ORIGINAL RESEARCH PAPER

Unani Medicine

TOPICAL EFFECT OF A NOVEL UNANI FORMULATION IN *BUTHŪR-E-LABANIYA* (ACNE VULGARIS) -A CASE REPORT

KEY WORDS: Buthūr-e-Labaniya, Darchīni, Shonīz, Sirka, Tajfīf wa ta līl, Unani Medicine

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ABSTRACT

Aims and Objectives: *Buthūr-e-Labaniya* (Acne vulgaris) is affecting up to 80% of adolescents and many adults at different stages of life. It is one of the commonest skin disorders which appear on cheeks and nose as white eruptions that seems like solidified milk drops. These eruptions are treated by drugs having properties of *tajfīf wa ta līl* (desiccant and resolving), as mentioned by Ibne Sina. And also recommends the local application of a paste of *Kalonji* (*nigella sativa*), mixed with *Sirka* (vinegar) for effective treatment of Acne vulgaris.In this formulation we have added the *Darchīni* (Cinnamomum Zeylanicum)as recommended by Allama Najeebuddin Samarqandi in his book *Al Asbab wal Alamaat*.
Methods: The study was single case, observational self comparison before and after treatment, conducted in the OPD of the hospital which is part of the Regional Research Institute of Unani Medicine, Srinagar. The duration of study was 15 days. one female patient with combination of comedones, papules, pustules and nodules was recruited for this purpose. The test drug, *Shonīz*, *Darchīni* powder, mixed with sirka were applied locally for 15 days. Subject was assessed on the basis of changes in subjective and objective parameters.
Results: The response of test drugs was significant by using Cook's grading scale for acne vulgaris, there was also relief in subjective parameters. Subjects reported a reduction of 30%, 50%, 50% in tenderness, itching and irritation respectively.
Conclusion: The present study reveals that the test drug formulation is safe and effective in treating Acne vulgaris. No side effects of drugs were reported, therefore the trial formulation may be recommended for larger sample sized study.

INTRODUCTION

Buthūr-e-Labaniya (Acne vulgaris) is one of the commonest skin conditions treated by dermatologists.[1,2,3,4,5,6] The term acne is derived from a Greek word "acme" which means prime of life. It is more severe in late teenage years. Acne vulgaris is a pleomorphic disorder; it can occur at any time in life, most commonly it presents between 12-24 years of age. It is a chronic, self cured inflammatory disorder of pilocebaceous units that peak at puberty and is found to be associated with increased androgen production in this period.[7]

It has been estimated that 70% of the population have some clinically evident acne at some stage during adolescence.[8] It affects more than 80% of adolescents.[9,10] In 2001, the expenditure of health care on Acne vulgaris was estimated to exceed one billion dollars.[11] A prerequisite for the development of acne is active sebaceous glands with the level of their sebum secretion correlating with the severity of the acne.[12,13]

Acne vulgaris is characterized by the formation of open and closed comedones, papules, pustules, nodules and cysts. [1,4,14, 15,16, 17]

Four factors are responsible for pathogenesis of Acne vulgaris: [11,12,18]

1. Increased sebum production
2. Abnormal follicular keratinisation (microcomedo formation)
3. Proliferation of propionibacterium acnes
4. Inflammation.

It occurs when sebaceous glands duct becomes blocked and then infected which leads to inflammation and formation of pustule. In severe cases permanent scarring may occur. The most common sites are face, chest and upper back. [19,20]

According to Ibn Sina Buthūr-e-Labaniya are small white eruptions on the nose and cheeks, which resemble condensed drop of milk.[21,22] While according to Arzani these are white eruptions which appear on nose and forehead.[22,23] Due to its resemblance with milk drops, the condition is named as Muhāsa (pimples). Generally it appears in young males.[22]

Cause of these eruptions is a mādda-i- adīdiya (infected matter) which comes towards skin surface due to bukharāt-i-badan (body vapours).[21,24,25] The prevalence of acne in school children ranges from 30% -100%, depending on age, with the 16-18 age group experiencing 93.3% of acne.[26] Although it is a condition of adolescents, acne affects 8% of 25-34 year and 3% of 30-44 year age group.[16] There are some evidences which suggest that reduced academic performance and employment opportunities are associated with acne, as well as general social difficulties.[14] Between 30-50% of adolescents experience psychological difficulties along with pimples including body image concerns, social embarrassment, social impairment, apprehension, dissatisfaction, anger, depression and poor self confidence because of acne.[9]

In severe form, acne causes severe anxiety and disfiguring scars in young, and hence can cause emotional disturbances.[2] Acne vulgaris has a significant impact on the mental well being of

affected individuals and has been compared to other major diseases in adverse impact on quality of life.[27,28]

The patients of acne suffer reduced academic achievements and employment opportunities. Because acne affects body image, persons with severe acne and acne scarring are at risk of depression and suicide.[26] Therefore Acne vulgaris needs proper treatment and care. In Allopathy many drugs are available, but no drug is sufficiently effective. Benzoyl peroxide and topical retinoids are skin irritants and bleaching, tretinoin can cause sun burn. Systemic isotretenoin is teratogenic. So there is need of treatment of Acne vulgaris which can cure the condition and its consequences without side effects.

Unani System of Medicine contains treatise of crude and compound formulations that can be administered orally and locally in the treatment of Acne vulgaris. These preparations are useful, effective and well tolerated. Ibne Sina recommended drugs with tajfīf and ta līl (desiccant and resolving) properties in treatment of Acne vulgaris centuries ago. These drugs are easily available, economical and have no side effects.[29]

METHODS

The study was based on single case observation, conducted in the OPD of the hospital of the Regional Research Institute of Unani Medicine, Srinagar, J and K. The duration of study was 15 days. One female patient of 30 years of age with combination of comedones, papules, pustules and nodulo-cystic lesions on face was recruited for this purpose.

After taking informed consent from patient, she was included for the study in the month of April 2018. All the findings were recorded in the Case Report Form (CRF), designed for the study. The patient was ruled out for taking any medication and it was found that at that time of inclusion, he was not taking any medication. Wash out period was confirmed.

The formulation comprised of Shonīz (Nigella sativa), Darchīni (Cinnamomum Zeylanicum), and Sirka (Vinegar) have been used after identification and authentication by Botany experts of Regional Research Institute of Unani medicine..[29].

Shonīz, Darchīni in equal weight were powdered separately. At the time of use this powder was mixed with Sirka in adequate quantity to form a paste. The paste was applied on face from hairline to mandible line, from one ear to another, was left on the face overnight and washed with luke warm water in morning. Local application of the test drug was advised for 15 days, daily at night.

Patient was directed to avoid application of paste on eyes, ears, nostrils etc., and was also advised to avoid application of any other product on face during study protocol.

Subject was assessed on the basis of change in subjective parameters (itching, pain and irritation) on the basis of Vas Score and objective

RESULTS

In the present study, tenderness of lesion was present in the patient on 0th, 3rd ,5th , 7th , 9th and 10th days respectively. Patient reported reduction in tenderness on 11th day [Table 1].

Table 1: Distribution of patients according to reduction in subjective parameters

Visit Days	Subjective Parameters, n=1		
	Tenderness (%)	Itching (%)	Irritation
0th Day	80%	90%	90%
3rd Day	80%	90%	90%
5th Day	80%	90%	90%
7th Day	80%	90%	90%
9th Day	80%	80%	80%
11th Day	70%	70%	70%
13th Day	60%	60%	60%
15th Day	50%	40%	40%

Marked improvement observed in subjective parameters for tenderness: 80%, 70%, 60%, 50% and for itching: 90%, 80%,70%,60%, 40% and for irritation 90%, 80%,70%,60%, 40% respectively.

In the patient, itching was present on 0th to 10th days. Patient reported reduction in itching on 9th day [Table 1].

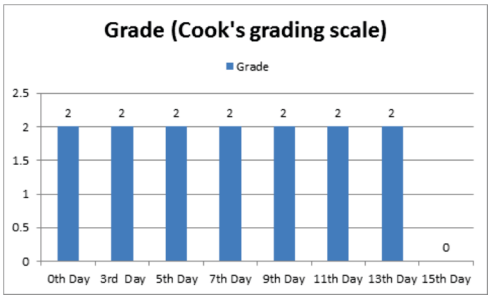
In the patient, irritation was present on 0th to 10th days. Patient reported reduction in irritation on 9th day [Table 1].

Cook's grading scale for acne is taken as an objective parameter by which acne was measured in grades (0, 2, 4, 6, 8). In the present study on 0th day the patient was in grade 2. On 15th day the patient was in grade 0. [Table 2].

Table 2: Distribution of patient according to reduction in grades in objective parameter

Visit Days	Cook's grading scale
	Grade
0th Day	2
3rd Day	2
5th Day	2
7th Day	2
9th Day	2
11th Day	2
13th Day	2
15th Day	0

Graph 1: Effect of Unani formulation on Cook's Grading Scale in Acne vulgaris



Acne grading method by Cook et al., using photographic standards Grade Description[40]

0: Up to 3 small scattered comedones and/or small papules are allowed.
2: Very few pustules or dozen papules and/or comedones; lesions are hardly visible from 2.5 m away.
4: There are red lesions and inflammation to a signifi cant degree; worthy of treatment.
6 Loaded with comedones, numerous pustules; lesions are easily recognized at 2.5 m.
8 Conglobata, sinus or cystic type acne; covering most of the face.

DISCUSSION

It is observed from above results that this Unani drug formulation is safe and effective in treating Acne vulgaris. The results are significant. This study is in accordance with the study of Lone et al., with a Polyherbal Unani formulation and reported improvement at $P < 0.001$.[16] The present finding is also in accordance with study by Parveen et al., which reported the role of Unani herbomineral cream significantly reducing Acne vulgaris.[29] This study is also in accordance with the study of Shabia Sultana et al, which used a local application of an Unani formulation in Acne vulgaris and reported improvement at $P < 0.001$.[30]

Due to the *Quwwat-i-jilā* (detergent power) all drugs clean the skin and remove *Mawād* (matter) that adhere to the skin in the form of *Bukhārāt* (vapour) as precursor of acne. *Shonīz* is *jāli* (detergent),[33,34,35] *Jāzib*(absorbent),[35] antihistaminic,[36] antioxidant,[37] anti-inflammatory[34,37,38] and antimicrobial.

Due to these properties it cleans the skin surface, reduces inflammatory lesions, such as papules and pustules. Due to its anti-inflammatory, antioxidant and antimicrobial effects, it inhibits bacterial growth on skin surface. According to Jālīnūs, *Kalaunji* is effective where *Jilā* (detergent action), *Taqtī*'(disintegrating action) and *Yubūsat* (dryness) are required.[39] According to Razi, *Kalaunji* dissolves *Waram*(inflammation) especially *Balghami* (phlegmatic) *waram*.[40] Locally it cleans and dries skin, so new acne lesions or comedones do not appear.

Darchini is *Jalī*[35,41] and *Qate' akhlā -i-ghalī* (incisive to viscous matter).[41] Due to its *Ar iat*(earthy compound) and *Hiddat* (excessive heat) it cleans *Mawād* from skin,[33] it also eliminates *Ghalī khil* (viscous matter),[34] due to these properties it cures inflammatory lesions and reduces pimples and its flare-up.

Sirka, due to its *Latāfat* (volatility) posseses *sarīun-nufūdh* (quickly infusible) property, so it was mixed mostly with *Dhimadāt* (paste), face packs and massage oils.[34,35] *Sirka* is *qate' akhlā -i-ghalī* [33] and *qābi* (astringent). The *mādda* (matter) of *buthūr* is *sha mī* (fatty) so *Sirka* dissolves *mādda*, and produces *qabi* (astringent) effect on *masāmāt-i-jild* (skin pores). Due to this the pores becomes narrow and *mādda*does not accumulate in these pores.

Razi and Ibne Sina state that the cause of these eruptions is *mādda-i- adīdiya* which comes towards skin surface due to *bukhārāt-i-badan*.[21,24,25] Razi mentioned in *Kitabul Fakhir fil Tib* that if there is excess accumulation of viscous material in the body then abī'at (medicatrix naturae) expells them towards skin, which leads to formation of *buthūr*and *awrām*.[24]

CONCLUSION

Further long term studies may be planned to determine the relapse rate and to show significant scientific evidence of usefulness. The present study reveals that the test drug formulation is safe and an effective treatment in *Buthūr-i-Labaniyya* (Acne vulgaris) if used along with *taqlīl-i-ghidhā tadābīr* (Modulation in diet) No side effects of the drugs were reported, therefore the trial formulation may be recommended to manage *Buthūr-i-Labaniyya* of mild to severe degree.

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Conflicts of interest

There are no conflicts of interest.

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