation comprising *Babchi* (*Psoralea corylifolia* Linn.), *Barg-e-Suddab* (*Ruta graveolens* Linn.), and *Zanjabeel* (*Zingiber officinale* Rosc.) in the form of *Zulal* (infusion) orally, and to apply the sediments of drug over the affected parts twice a day for 60 days. He was also advised to expose to sunlight daily after local application of the drug for about 10 minutes. More than 90% of the lesions were replaced with normal pigmentation within one month of treatment, and the rest of the de-pigmented macules were completely re-pigmented after 60 days of treatment. No adverse effects were reported during treatment; therefore, the formulation was found to be safe and effective for oral administration and local application in children. Such a quick and safe result of this formulation made this case to be reported.

**KEY WORDS:** *Bars*, Herbal drugs, Leucoderma, Unani Medicine, Vitiligo.

Received: 29.01.2022 Revised: 28.02.2022 Accepted: 01.03.2022 Published: 20.03.2022

### Quick Response code



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### INTRODUCTION:

*Bars* (Vitiligo) is a pigmentation of skin disorder with multiple predisposing and triggering factors. It is clinically characterized by milky white macules that enlarge, spread and can affect the entire skin of the body. It affects about 1% of the worldwide population, involving males and

females equally. It may begin at any age but in 50% of cases, it begins between the age of 10-30 years. Increased prevalence is reported in some countries among dark-skinned persons, resulting in a very obvious contrast between white vitiligo macules and dark skin.<sup>[1]</sup> Although vitiligo is not only a cosmetic disease it is a social stigma in the

society in Asian countries. [2] Vitiligo has assumed epidemic proportions in several parts of India, especially Gujarat and Rajasthan. [3]

The macules of vitiligo range from 5 mm to 5 cm or more in diameter, having chalk or pale white colour with sharp & clear margins. Generalized vitiligo is more common and characterized by widespread distribution of de-pigmented macules often in a remarkable symmetry. Typical macules appear around the eyes (mainly over the eyelids), mouth (on the margins of lips), digits (on the margin of nails), elbows, knees as well as the low back and genitals areas; though vitiligo may affect any part of the body. The confluence of vitiligo results in extensive large white areas on various parts of the body (generalized vitiligo), or even may leave only a few normal pigmented areas of skin, with more than 80% of the skin affected (Universal vitiligo). [1]

The various hypotheses of aetiology are put forward such as stress, neural abnormalities, melatonin receptor dysfunction, impaired melanocyte migration, genetic susceptibility, biochemical defects, auto-immunity, etc. The major hypotheses for the pathogenesis of vitiligo are neural, auto-immune, and oxidative stress; however, none of these fully explores the pathogenesis of vitiligo. The auto-immune theory is currently the leading hypothesis and is supported by strong evidence. [4]

There is a long list of Unani scholars, who have discussed *Bars* (Vitiligo) in details in their texts e.g. Jalinus (Galen), Ibn Sina (Avicenna), Jurjani and Akbar Arzani. Unani physicians have described its causes, pathogenesis, clinical features, differential diagnosis, and management of the disease. According to Unani scholars *Bars* is caused due to weakness of *Quwwat-e-Mughaiyyarah* (Transformative faculty) of

the skin due to excessive accumulation of thick and morbid phlegm beneath the skin, moreover, the circulating blood also becomes phlegmatic on reaching the affected site. [5] *Fasade Hazm*, excessive *Burudat* (coldness) in the *Mizaj* of the body, particularly of the affected part, *Fasad-e-Khoon* due to accumulation of morbid *Balgham* (Phlegm) are considered as different causes of *Bars*. [6]

According to Ibn-e-Sina defect lies at the tissue level in the function of *Quwwat-e-Mushabbaha* (power of resemblance). Thus, due to the failure of this power depigmentation occurs. [7] Hakim Ajmal Khan described it as a metabolic disorder resulting mainly due to humoral derangement, i.e. excess of *Balgham* (phlegm), weakness of *Quwwat-e-Mughaiyyarah*, *Quwwat-e-Mushabbaha*, and *Quwwat-e-Dafia* (transformative, homogenizing, and expulsive faculties). [8,9] The treatment of *Bars* comprises different modes of treatment viz. *Ilaj bil Tadbeer* (Regimenal therapy), *Ilaj Bil Giza* (dietotherapy) and *Ilaj bil Dawa* (Pharmacotherapy). In *Ilaj bil Tadbeer*, psychotherapy of the patient is done to assure the non-contagious nature of the disease and to boost the confidence of the patient. Diet also plays an important role in the management of vitiligo. According to the Unani medicine, all cold and phlegm-producing food items such as milk, curd, egg, fish, lemon, oranges, guava, plum, tomatoes, and brinjal should be avoided. [10,11]

In *ilaj bil dawa* (pharmacotherapy), the treatment of vitiligo should be started with *Tanqiyah Badan* (removal of deranged humour from the body) using *Munzij* and *Mushil-e-Balgham* drugs, which play an important role in correcting the humoral derangement. [9,10]

In addition, local use of the drugs having *Akkal* (corrosive), *Kawi* (caustic),

*Muhammir* (rubefacient), and *Laaze'a* (irritant) are also beneficial as they act by increasing the blood circulation and providing nutrition to the affected parts.<sup>[12]</sup>

In the Modern system of medicine, sunscreen, cosmetic coverup, and repigmentation methods are used as atreatment modalities of vitiligo. Localized macules of vitiligo can be treated with topical pharmacotherapy which includes topical 8-methoxypsoralen (8-MOP) and UVA. Systemic pharmacotherapy is suggested in generalized vitiligo where oral PUVA may be done with sunlight or artificial UVA. Narrow band UVB, 312 nm is the treatment of choice in children less than 6 years of age.<sup>[1]</sup>

#### **CASE REPORT:**

A 10-year-old male child was registered in Government Unani Dispensary, Majajpur, Bharatpur, Rajasthan with the complaint of multiple milky irregular patches over both upper eyelids as shown in the picture (Fig-1).

According to the history of the patient a small white spot over the right upper eyelid was first noticed by the parents of the patient two years ago. After sometime the same spot occurs on the left upper eyelid. So with these complaints they consulted to the allopathic physician and take the medicine but did not get any remarkable improvement in the disease condition and it worsened day by day. The parents of the patient worried and they came to unani dispensary for alternative treatment. Due to failure of treatment, the parents were too much worried. The parents and the patient both felt stigmatized and faced difficulties in their social life and suffered psychological trauma as well.

After proper clinical examination of the patient, he was diagnosed as a patient of non-segmental vitiligo. Sensation over the affected part was normal and there was no

scaling, crusting, and itching. There was no family history of vitiligo and there was no associated systemic disease at the time of commencement of treatment.

A written consent was taken from the parents of the patient before starting the Unani treatment. They were well informed regarding the Unani medicine in details and also informed if the treatment will be effective, the case may be published in the journal hiding the identity of the patient and its family background. Before starting the treatment the picture of the affected part was taken as shown baseline. The treatment was started on the principles of classical Unani medicine. A Unani formulation was designed in the form of safoof (powder) comprising of three single drugs viz. *Babchi* (*Psoralea corylifolia* Linn.), *Barg-e-Suddab* (*Ruta graveolens* Linn.), and *Zanjabeel* (*Zingiber officinale* Rosc.) in equal quantity (Table 1). A fine powder was prepared by grinding all the drugs with the help of grinder.

Patient was advise to take 4 grams of this Unani formulation and soaked into one cup of hot water in the night, in the next morning and evening supernatant *Zulal* (infusion) has to be taken orally twice a day empty stomach, and *Thufl* (sediments of drug) has to be applied on the affected part and expose to sunlight for about 10 minutes daily in the morning.

The treatment was given for the period of 60 days with the regular follow up fortnightly. On every visit the patient was carefully examined and asked for any untowards reaction anf events. After one month of treatment photograph were taken and one more photograph was taken at the end of the study as baseline after 30 days and 60 days of treatment.

**RESULTS:**

The lesion of vitiligo start vanishing after 30 days of treatment, more than 90% depigmented area of affected part repigmented to normal skin with the treatment of unani formulation oral and topical. Remaining 10% recovered in the next 30 days treatment. During the treatment patient did not observe and complain any untoward events. The skin of the affected

part become normal after 60 days of treatment as shown in picture. (Fig 2-3) These pictures are self-explanatory and showing the positive effect of the unani formulation. No adverse effect was reported during treatment, therefore, the formulation was found to be safe and effective for oral administration and local application in children in cases of vitiligo.

**Table: 1 List of drugs used in Unani compound formulation:**

Name of drug	Parts Used	Scientific Name	Medicinal properties/Action
<i>Babchi</i>	Seeds	<i>Psoralea corylifolia</i> Linn.	Blood purifier, anti-vitiligo, corrosive, irritant, antioxidant. <sup>[9,14,15]</sup> Transformation of DOPA to melanin, contains photosensitizing agents (psoralen, isopsoralen, bavachinin)
<i>Barg-e-Suddab</i>	Dried Leaves	<i>Ruta graveolens</i> Linn.	Antioxidant, Anti-inflammatory <sup>[17]</sup> , <i>Jali</i> (detergent), <i>Nafe-Bars</i> <sup>[15]</sup>
<i>Zanjabeel</i>	Rhizome	<i>Zingiber officinale</i> Rosc.	Phototoxic, Antioxidant <sup>[18]</sup> , <i>Mukhrij-e-Balgham</i> (Phlegmagogue) <sup>[14]</sup>

**Clinical images:**

**DISCUSSION:**

Unani system of Medicine is having detailed description of drugs for treatment of different diseases, particularly for sexual disorders, respiratory disorders, skin disorders, digestive disorders etc. Many

Unani drugs have proved their efficacy in skin disease e.g. *Iltehab-e-Jild Huzaazi* (seborrheic dermatitis)<sup>[21]</sup>, *qooba al badan* (Tinea corporis)<sup>[22]</sup> and in upper respiratory disease e.g. *Zeequn nafas* (bronchial asthma)<sup>[23]</sup>, in *amraz-e-kabid* e.g. dyslipidemia.<sup>[24]</sup> The wonderful effect of the

compound formulation may be due to the combination of blood purifiers, irritant, detergent, corrosive, anti-vitiligo, and anti-phlegmatic activities present in different constituents.<sup>[9,13,14,15]</sup>

*Babchi* (*Psoralea corylifolia* Linn.) has been extensively used by the Unani scholars since antiquity in the treatment of hypopigmentation<sup>[25]</sup>. A study conducted by Tariq et al. to evaluate the efficacy of *Babchi* in *Bars* concludes that this single Unani drug is effective and safe in cases of *Bars*, which may be due to irritant, corrosive, blood purifier, and anti-phlegmatic effect of the drug.<sup>[9]</sup> Psoralen present in *Babchi* significantly accelerates the photo-oxidation of dihydroxyphenylalanine (DOPA) under sunlight, white light, and short wave UV light irradiation. Recovery of melanin pigment could be enhanced by exposure to UV light sunbath after topical use, this is already indicated in Unani text which indicates the therapeutic knowledge of Unani scholars.<sup>[16,25]</sup> *Barg-e-Suddab* possesses anti-inflammatory, anti-oxidant<sup>[17]</sup>, *Jali* (detergent) and *Nafe Bars* properties.<sup>[15]</sup> Rhizome of *Zanjabeel* (*Zingiber officinale* Rosc.) has phototoxic, antioxidant<sup>[18]</sup>, and *Mukhrij-e-Balgham* (anti-phlegmatic) properties.<sup>[15]</sup>

The antioxidant activity present in these drugs plays an important role in inhibiting and scavenging free radicals, thereby protecting against several diseases including vitiligo. Most of the drugs used in the treatment of vitiligo also show antioxidant activity.<sup>[19]</sup> An experimental study has established that keratinocytes obtained from the vitiligo spots produce a big amount of superoxide anions reactive forms of oxygen and nitric oxide and it is known that in patients suffering from a generalized form of vitiligo there is an imbalance between oxidative and antioxidative systems.<sup>[20]</sup>

#### CONCLUSION:

These results proved the claim of unani scholars that the Unani medicine is effective in *Bars* (vitiligo). The Unani formulation was found to be safe and effective in the treatment of *Bars* (vitiligo), with overwhelming and an early result. This case report and the given Unani formulation may become a research epitome for the scientific community to explore the safety and efficacy of this Unani formulation using a larger sample size with prolonged follow-up of cured patients to see any recurrence.

#### DECLARATION OF CONSENT:

The authors declare that they have obtained consent from the parents of the patient for the publication of clinical information of the individual.

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**CONFLICT OF INTEREST:** Author declares that there is no conflict of interest.

**GUARANTOR:** Corresponding author is guarantor of this article and its contents.

**SOURCE OF SUPPORT:** None

**HOW TO CITE THIS ARTICLE:**

Syed Shamsul HT, Akhtar W. Effect of Unani Formulation in Bars (Vitiligo)- A Case Study Int. J. AYUSH CaRe. 2022; 6(1):57-62.