

Effectiveness of *Mukhaprakshalan* by *Varun qwath* & *Jatiphaladi Lepa* in *Mukhadushika* (*Acne Vulgaris*)

Research Article

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Abstract

Due to increased competition of earning prosperity in today era human adopted not only lifestyle but also food habits of western culture which is chiefly responsible to derangement in their physiology and responsible to number of skin disorder like *Yuvan pidika* (acne vulgaris). In Ayurveda vitiation of *Vata*, *Kapha* and *Rakta* are etiological factor that give rise to *Yuvan pidika*. That is why there is a need of such treatment that contains *Vata kapha shamaka* and *Raktasodhaka* property. For this *Varun quath Mukhaprakshal* and *Jatiphaladi lepa* were selected for the study on 30 registered patients. Both drugs were applied twice a day for 15 days. This study shows highly significant result to ameliorate the symptom of *Yuvan pidika* especially on *pidika*. Both these drugs proved their efficacy to manage *Yuvan pidika* by making homeostasis of *Vata*, *Kapha* and *Rakta*.

Key Words: *Yuvan pidika*, *Acne vulgaris*, *Varun quath*, *Jatiphaladi Lepa*.

Introduction

Face is one among the most exposed part of the body which reflects the confidence, personality and self-esteem of a person. If such an important part of the body gets disturbed by any pathology, it is not only affects the physic of the person but also the psychology. Acne is one of them.

Acne vulgaris affects ~85% of young adults aged between 12–25 years.(1) This disease causes a severe psychosocial burden in the patients, about 30% to 50% of teenagers experience psychological complications associated with acne. Acne amongst the top three most prevalent skin conditions in the general population. (2),(3),(4)

Acne is a common chronic inflammatory condition of skin with substantial cutaneous and psychological disease.(5) This disease is characterised by the formation of comedones [blackheads], erythematous papules, also in a few cases, nodules or cyst and scarring (6) It appears frequently on the cheeks but also involves forehead, chin, and nose, on back, chest and mid arms (7) It develops earlier in females than males personals. A highest incidence and harshness occurs between the age of 14-17 years in females and 16-19 years in males.(8)

In Ayurveda acne vulgaris is considered as *Mukhadushika* (*Yuvan pidika*) due to similarities of symptoms. It is described under the *Kshudraroga* (9)

The name '*Mukhadushika*' indicates involvement of face and '*Yuvanapidika*' explains its onset in young age. (10)According to Ayurveda *Mukhadushika* caused due to the vitiated *Kapha*, *Vata* and *Rakta* characterized by the lesions resembling in shape that of *Shalmali kantaka* (thorn of *Shalmali malabarica*).(11) The clinical features of *Mukhadushika* are *Pidaka* (eruptions), *Saruja* (pain), *Ghana* (thickness of eruption) , *Medogarbha* (comedones) (12) *Kandu* (itching), *Saraktata* (bleeding)(13) *Daha* (burning sensation), *Snigdghata* (greasy skin).

The treatment action of *Mukhadushika* is of two types *shodhana chikitsa* and *shamana chikitsa* (14) including *Vamana*, *Nasya* and *Siravedha Lepa* and *Pralepa*.

Need of the study

As Acne is a very common disease in adult. It leads to Psychological, social and economic impairment. It may affect self-esteem (15). In Ayurveda, various herbs are described as effective remedy for it. So this study is planned to revalidate the effect of *Varun qwath* & *Jatiphaladiyog* in *Mukhadushika* (16).

Aims and Objectives

Aim

The aim of this study is to assess the effectiveness of *Mukhaprakshalan* by *Varun qwath* & *Jatiphaladi Lepa* in *Mukhadushika*.

Objectives

- To study the predominance of *Sharirik* and *Mansik Prakriti* of the patients of *Mukhadushika*.
- To assess the predominant area of face in *Mukhadushika*.
- To study the effect of *Varun qwath* & *Jatiphaladi Lepa* on Comedones, Papules, Pustules and nodulocystic lesion by Global acne scale.

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Materials and Methods

Drug source

The raw drugs required for *Varun Qwath* and *Jatiphaladi Lepa* were procured from authenticated shop.

All drugs were authenticated by Department of *Dravyaguna*, and *Qwath* and *Churna* were prepared in *Rasashala* and its Analytical study was done for the authentication of drug

- **Study design** : Single arm
- **Study type** : Interventional study
- **Sample size** : 30

Inclusion criteria:

- Subjects of either sex with the age group between 16 to 35 years.
- Patients having more than 5 *pidika* on face
- Chronicity less than 5 year.

Exclusion criteria

- Patient on anti-tubercular drug therapy.
- Associated with other forms of skin diseases.

Withdrawal criteria

- If any untoward side effects or complications occur during the course of study.
- If patient is not ready to continue the treatment.

Plan of study: -

Total 30 patients accomplishing the inclusion criteria were taken; informed consent was taken from each patient.

Treatment protocol

Patient was adviced to wash the face two times a day with *Varun Qwath* before application of *Jatiphaladi lepa*. Then asked to apply *Jatiphaladi lepa* (Q.S for thin layer) over the affected area by mixing with plain water and ask to wash it after getting it near to dry. This treatment was given for 15 days

Assessment of patient

Patients were assessed on the basis of Global acne grading system on 0th and 15th day

Table No. 1. The global acne grading system (17)

Location	Factor
Forehead	2
Right cheek	2
Left cheek	2
Nose	1
Chin	1
Upper chest and back	3
Type of lesion	Point
No Lesions	0
Comedones	1
Papules	2
Pustules	3
Nodules	4

Gradation of acne severity

Severity	Score
Mild	1-18
Moderate	19-30
Severe	31-38
Very severe	39

That severity grade is calculated using the formula: Local score = Factor × Grade (0-4)

Observations and Results

Figure no. 1 Comparison of result before and after treatment



Digital photographs of the affected areas were taken before and after treatment.

Total 35 patients were recruited for the study. Out of that 30 patients had completed the treatment and 5 patients could not complete the treatment as they did not turn up for follow up.

Table No. 1: Age wise distribution of patients

Age Group(yrs)	No of patients	Percentage
16-20 yrs	7	23.33%
21-25 yrs	12	40%
26-30 yrs	8	26.67%
31-35 yrs	3	10%
Total	30	100%
Mean±SD	23.93±4.56(17-35 yrs)	

Table No. 2: Gender wise distribution of patients

Gender	No of patients	Percentage
Female	23	76.67%
Male	7	23.33%
Total	30	100%

Table No. 3 : Distribution of patients according to area involvement

Area involvement	No of patients	Percentage
Cheeks	11	36.67
Forehead + Cheeks	5	16.67
Forehead	3	10.00
Cheeks + Nose	3	10.00
Forehead + Cheeks + Nose	3	10.00
Cheeks + Chin	2	6.67
Forehead + Nose	2	6.67
Cheeks + Nose + Chin	1	3.33

Table No. 4: Distribution of patients according to duration of Mukhadushika (in years)

Duration (yrs)	No of patients	Percentage
≤1 yr	16	53.33
1.1-2 yrs	5	16.67
2.1-3 yrs	5	16.67
3.1-4 yrs	3	10
4.1-5 yrs	1	3
Total	30	100
Mean ± SD	1.58±1.40 yrs(0.08-4.50 yrs)	

Table No. 5: Distribution of patients according to type of diet

Type of diet	No of patients	Percentage
Oily/Spicy Food	19	63.33
Normal	7	23.33
Fast Food	4	13.33
Total	30	100

Table No.6: Distribution of patients according to Nidra

Sleep	No of patients	Percentage
<i>Asamyak</i> (Inadequate)	17	56.67
<i>Samyak</i> (Adequate)	13	43.33
Total	30	100

Table No. 7: Distribution of patients according to Malapravrutti

Malapravrutti	No of patients	Percentage
<i>Aniyamit</i> (irregular)	21	70
<i>Niyamit</i> (regular)	9	30
Total	30	100

Table No. 8 : Distribution of patients according to Sharirik Prakruti

Sharirik Prakruti	No of patients	Percentage
<i>Kapha Pittaj</i>	18	60
<i>Vata Pittaj</i>	8	26.67
<i>Vata Kaphaj</i>	4	13.33
Total	30	100

Table No. 9 : Distribution of patients according to Predominance of Manas Prakruti

Manas Prakruti (predominance of triguna)	No of patients	Percentage
<i>Tama</i>	16	53.33
<i>Raja</i>	13	43.33
<i>Satva</i>	1	3.33
Total	30	100

Table no. 10: Comparison of patient's Global Acne gradation on 0 day on 15th day

Grading	0 day	15th day	χ ² -value
No Scar	0(0%)	9(30%)	22.42 p=0.0001, S
Mild(1-18)	17 (56.67%)	21(70%)	
Moderate(19-30)	8(26.67%)	0(0%)	
Severe(31-38)	5(16.67%)	0(0%)	
Very Severe(≥39)	0(0%)	0(0%)	
Total	30(100%)	30(100%)	
Mean ± SD	19.36±8.55	5.60±4.92	

Statistical analysis was done by using descriptive and inferential statistics using chi - square test and software used in the analysis was SPSS 24.0 version and p<0.05 is considered as level of significance.

Discussion

Total 30 patients were treated with *Varuna Qwath for Mukha Prakshalan and Jatiphaladi Choorna for lepa*.

In distribution of patients according to age, maximum numbers of patients were found in age group of 21-25 years.

In course of puberty, there is transient rise in insulin and IGF-1 which inhibit FoxO1 regulation and allow the activated androgen receptor to elicit a chain of metabolic events. It leads to an excess production of keratinocytes and sebum. (18) Within the pilosebaceous unit. (19), (20)

In this study, it is predominantly found in females. It is supported by the study conducted by Raghubala et al. in which 62.5% patients were female. (21) It is assumed that decreasing in estrogens level may give rise to a relative increase in androgen level, and this imbalance may result in acne.

Cheeks are predominantly involved. The study conducted by K Raut and Raghubala et al, were also found involvement of cheeks. (22), (23)

Most of the patients were found to be consuming oily/ spicy food. According to Ayurveda, These dietary factors leads to disequilibrium of Agni causing vitiation of *kapha* and *pitta*.

According to modern medicine, Sebaceous glands may use fatty acids from the bloodstream for the synthesis of sebum. The Omega-6 fatty acids are thought to induce more pro-inflammatory mediators and have been associated with the development of inflammatory acne. (24),(25)

Aniyamit malapravrutti is found to be predominant. According to Ayurveda, *aniyamit malapravrutti* may produce *ama* which is responsible for vitiation of *kapha*.

In the distribution of *Prakriti*, most of the patients were found to be having *kapha Pittaj prakriti*. *Kapha* and *pitta Dosh*a have a major role in the *samprapti* of *Mukhadushika*

In the assessment of *manas prakruti*, 53.33% of patients had *Tamsik prakruti*, 43.33% of patients had *Rajsik prakruti*, 3.33% of patients had *Satvik prakruti*.

As per the gradation of global acne scale, before treatment 56.67%, 26.67%, 16.67% patients were in mild, moderate and severe grade respectively. And after treatment no patient was in moderate and severe grade. 21 patients were in mild gradation and 9 patients had complete relief

Mode of action of drug

Varun (Crateva religiosa Buch-Ham) qwath was used for *mukha Prakshalan* (face wash). It may act due to its properties of *Tikta*, *Kashaya Rasa*, *Laghu*, *Ruksha Guna* and *Ushna Virya* and also having *kapha pittahar* and *raktaDoshahar* (26) effect. *Tikta* and *Kashaya Rasa* are helpful in alleviation of inflammation and *ushna virya* helps opening the pores.

As per phytochemical constituent *Varun twak* contains lupeol, butanol, triterpenoid etc (27) butanol also contains compound like succinic acid, lactic acid (28). Lactic acid has exfoliating property, Succinic acid also having antimicrobial. (29)

The *lepa* contains *Jatiphala (Myristica fragrans Houtt)*, *Raktachandan (Pterocarpus santalinus)* and *Marich (Piper longum Linn)*

Jatiphal is having *Katu tikta* and *kashaya rasa*, *tikshna*, *laghu guna*, *ushna virya* and *katu vipak*. It has also *shothhar*(30) property. Myristicin is anti-inflammatory property. Its aqueous and organic extract showed anti-microbial and anti-oxidant property. (31)

Marich is having *katu rasa*, *katu vipak* and *ushna veerya* and *laghu* and *tikshna guna* which pacify the *kapha Dosh*a. It has *ushna veerya* however *Rakta chandan* is used to counteract and alleviate the *ushna veerya* of *Marich* avoiding its excessive local burning sensation. Chemical constituent of *Marich* contains Piperine. It is an antioxidant (32) as well as bioavailability enhancer that allows substance to remain in cells for a longer period of time. It also inhibits the production of pro inflammatory mediators i.e. IL6 and PGE2.

Raktachandan has *katu*, *tikta rasa*, *katu vipak*, *sheeta veerya* and *laghu ruksha guna*. Due to its *guna*, it acts as *kapha pittaghna*. It is indicated in *raktagata vicar*(33).

As per the study conducted by Bulle S et al, *Pterocarpus santalinus* contains flavonoids, essential oil, tannins, phenolic acids and polyphenolic compounds. It has Diaphoretic property and is useful to cure bilious infections and skin disease. It has antimicrobial, anti-inflammatory and antioxidant effect (34).

Limitation

This study can be considered as pilot study because of its small sample size and less duration. and patients were not selected as per the specific type of acne

Recommendations

This study can be carried out on more number of patients by using this treatment protocol for long duration to approve its effect. Further study can be conducted by preparing 'ready to use' *Varun Qwath* and cream based *Jatiphali yoga* with the addition of oral bowel cleaner herb because *aniyamit malapravrutti* was found in significant number of patients.

This study can be continued by grouping the patient according to the type of acne

Conclusion

On the basis of observations of this study, it can be concluded that Young age group females were mostly affected. *Mukhadushika* was found predominantly in *Kapha pittaj prakriti*. The treatment protocol of *Mukhadushika* i.e *Varun Qwath Mukhaprakshalan* and *Jatiphaladi yoga* was helpful to alleviate inflammation. On application of *Jatiphali yoga*, mild burning sensation was observed for a very short time. In overall, this treatment protocol was effective as an anti-inflammatory and improves the blackish discoloration over skin.

So, there was overall improvement in patient with this short duration treatment protocol.

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